University of Southampton

The Impact of Case Formulation in Cognitive Therapy

Joanna C. Mackenzie BSc (Hons)

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Abstract

Case formulation is deemed paramount in most psychotherapeutic approaches and defines the profession of clinical psychology. It is used to illustrate how clinical psychology embraces the scientist-practitioner paradigm, the distinguishing characteristic of the profession. Case formulation is currently considered to be the first principle in cognitive therapy. Yet considering its stature, there is negligible evidence that supports case formulation as a scientific concept or that proves its clinical value. The literature review presents a conceptual analysis of case formulation in cognitive therapy and concludes that there is insufficient evidence to accredit the process as reliable or valid in the scientific sense. Furthermore, there is a dearth of studies investigating its clinical value. The present study examines the impact of formulation upon two possible variables: the therapeutic alliance and levels of emotional distress. It evaluates these variables in the context of cognitive therapy for psychosis. The results indicate that there was no significant improvement in either variable for clients although therapists perceive the alliance more positively following formulation. Subjective feedback suggests formulation may impact upon clients' understanding and therapists' adherence to the cognitive therapy model. However, a number of clients reported negative emotional responses to formulation. Further evaluations of the impact of formulation are necessary.

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A Conceptual Analysis of Case Formulation in Cognitive Therapy

Joanna C. Mackenzie

University of Southampton

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Correspondence should be addressed to: Joanna Mackenzie, Doctorate in Clinical Psychology, University of Southampton, SO17 1BJ

ABSTRACT

Case formulation is deemed to be paramount in psychotherapy and is pivotal to the discipline of clinical psychology. Within cognitive therapy case formulation is considered the first principle. To clinical psychologists it defines the profession by exemplifying their adherence to the scientist-practitioner approach. Considering its current standing, there is virtually no empirical evidence that supports the scientific status of case formulation. It seems the scientist-practitioner approach has not been applied to the cornerstone of these psychological disciplines.

A conceptual analysis of case formulation is presented that discusses its theoretical, scientific and clinical foundations. The analysis focuses on case formulation in cognitive therapy. Its scientific status has been evaluated using reliability and validity criteria. The over-riding conclusion is that there is insufficient empirical evidence to accredit case formulation in cognitive therapy with any scientific principles. Moreover, cognitive case formulation is assumed to be of inherent clinical value to both client and therapist, yet there is an absence of any research that qualifies this. In the current climate of collaborative empiricism, there is a glaring need to evaluate the concept of case formulation. A number of research directions are suggested to begin establishing evidence for its clinical value and scientific status.

INTRODUCTION

"As both science and art, case formulations should embody scientific principles and findings, but also an appreciation of the singularity and humanity of the person...(in the right hands) a case formulation is indispensable" (Eells, 1997, p.20).

"If formulations can be so useful it is surprising that so little attention has been devoted to them both within training programs and in the literature" Butler (1998, p.12).

As increasing pressure is put upon therapeutic services to establish clinical effectiveness it is becoming more important for clinical psychologists to identify and distinguish therapeutically effectual ingredients. Formulation is considered to be the cornerstone of therapy in clinical psychology and other therapeutic practices. It is seen as the primary link between theory and practice and heuristically it is believed to lie at the heart of psychological science applied to clinical problems. The term 'formulation' is used two ways: to refer to a generalised explanatory model of common psychological disorders (nomothetic formulation), and in a way that refers to an individualised or ideographic psychological explanation of a person's difficulties (case formulation). This review is primarily concerned with ideographic case formulations. A conceptual analysis of formulation is presented focusing on cognitive therapy (CT), one of the more empirically established effective therapies. To date, very little empirical evidence verifies the status of case formulation. The absence of a

scientist-practitioner approach to case formulation is of concern, particularly when case formulation is used to exemplify how clinical psychologists and cognitive therapists are scientist-practitioners.

Aims

The review aims to examine the extent to which the concept of formulation is established theoretically, empirically and clinically. The theoretical aspect overviews the background of formulation, examining the historical context and conceptual foundations of formulation in clinical psychology. Emphasis is placed on the scientific status of case formulation in CT, and aims to establish the degree of consensus in the literature regarding its reliability and validity. Attention is drawn to fundamental shortfalls in the scientific basis of formulation in CT. The clinical aspect considers the clinical significance of formulation in current practice. The review concludes with recommendations for future research to generate empirical data to confirm the status of the concept. Each section reviews relevant theoretical and empirical literature. Literature regarding other therapeutic models has been drawn upon where there is a dearth of relevant information in the CT literature.

Definition of Case Formulation

Until recently few people have attempted to define case formulation. Turkat (1985, p.3) observed that "definitions of what a case formulation is appear to be practically non-existent". Formulation in psychotherapy has been defined as a "hypothesis about

the causes, precipitants and maintaining influences of patients' psychological, interpersonal and behavioural problems" (Eells, 1997, p.1). In CT, case formulations attempt to describe and explain the nature of the psychological difficulties underlying problems presented by a person as well as describing the problems per se (Persons, 1989). The term 'case formulation' appears to be used interchangeably with 'case conceptualisation' in the literature. In this review the term case formulation is considered to be analogous to conceptualisation and refers to the collaborative process of making sense of an individual's difficulties by applying psychological theory to understand the underlying mechanisms that cause and maintain them, indicating potential areas for intervention. Formulation is considered to be an intervention that guides both therapist and client towards appropriate therapeutic treatment or other interventions (Needleman, 1999).

THEORETICAL ORIGINS OF CASE FORMULATION

Early influences upon the concept of formulation appear to have been derived from the earliest searches for explanations of the causes of abnormal behaviour and emotional disorder. Hippocrates (460-367 B.C.) is accounted to be one of the first to have studied psychopathology in a methodological way (Crellin, 1998; Eells, 1997). He hypothesised that abnormal behaviour has natural causes and attempted to provide theoretical frameworks upon which observations could be structured and understood. The uptake of scientific methodology in the study of psychopathology did not become established until the early twentieth century when medical, psychoanalytical and behavioural models emerged. Case formulations in psychotherapy appear to have

evolved as a psychological counterpart to a medical model of diagnosis and classification (Eells, 1997). This may be in part due to medicine's shortcomings in its ability to explain mechanisms and treatment for psychological problems (Bruch & Bond, 1998; Persons, 1993). Case formulation is considered to be more sophisticated than psychiatric diagnosis in describing individuals' psychological problems because it draws upon theoretical models to explain the evolution and maintenance of any one individual's problems separately from other individuals who may present with the same symptoms (Eells, 1997). It is an elaboration of a more dimensional view of psychopathology that makes sense of peoples' difficulties by viewing them as lying on continua with normal functioning. The process of case formulation has developed so it composes individually tailored psychological interventions on the basis of the information contained within the formulation (Persons, 1993).

History within Clinical Psychology

The concept of "formulation" in clinical psychology appears to have grown out of psychologists' inclination to base therapeutic techniques on a foundation of empirically validated theories. The term 'formulation' first appeared in reference to clinical psychology in 1969 in the British Psychological Society (BPS)'s Regulations for the Diploma of Clinical Psychology (BPS, 1969). It was viewed within an empirical context and was implicated with assessment and experimentation. A more recent section headed "Preparation of the Clinical Reports" highlights that a psychologist should identify and elucidate the psychological aspects of a patient's

problems by making a provisional formulation of the problems using relevant information and revise it according to new information (Crellin, 1998).

Also emerging around this time was a political motivation for clinical psychologists to distinguish themselves from other healthcare professions (BPS, 1968). As Crellin (1998) notes "this step towards independence depended upon the psychologist being acknowledged to have expert knowledge and specialised skills....this claim rested on the notion of the formulation." Thus formulation has become used to define the position of the profession and the term is now enshrined within the BPS literature.

The Manpower Planning Advisory Group (MPAG, 1990) commissioned by the Department of Health, reported clinical psychologists to be the only professionals to use psychological skills to formulate and respond to complex problems in terms of broad-based psychological knowledge. "They use their core skills to formulate problems in psychological terms and draw creatively on theories and techniques from the discipline of psychology to support the finding of the feasible solutions"(Summary report on Clinical Psychology, MPAG project, 1990, Pg.7). Since its first appearance in 1969 the notion of formulation seems to have evolved considerably yet there appears to have been little updating of the concept in the literature and teaching practices within the profession. The following sections consider the status of case formulation within the practice of cognitive therapy.

Position in Cognitive Therapy

Influential behavioural therapists initially developed the notion of case formulation within an experimental behavioural paradigm (Meyer & Turkat, 1979; Turkat, 1985). Their descriptions and definitions overlap with current definitions of case formulation within CT although behaviourists tend to see case formulation as a tool rather than an intervention and do not consider it to be a collaborative process with the client (Adams, 1996). Early use of the term formulation in CT was to describe nomothetic psychological models for particular disorders. The renowned CT manuals provided explanatory cognitive models for depression and anxiety (Beck, Rush, Shaw & Emery, 1979; Beck, Emery & Greenberg, 1985). These models have subsequently been adapted to formulate individual cases. Case formulation in CT received significant recognition and status by Jaqueline Persons who dedicated a complete book to a case formulation approach to CT (Persons, 1989). She established a generic understanding and working model for individualised case formulations and distinguished a number of necessary components. As a key author in case formulation Persons' views on the components are discussed in detail later.

Case formulation is now described as the first principle in CT (A. Beck, 1995). Increasingly, it is becoming recognised as essential practice in CT as cases become more complex and challenging (Messer, 1996; Tompkins, 1996). Some consider that the importance is in formulation becoming more individualised in view of the complexity of cases (J. Beck, 1995; Persons & Bertagnolli, 1999; Tompkins, 1996). Currently case formulations are recognised by many clinicians as essential to effective

CT yet there are few empirical studies that have tested this important assumption. The concern is that the discipline has unconditionally accepted the credibility of case formulation without any scientific justification. The following three sections address this concern by examining the scientific status of the case formulation process in CT.

SCIENTIFIC STATUS OF CASE FORMULATION

The process of formulation incorporates both the concept's constituents and its practice. As formulation has evolved as the psychological counterpart to diagnosis, it should be subject to the same scientific investigation as psychiatric diagnostic categories have been. In this review we consider case formulation's reliability, validity and finally its potential value. Awareness of these issues in relation to case formulation may increase the accuracy of case formulations and may also render case formulation a tool for science i.e. a means to advance knowledge (Eells, 1997).

RELIABILITY OF CASE FORMULATIONS

This section focuses on the reliability of the process of case formulation in cognitive therapy (CT) by considering (a) the reliability of the construct and (b) the reliability of the practice. Reliability is a necessary but not sufficient condition for validity. Reliability here refers to the degree of agreement and consistency in the literature regarding the process of case formulation.

Since Persons (1989) there have been few cognitive therapists who have written extensively about the process of case formulation. The following section considers a selection of the most prominent. Individuals have been selected either because they have published their views about cognitive case formulation or they are particularly renowned in the field of CT in the USA or UK. Those authors are Jacqueline Persons, Aaron Beck, Judith Beck, Gillian Butler, Christine Padesky and Windy Dryden. Most of these authors practise CT according to models that evolved from Beck's original model of CT (Beck et al., 1979). Rational Emotive Behaviour Therapy (REBT; Ellis, 1962) is another recognised but less common form of CT (Bond & Dryden, 2000). Dryden (1998) appears to be the only author to have written explicitly about case formulation from an REBT perspective. The construct and practice of formulation are considered in terms of the theoretical literature from the selected authors and any empirical studies in the area.

Reliability of the Construct

In addressing reliability of the formulation one needs to examine the level of agreement amongst cognitive therapists about case formulation. The first stage is to establish the level of agreement about the key constituents of cognitive case formulations. The perspectives of the selected cognitive therapists are described and compared in the following section.

Persons (1989) describes six essential parts to formulation: the problem list including automatic thoughts, the hypothesised underlying mechanism, an account of how the

mechanism produces the problems, precipitants of current problems, origins of the mechanism from early life history and predicted obstacles to intervention. According to Persons, case formulation includes a range of information from the patient's past and present experience and includes prescriptions for treatment; the key component for treatment is the part that describes the core irrational or dysfunctional beliefs.

Beck et al.'s (1979) original cognitive model of depression has been adapted to be used as a framework for formulating patients' difficulties (J. Beck, 1995). The formulation includes current aspects of a person's problems and a developmental understanding of them. The current aspects are portrayed in terms of maintaining cycles between negative thoughts and other cognitive, emotional, behavioural and physiological symptoms. The developmental aspect includes early experiences, core beliefs about the self, others and the world, and dysfunctional assumptions that act as rules for living. The current cycle is precipitated by critical incidents (such as experiences of failure or rejection) that conflict with the dysfunctional assumptions and activate core beliefs. J. Beck (1995) outlines cognitive formulations are conceptualised in three time frames: firstly, current thinking and problematic behaviours, secondly, precipitating factors, and thirdly, developmental events and enduring patterns of interpreting these events.

Butler (2000) believes formulations should include the general relationship between thoughts and feelings and specific relationships between particular moods and types of thoughts in specific situations. Formulations should also contain both functional and dysfunctional beliefs, vicious circles that maintain the problems, predisposing factors,

precipitating factors and indicate foci for intervention. They should portray a whole view of the person including their personal context (Butler, 1998). She states formulations should contain specific examples of specific situations to illustrate maintaining cycles or patterns.

Padesky & Mooney (1990) focus more on the maintenance cycles and formulate clients' problems using a situational 'here and now' model. They conceptualise a range of emotional disorders by considering the way in which cognitions, physical symptoms, behaviours and emotions all interact with one another in the context of the environment that includes personal, social and historical factors. Padesky & Greenberger (1995) hypothesise that change in any one area of the formulation will affect the other components. Padesky (1998) emphasises that every case formulation should include a treatment plan within it.

Dryden (1998) proposes an individualised formulation structure based upon the Rational Emotive Behaviour Therapy model (Ellis, 1994). The composite factors include a problem list, goals for therapy, a list of problem emotions, activating events, irrational beliefs and dysfunctional behaviours, strategies to compensate for the problem, cognitive consequences of the irrational beliefs, interpersonal problems resulting from the expression of the problem, health and medical status, an understanding of relevant predisposing factors and prediction about the person's likely response to therapy.

In summary, there appears to be a general consensus that the construct of formulation is broadly divisible into two levels: a 'here and now' symptom level and a predisposing deeper level of underlying meanings and early experiences. Further consensus seems to be that these two levels are linked. In addition, there is agreement that formulation highlights appropriate points for intervention. However, as can be seen by the examples of the selected cognitive therapists there is variation in the specific components that comprise case formulation. For example, the symptom level could comprise any one problem affecting the person or comprise aspects of a problem (such as unhelpful thoughts, physical and emotional symptoms, behaviours and environmental factors).

The components that are explicitly included by all five authors appear to be the cognitive (thought) component to current problems and the predisposing factors (formative experiences). Most authors (four out of five) consider behavioural, emotional and physiological factors in maintaining current problems, and three out of five authors include underlying beliefs and attitudes. Table 1 summarises the authors' views and highlights those views that are common across all five. In many respects the common criteria do not appear to be specific to CT and could be seen as general elements of any psychotherapeutic formulation (Eells, 1997). The following section considers whether the practice of formulating a person's problems is consistent between therapists.

Reliability of Practice

The next stage in addressing reliability is to consider whether formulation is practised in a standardised way. There are several variables that needed addressing such as (i) whether it is shared with the client, (ii) how it is portrayed, (iii) when it occurs and how timing is determined, and (iv) how flexible it is. These questions are addressed by examining the views of the selected authors.

Sharing formulation with the client. Persons (1993) believes it is useful to ask for the patient's reaction to the proposed formulation although she does not state explicitly that the complete formulation should be shared with the client. She indicates that one could expect the formulation to "be helpful to the client in understanding and managing his behaviour"(Person, 1989, p49). Beck, Freeman & Associates (1990) indicate that sharing the formulation with the patient can help the data gathering process by guiding the patient as to what information to focus on. Beck et al. state "therapist and patient need to conceptualise the problem jointly before an adequate strategy can be chosen" so they can collaboratively test out new information within the hypothesised formulation (Beck et al., 1985, p.182). J. Beck (1995) believes that the formulation should be shared with the client at "strategic points" but does not elaborate on when these points should be. Butler (2000) recommends that formulations should always be shared with the client. She indicates that the process should be collaborative in so far as the client should be asked to contribute to the content of the formulation. Padesky (1998) states case formulation should be collaborative and completed in the therapy session with the client. The process should

involve both therapist and client as both are necessary to sort out what is important, where to start and what to aim for. The purpose of doing so is to ensure the formulation 'rings true' to the client. Dryden (1998) also agrees that formulations should be shared with clients, he suggests in a narrative form that is written out to help the client.

Portraying case formulations. Persons (1989) indicates that formulations could be structured in a table format. She does not prescribe how this should or could be conveyed to the client. Beck (1990) suggests that drawing out formulations using diagrams can be helpful for patients by showing how experiences fit with the formulation structure. J. Beck (1995) refers to the Cognitive Conceptualisation Diagram as a framework for expressing the formulation on paper. Butler (2000) uses a number of different ways for formulating and recommends that therapists be creative when putting a formulation together provided that the CT model guides them. Padesky (1998) advocates using "Hot Cross Bun" diagrams to illustrate the formulation diagrammatically. The Hot Cross Bun represents the interaction of thoughts, feelings, behaviour, and physiology in the context of one's environment. The interaction of these elements illustrates how problems are maintained. She suggests that individualised maintaining cycles can be developed to enhance the formulation. Dryden (1998) advocates the use of narratives to assist the process of formulation.

Timing formulation. The timing of formulation refers here to the first attempt at putting together the case formulation. Persons (1989) proposes that formulation

should be done post assessment and pre treatment. Beck et al. (1990) state that the therapist should formulate early on in therapy, at the evaluation stage. Butler (2000) holds that formulation should begin in the first session whenever possible. Dryden (1998) does not share the view of many cognitive therapists that formulation should occur prior to intervention and declares that sometimes formulation can occur after an intervention, although not always. A common clinical impression is that case formulation is the stepping-stone between assessment and treatment and yet there is little agreement about this with the selected authors.

Flexibility of formulation. Although all the authors allude to formulation being a continual process and open to refinement rather than one-off intervention, there are no evident studies in the literature confirming whether this occurs in practice. It may be an ideal that does not occur in clinical practice as much as therapists would like. Some consider that clinicians may be inclined to resist discarding their ideas in light of further evidence (Hirsh & Stone, 1983; Waddington & Morley, 2000).

Aside from the general agreement that the client should see the formulation, the practice of formulation appears to vary considerably. Although all authors indicate that the client should be involved in the formulation process, there are mixed views about how collaborative it should be. Some therapists suggest that clients should be shown the therapists' formulations whilst others indicate the formulation should be devised together. The presentation of formulation differs, some therapists advocate using diagrams and pictorial representations to illustrate their formulations whilst others suggest using narratives. In terms of timing, the common view is that

formulation begins at the end of assessment and prior to treatment. There is little explicit mention of when or how one determines the timing is right, such as judging the balance between simplicity and comprehensiveness. Furthermore, although there is strong allusion to a continual refinement of the formulation process, there is little evidence for this in practice. The following section considers whether there has been any empirical investigation into the inter-rater reliability of the formulation process.

Reliability Studies

There have been very few reports investigating the reliability of case formulation in the literature. One significant attempt to study reliability in CT was Persons, Mooney & Padesky (1995) who examined the degree of inter-rater reliability of cognitive formulations. The researchers asked 36 therapist judges to identify formulation criteria for two cases. The therapists' results were rated against formulation criteria devised by the researchers, one of whom was the original therapist for each case. Formulation criteria consisted of a list of overt problems and underlying beliefs (views of self, other, the world and dysfunctional attitudes).

The study showed moderate reliability amongst therapist judges in listing overt problems, with better agreement on obviously stated problems compared to more subtle ones. With the first case, there was high inter-rater reliability (98% & 83% agreement) with two out of the three overt problems but poor (13% agreement) for the third, subtler problem. In the second case, there was good reliability for three out of the five overt problems, moderate reliability was shown for the other two. For

underlying beliefs, the reliability was good when averaged over five judges (median reliability coefficient = 0.83) but significantly poorer with a single judge (reliability coefficient = 0.49). Both the single judge and the five judges were randomly chosen (five was considered to be a representative number for a typical clinical supervision group).

The results suggest there are individual differences amongst therapists in how the criteria of formulation are understood and applied. The study was replicated by Persons and Bertagnolli (1999). They attempted to enhance reliability by providing the therapists with 'overt problem' categories and a more structured way of assessing core beliefs that omitted dysfunctional attitudes. This study yielded similar results to the earlier one showing reasonable reliability for identifying overt problems (judges identified 67% of overt problems) and good inter-rater reliability for the underlying beliefs when averaged over five therapists (mean reliability coefficient = 0.72) but poor with an individual judge (reliability coefficient = 0.37). The added structure for assessing underlying beliefs did not seem to improve reliability.

Review of Reliability Studies

Whilst the methodology used by Persons et al. (1995, 1999) has considerable ecological validity, there are a number of ways in which the conditions of the study constrained judges' ability to formulate. The studies did not reflect the normal amount of information available to clinicians when formulating. Therapists only had access to edited material recorded from the first session and non-verbal responses from the

clients were not observable. These restrictions are particularly pertinent because the identified formulation criteria were influenced by the researcher's prior knowledge of the cases. Furthermore, as the nature of underlying beliefs is often elusive during early stages of therapy (Clark & Steer, 1996), it seems unfeasible to expect high levels of agreement from a first session. Formulation is a collaborative process based upon a full assessment and subsequent information from future sessions.

One weakness of the studies is that therapists had opportunity to be over-inclusive. With the 'overt problems', they had more spaces to write their problem descriptions than there were actual problems. Judges' problem lists were also rated generously by the researchers. Despite this advantage, reliability was substantially reduced in both cases for the more subtle problems. Another possible flaw lies with the data from the 'underlying cognitions'. The data was obtained from operationalised items on a multiple-choice questionnaire. The data analysis method used to establish reliability for underlying beliefs had been adapted for these studies. Originally, the method was designed to calculate reliability ratios using the proportion of variance due to individuals, but these studies used the proportion of variance due to the underlying belief items. This may have influenced the results obtained because the original analysis assumes independence amongst individuals and this cannot be assumed for the underlying belief criteria items. The reliability of the individual judges may have been affected by low variability amongst the items. The reliability and validity of the methodology for data collection would benefit from further examination.

Summary

This section concludes that whilst there is some agreement about the general structure of formulation in CT, there is little consistency regarding the construct's essential criteria, and even less standardisation regarding the practice of formulation. Empirical attempts to examine the level of agreement in the formulation process also highlight shortfalls in reliability. Some consider that formulations are bound to be influenced by the therapist's theoretical and experiential position (Butler, 1998), although recent studies examining the degree of selection bias in formulation have not supported this assumption (Waddington & Morley, 2000). It is difficult to say how much inter-rater agreement is necessary. Persons & Tompkins (1997) suggest that inter-rater reliability with formulations is not necessary for clinical practice. They advocate the importance of a 'useful' formulation over a 'correct' formulation. In order to improve the empirical status of formulation, however, its scientific properties require consolidation. Butler (2000) acknowledges that principles to assist therapists in making judgements about formulation would be desirable but they are missing from the CT literature. Research studies on the reliability of formulation in CT are also lacking. Without theoretical or empirical verification, it is not plausible to say the practice of formulation is standardised or reliable.

VALIDITY OF FORMULATION

In this section validity refers to what is meaningful and useful about case formulation. The meaning of a case formulation is the psychological understanding that it gives to a person's problems. In this way it is analogous to that of psychiatry's diagnosis which attempts to give a medical understanding to a person's problems. Hence we should expect formulation to be subject to the same scientific scrutiny as psychiatric diagnoses (Eells, 1997). The kinds of validity that appear most relevant to establishing the scientific validity of diagnosis are construct validity, concurrent validity and predictive validity (Bentall, Jackson & Pilgrim, 1988; Bieling & Kuyken, 2000). In the scientific sense, construct validity refers to whether a method of gathering information gathers what you think it does. For case formulation to have construct validity it would need to show that it contains meaningful information and performs the function it is supposed to. For it to have concurrent validity its product should be comparable to that produced from a similar method designed to elicit the same information. To have predictive validity case formulation should be able to predict something about the course and outcome of a person's problems. The following sections address these aspects of validity and raise the kind of questions that could establish the validity of case formulation.

Construct Validity

Construct validity is considered to be one of the most important yet most elusive types of validity (Powell, 1996). It attempts to define the construct that one is interested in.

For case formulation this requires a definition of the process including both the concept's ingredients and its function. If constructually valid, a case formulation should accurately represent the individual's case and reflect the cognitive model. Evaluating the concept is complicated by its complexity. The framework of cognitive case formulation consists of various components and their associations that essentially capture the cognitive model.

As reliability is a prerequisite for validity we are restricted to examining the aspects of formulation that are considered to be reliable. We have deemed the reliable components of case formulations as (a) formative experiences, (b) core beliefs, and (c) the current problems including unhelpful thoughts. The agreed suppositions of the model are that early experiences are associated with the formation of core beliefs, core beliefs predispose an individual to psychological difficulties, and with any psychological problem certain thoughts are evident that correspond to the core beliefs (Beck, 1979; J. Beck, 1995; Clark, 1989; Persons, 1989). Most cognitive therapists uphold this cognitive mediation hypothesis.

For construct validity we need to ascertain that these suppositions of formulation (the components and their inter-relationships) are true. Construct validity of a cognitive case formulation of depression has been recently evaluated by focusing on the basic suppositions about the various components and their associations within the formulation (Bieling & Kuyken, 2000). The authors used a case formulation model derived from Aaron Beck's original cognitive model of depression (J. Beck, 1995). The model has a number of components including relevant childhood events and

experiences, core beliefs, conditional beliefs, compensatory strategies, and then current situations, mood, thoughts and behaviour.

Some of the conclusions discussed by Bieling & Kuyken (2000) are applicable to those components of case formulation this review has identified as reliable. They concluded that little evidence linked underlying cognitions (core beliefs) to their antecedents such as early life events or to their consequences such as thoughts and behaviour. They found some empirical support for a greater influence of core beliefs in people prone to psychological disorder although the authors question why the literature separates content of core beliefs from the process of core belief formation. The concept 'core belief' in cognitive case formulation has previously been criticised as ill-defined (Henry & Williams, 1997).

Bieling & Kuyken (2000) found the task of establishing validity of a nomothetic cognitive formulation complicated. As the authors highlight, "there is no methodology... that would comprehensively and unambiguously measure all of the variables in the cognitive formulation, let alone the relationship amongst those variables" (p. 12). Their study used a nomothetic formulation model for a particular disorder, there will undoubtedly be more challenges to evaluating the construct validity of ideographic case formulations. It seems we are far from a robust construct of formulation that is able to withstand scientific scrutiny.

The meaningfulness of case formulation is also difficult to determine. Meaningfulness refers to how accurate and relevant is the information that is contained within a case

formulation. This depends upon the ability of the therapist to collaborate with the client and elicit pertinent data and incorporate it into the formulation it in a meaningful way. There are no studies to date that examine whether individual case formulations are valid (i.e. accurate) in an ideographic sense. Were we in a position of having a valid construct of formulation that represents the elements of the cognitive model it is assumed to, then it may be easier to examine whether the ideographic content relating to individual cases is accurate. Wilson (1996) highlights a number of factors that may contribute to the fallibility of therapists' judgement in case formulation including complexity of information, subjectivity of judgements, clinical experience and actuarial vs. clinical prediction. These factors amongst others may contribute to the lack of empirical support for the validity of case formulation.

Concurrent Validity

To evaluate whether cognitive case formulation has concurrent validity requires support from a comparable method that performs the same function. Cognitive case formulation claims to represent a person's psychological problems in terms of his or her early experiences, fundamental underlying cognitions and current psychological manifestations (thoughts, behaviours, emotions) in a way that is essentially complete and accurate. To establish accuracy and completeness we would need another method that reliably elicits the same information. There are no such studies that have investigated these suppositions thus far in CT. However, there have been attempts to use alternative formulation strategies to validate formulation process in other therapeutic models that are discussed in the recommendations.

Predictive Validity

In evaluating the predictive validity of case formulation we can enquire about its ability to prescribe treatment and predict outcome. There is consensus in the literature that formulation informs treatment. Persons (1989) believes case formulation identifies the most appropriate point for intervention and form of intervention, and it provides an estimation of treatment success. Butler (1998) proposes formulation prioritises problems, indicates specific interventions and predicts responses to strategies and interventions (including difficulties). Padesky & Greenberger (1995) hold that formulation elucidates both the current problems and their solutions, providing the building blocks to the treatment plan. J. Beck (1995) suggests that the value of formulation is providing a framework to both understand maladaptive behaviours and modify dysfunctional attitudes. Dryden (1998) portrays that formulations direct therapy towards sensible objectives and identifies obstacles to treatment.

Persons & Tompkins (1997) suggest that the best way to evaluate predictive validity is to examine how well formulations are predictive of treatment outcome. With an appropriate structure, there is an argument that formulation can lead to better predictions of outcome formulation and therefore could be an indicator of therapeutic success (Crits-Cristoph, Cooper & Luborsky, 1988). These authors show that formulations based upon pre-set categories are associated with improve outcome. The predictive validity of formulation could be comparable to other indicators of outcome.

Case formulation's ability to predict outcome needs to be justified with evidence that it delineates the course of an individual's psychological disorder whether or not they chose to pursue treatment. In principle, case formulation should demonstrate how a person's disorder is maintained and therefore would predict that problems will continue unless a relevant intervention is applied. Case formulations are also assumed to identify potential obstacles to treatment and as such could predict the degree of success of interventions. However, there is no empirical evidence to support this. Thus, it seems there are unfounded assumptions about the predictive validity of case formulation.

Summary

The task of validating case formulation in CT has only just begun and is far from completion. No studies to date were located that have investigated any of the empirical questions relating to validity of cognitive case formulation. Existing clinical research on the validity of formulation appears to study nomothetic formulations, rather than ideographic formulations. Validating the case formulation process requires reliability, i.e. a consistent view of the concept and some standardisation in practice. To justify the effort required in establishing reliability and validity it is important to establish the clinical value of formulation. If formulation has therapeutic value then this provides a rationale for scientifically evaluating formulation further. The following section considers the ways that case formulation may be of therapeutic value.

CLINICAL VALUE OF FORMULATION

The clinical value of therapeutic tools is paramount and sometimes is sufficient to warrant the application of tools in therapy in the absence of any empirical support. As an example, Young's Schema Questionnaire (YSQ; Young, 1994) was until recently lacking in scientific verification but has been widely used for a number of years in the clinic because of its inherent clinical value. Case formulation could be of significant therapeutic value in a few areas. It could (a) benefit the client as an intervention in its own right, (b) have a positive impact on the therapeutic relationship and (c) help improve treatment compliance. These areas are discussed in terms of empirical and theoretical support.

An Intervention in its Own Right

Increasing numbers of different psychotherapeutic practices are tending towards sharing the case formulation with the client (Eells, 1997; Horowitz, 1997; Ryle, 1995; J. Beck, 1995). There are a number of psychological theories that could suggest why sharing formulation with the client might be helpful. According to Erikson (1968) people function better if they have an integrated sense of themselves. In general, psychologists believe people desire to be acceptable and 'normal' rather than abnormal which is more likely to be rejected. Formulating an individual's problems using a model that makes objective sense of their development and maintenance, and highlights objectives for treatment, could help normalise and destigmatise a person's experience (Kingdon & Turkington, 1994). In cognitive terms, a formulation may

redress an individual's beliefs and attributions about his or her problems. By providing a person with an understanding of their difficulties and a rationale for treatment, one could expect to increase his or her motivation to change and realistic hopes of success in treatment (Horowitz, 1997).

Butler (1998) indicates that sharing the formulation can bring about positive change by generating new meaning for the client. She also suggests that there may be affective change in some clients following formulation and that it can provide a 'complete intervention' for some. A. Beck (1995) indicates that sharing the formulation with the client will help them assimilate the cognitive model. Formulation is deemed to help clients understand their difficulties (Persons, 1989; Butler, 1998; Eells, 1997). A number of authors advocate additional value of formulation in CT for people with complex problems such as personality disorders, psychosis and multi-disordered individuals (Beck et al., 1990; Tarrier, Wells & Haddock, 1998; Tompkins, 1996). Case formulation in CT for psychosis is considered crucial to successful therapy (Fowler, Garety & Kuipers, 1998; Fowler, 2000). John & Turkington (1996) suggest that formulations for people with complex problems may help reduce anxiety and gain predictability and control over their symptoms. It is somewhat surprising that no studies have directly examined how clients perceive and receive formulation in CT and the effect it has upon them. There are a number of possible ways to test these presumptions that are discussed at the end of this section.

Positive Impact on the Therapeutic Relationship

"A well articulated, individualised formulation that is shared with the patient can strengthen patient-therapist collaboration" (Persons & Tompkins, 1997, p.317). The potential benefit of sharing a formulation on the therapy process includes enhancing collaboration and improving engagement with therapy (Bennett, 1994; Butler, 2000, Evans & Parry, 1996; Persons & Tompkins, 1997; Ryle, 1990). Haddock, Morrison, Hopkins, Lewis & Tarrier (1998) hold that sharing formulations enhances collaboration in therapy with people with psychosis. Fowler (1999) believes that formulation in CT for psychosis is one of two critical change processes, the other being engagement and establishment of a sound therapeutic alliance. He suggests the two are inter-related, as the key to engaging clients with psychosis in a therapeutic alliance is by ensuring the client feels understood and involved. There have been no empirical studies that support the postulate that formulation benefits the alliance.

Treatment Compliance

It may be that formulation may enhance treatment compliance and help retain clients in therapy and improve outcome (Persons & Tompkins, 1997). Some authors indicate that a case formulation approach may lower emotional distress and encourage functional behaviour (A. Beck, 1995; Goldfried, 1995; Horowitz, 1997; Persons & Tompkins, 1997); whilst others suggest it reduces drop out (Butler, 2000; Fowler, Garety & Kuipers, 1998). Comparative studies of therapy based upon individualised formulations against standardised treatment manuals show equivocal results (Schulte,

Kunzel, Pepping, & Schulte-Bahrenberg, 1992; Wilson, 1996). It is argued, however, that treatment manuals use more individualised material in case formulations than they allude to (Persons & Tompkins, 1997). Moreover, such studies have used client populations with specific disorders such as specific phobias to compare approaches.

In summary, there appears to be considerable theoretical support for the potential value of case formulation. It seems likely that the value of individualised case formulation may be particularly pertinent with complex multi-disorder cases. However, the validity of case formulation has not been directly investigated in terms of treatment utility and hence it cannot be concluded that therapy based upon ideographic case formulations enhances treatment outcome. Empirical studies examining the value of formulation are needed. Ways to investigate the area are discussed below.

INVESTIGATE THE CLINICAL VALUE

The assumption in the discipline of CT appears to be that formulation is a positive experience for the therapist and the client. However, it is not uncommon for people to experience hopelessness or anxiety in reaction to a formulation of their difficulties and as such it is plausible the experience may be detrimental in the short-term. Moreover, it is assumed that the process of organising information in a case formulation is helpful but, conversely, it could be perceived as providing an unhelpful, inflexible framework that therapists find hard to modify once its established. For this reason it is important to establish the impact of formulation upon both the client and therapist.

Detailed studies inquiring about therapists' and clients' experiences of formulation could assist in gathering important information. We need to know more about the impact of different formats to find out how case formulations are most helpful, relevant, or applicable. The impact of formulation could be measured in a number of different ways as suggested in the last section. For both therapists and clients, one could enquire whether it assists understanding with complicated cases and whether it is perceived to indicate therapeutic strategies. The impact of cognitive formulation upon clients' symptoms could be explored by measuring the effect of formulation upon emotional state or their beliefs or attributions about their problems. Formulation may facilitate clients' assimilation of the cognitive model and could therefore function as an intervention in itself. A methodology for evaluating assimilation of the cognitive model is needed.

It is also important to investigate the impact of sharing the formulation on the therapy process. To do this one could measure the characteristics of therapeutic alliance that may be affected by a cognitive case formulation. CT is assumed to be explicitly co-operative so a shared formulation may affect levels of engagement and collaboration. Fowler (1999) reported that the London-East Anglia research group into CT for psychosis showed that the most positive change occurs during the first four sessions of therapy. This suggests therapeutic strategies in the early stages of CT are particularly effective. However, at this stage the effect of formulation has not been differentiated from the effects of engagement and the building of a therapeutic alliance. One could investigate the effect of making the process of formulation explicit and collaborative

by questioning whether clients who experience a collaborative and accurate formulation fair better than those who do not.

Whilst CT is assumed to encapsulate a collaborative relationship and acknowledges the importance of this, the discipline has been reticent to investigate the therapeutic relationship empirically compared with other therapeutic models. Evans & Parry (1996) examined the formulation process in CAT. Ryle (1995) suggests formulation (termed 'reformulation' in CAT) could impact on therapy by strengthening the alliance, defining the points for intervention and providing a new understanding for the client that may stimulate change. Evans & Parry (1996) examined the effect of reformulation upon the therapeutic alliance and symptom severity. They also evaluated the subjective experience of reformulation via a semi-structured interview. Their results indicated clients found the experience of formulation to be positive but there were no significant changes in the alliance measure or in symptom severity. Their study highlighted the difficulty in identifying satisfactory measures of the impact of formulation. In summary, it seems clients' responses to formulation need to be assessed in order to establish whether formulation is clinically valuable. One reason for the difficulty in studying validity may be that appropriate measures are unavailable. The initial challenge seems to be in locating and applying sound methodology.

RECOMMENDATIONS TO IMPROVE THE SCIENTIFIC STATUS

The following section examines possible ways to improve the reliability and validity of ideographic case formulations.

Reliability

One obstacle to evaluating case formulation is that the concept is difficult to define and operationalise in practice. The concept is complex and multi-functional. Yet empirical studies require a degree of reliability in order to be able to evaluate the process. One could question the legitimacy of standardising case formulations as they are assumed to be ideographic representations of individuals' difficulties. Inclination to standardise formulation in CT has been met with criticisms from clinicians who consider that this would objectify the person to fit a model at the expense of retaining the person's individual aspects (Dryden, 1998). Others, however, have emphasised the lack of reliability regarding concepts within CT formulations and identify a clear need for clinical tools to aid conceptualisation (Henry & Williams, 1997).

Other therapeutic models that use structured frameworks have managed to retain a personalised formulation by using individualised information in the framework. Cognitive Analytic Therapy (CAT, Ryle, 1990) prescribes a number of standardised practises for formulation, such as it should be shared with the client in the fourth session in a narrative form and then converted into a diagram collaboratively with the client (Ryle, 1995). Such guidelines may appear rigid, but guiding principles that help

the therapist to make decisions about formulation could be clinically useful and necessary for empirical investigations. Refining the structure of case formulation in cognitive therapy could be an advantage in a climate of increasingly complex cases.

It is noteworthy that other formulation methods have demonstrated adequate reliability (Luborsky & Crits-Cristoph, 1990). The Core Conflictual Relationship Theme (CCRT) is a method of formulating individuals' relationship patterns that has proven inter-rater reliability (Crits-Christoph, Luborsky, Dahl, Popp, Mellon & Mark, 1988). This method was developed for psychodynamic psychotherapy. Although the method is reported to be time consuming, the function it performs is important and a similar method could be helpful in CT.

One suggestion to improve reliability has been to use coding systems as generic models to organise information for formulation across different therapies (Goldfried, 1995). A system that structures the formulation process may enable clinicians to classify and organise information about clients so as to graphically depict relevant determinants and plan interventions. For future research studies to be initiated some agreement needs to be reached about the components within a case formulation from any therapeutic model.

Inter-therapist reliability of case formulation could be evaluated further. Persons & Bertagnolli (1999) have attempted to evaluate the degree of agreement amongst different therapists about core cognitions. This methodology could also be applied to other criteria in formulations such as predisposing factors or experiences, current

environmental factors etc. Kappa statistics could be applied to measure inter-rater reliability with the components of formulation. Kappa indicates the proportion of agreement that occurred above and beyond that which would have occurred by chance. This method has been used with the DSM diagnostic system. Such studies may highlight reliable and valid descriptions for each component within formulation are necessary.

Validity

In order to evaluate validity of case formulation we need to investigate further the meaningfulness of formulation for therapists and individual clients. This could be done on two levels, using individual case studies or a more generalised approach. On a case study level, one could question how meaningful ideographic case formulations are for the client, i.e. whether they accurately reflect the individual's difficulties and their predisposing factors. It would also be interesting to establish whether formulation increases individuals' understanding of psychological problems in terms of enhancing assimilation of the cognitive model. This could promote the face validity of case formulation as impressions from subjects can be a way to validate a method (Powell, 1996).

On a more general level, research into the construct validity of a cognitive formulation may be important. Sources of evidence that could be used to explore construct validity include expert judgement, demonstration of internal validity, high correlation with other measures of the construct (Powell, 1996). Further examination of the

justification for the elements comprising formulation could assist its internal validity. Furthermore, construct validity could be enhanced via concurrent validity studies by using measures that are designed to tap the constructs of the composite elements. For example, one could compare formulations with information from The Young Schema Questionnaire (Young, 1994) or the Dysfunctional Attitudes Scale (Weissman & Beck, 1978). Further potential research questions include whether they inform treatment by establishing the degree to which clinical interventions relate to the formulation of cases.

Bennett & Parry (1998) used an established formulation method to look at the validity of formulation in CAT. The validity was studied in terms of how accurately formulation diagrams reflect the themes of early sessions. The study investigated how well a therapist uses the formulation diagrams to identify and demonstrate incidences within the therapeutic relationship that are manifestations of identified dysfunctional interpersonal patterns in the formulation diagram. Diagrams were compared with an equivalent method of analysis (the CCRT method mentioned earlier). The study demonstrated a good level of agreement suggesting that the formulation diagram in CAT is a reliable method for identifying the aspects of clients' functioning that the model focuses on. It is important to note that this study only included material from one patient and therefore a degree of caution is necessary about how far to generalise these findings. However, these studies highlight that CT is behind other therapeutic models in terms of evaluating the empirical status of case formulation. It seems CT could learn from other therapeutic models.

CONCLUSION

Formulation generally seems to be receiving a higher profile than ever within psychology literature. The basis of formulation is the application of psychological theory to understanding problems. The current position of formulation within clinical psychology is clearly one of importance. Clinical psychologists profess to uphold the scientist-practitioner model and use this to distinguish themselves from other mental health professions. Their ability to formulate psychological problems is used to illustrate how they employ the scientist-practitioner approach. For this reason formulation remains a key feature within clinical psychology training programs. Formulation skills can be applied to a wide range of clinical issues across systemic levels and individual cases.

Case formulation appears to have evolved as the psychological counterpart to diagnosis in psychiatry, as means of describing individuals' problems in a way that informs treatment. It is considered to be a pivotal concept within psychotherapy generally. The topic appears to be becoming more prominent within psychotherapy literature and a number of recent texts have been written from different theoretical perspectives (Bruch & Bond, 1998; Eells, 1997; Horowitz, 1997, Persons, 1989). Linking theory with phenomenology, case formulations are deemed to provide theoretically valid frameworks for understanding and explaining the mechanisms and processes underlying the observed problems in individual cases. The overall view is that formulations are crucial to effective therapy and as such should be researched and evaluated to enhance their effectiveness.

Progress with researching case formulation within different therapeutic approaches appears to vary considerably. Within psychodynamic psychotherapy literature, it seems considerable progress has been made towards researching the case formulation process and attempts have been made to standardise different formulation methodologies. Comparatively, research on case formulation is in its infancy within Cognitive Therapy (CT) and Cognitive Analytic Therapy literature although encouragingly more studies seem to be emerging. Despite the dearth of evidence however, case formulation in cognitive therapy has been asserted as the first principle in CT. The justification for this assertion requires examination.

This report presented a conceptual analysis of case formulation in CT. It has examined its scientific status in terms of reliability and validity as well as its clinical value. The analysis has highlighted a lack of consistency amongst key cognitive practitioners with regard to both the concept of case formulation and the practice of it. There is little consensus regarding the essential criteria that comprise cognitive case formulations amongst the views of prominent authors. Furthermore, there are no defining principles regarding its practice in terms of how case formulation is portrayed and how the timing is determined. In the absence of such empirical evidence we cannot accredit case formulation with reliability in the scientific sense. And, as reliability is necessary for validity, case formulation process cannot profess to be valid in the scientific sense. The aspects of validity that are pertinent to case formulation were examined and were difficult to corroborate. The construct of case formulation is very complex which may explain the lack of studies. It was not possible to attribute case

formulation with construct validity. No research evidence exists that supports its meaning and relevancy to individual clients or therapists. So it appears we are left with a concept that is held in enormous regard by clinicians but lacks conceptual or empirical weight.

Despite the lack of empirical evidence for the theoretical validity of case formulation, there still seems to be inherent clinical value to the process. A number of important aspects of case formulation have been discussed as potentially having a positive impact upon practice of cognitive therapy. This impact could include symptomatic improvement, strengthening the alliance, enhancing understanding, and providing motivation and direction. The time has come to conduct more studies that evaluate the potential value of case formulation. The cognitive therapy model seems well placed to provide a structure for case formulation that could do this. Recommendations have been made to investigate our assumptions through unprejudiced empirical questioning. Clinical implications relating to the issues raised in this review cannot be fully contemplated until such research begins.

As a cognitive practitioner may put to his or her client – it seems there is a choice, either we accept things as they and continue to let clinical practice be governed by unchallenged assumptions or we investigate our assumptions with an open mind to attempt to improve clinical practice. In a climate of collaborative empiricism and the scientist-practitioner model it surely has to be the latter.

REFERENCES

Adams, H.E. (1996). Further clarification on case formulation. *The Behaviour Therapist*, 19, 78.

Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). *Cognitive therapy for depression.* Guildford Press, London.

Beck, A.T., Emery, G., & Greenberg, R.L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Basic Books.

Beck, A.T., Freeman, A., & Associates (1990). *Cognitive therapy of personality disorders*. New York: Guildford.

Beck, A. T. (1995). Beyond belief: a theory of modes, personality and psychopathology in J.S. Beck (Ed), *Cognitive therapy: Basics and beyond.* Guildford Press.

Beck, J.S. (1995). *Cognitive therapy: Basics and beyond.* Guildford Press.

Bennett, D. (1994). Readiness to change – the impact of reformulation: a case example of cognitive analytic therapy. *International Journal of Short-term Psychotherapy*, 9, 83-91.

Bennett, D., & Parry, G. (1998). The accuracy of reformulation in cognitive analytic therapy: a validation study. *Psychotherapy Research*, 8, 1, 84-103.

Bentall, R.P., Jackson, H.F., & Pilgrim, D. (1988). Abandoning the concept of 'schizophrenia': some implications of validity arguments for psychological research into psychotic phenomena. *British Journal of Clinical Psychology*, 27, 303-324.

Bieling, P.J., & Kuyken, W. (2000). Is cognitive behavioural case formulation science or science fiction? *(In submission).*

Bond, F.W., & Dryden, W. (2000). How rational beliefs and irrational beliefs affect people's inferences: an experimental investigation. *Behavioural and Cognitive Psychotherapy*, 28, 33-45.

British Psychological Society (BPS). (1968). *Psychologists' communication with management in the NHS.* A survey conducted by E. Bromley, Assistant Secretary of the National Advisory Committee of Clinical Psychologists of the Association of Scientific, Technical and Managerial Staffs.

British Psychological Society (BPS). (1969). *Regulations for the British Psychological Society diploma in clinical psychology.* Leicester: British Psychological Society.

Bruch, M., & Bond, F.W. (1998). *Beyond diagnosis: Case formulation approaches in cognitive behavioural therapy.* Chichester: Wiley.

Butler, G. (1998). Clinical formulation. Chap. 6 In: A. S. Bellack & M. Hersen (Eds), *Comprehensive clinical psychology.* UK: Pergamon.

Butler, G. (2000). Workshop on case formulation in cognitive therapy: the relationship between theory and practice. Oxford Cognitive Therapy Centre.

Clark, D.M. (1989). Anxiety states: panic and generalised anxiety. In K. Hawton, P.M. Salkovskis, J.Kirk, & D.M. Clark (Eds), *Cognitive behavioural therapy for psychiatric problems.* UK: Oxford University Press.

Clark, D.M., & Steer, R.A. (1996). Empirical status of the cognitive model of anxiety and depression. In P. Salkovskis (Ed.), *Frontiers of cognitive therapy.* New York: Guildford Press.

Crellin, C. (1998). Origins and social contexts of the term "formulation" in psychological case-reports. *Clinical Psychology Forum*, 112, 18-28.

Crits-Cristoph, P., Barber, J.P., & Kurcias, J. S. (1993). The accuracy of therapists' interpretations and the development of the therapeutic alliance. *Psychotherapy Research,* 3, 25-35.

Crits-Cristoph, P., Cooper, A., & Luborsky, L. (1988). The accuracy of therapists' interpretations and the outcome of dynamic psychotherapy. *Journal of Consulting and Clinical Psychology*, 56, 490-495.

Crits-Cristoph, P., Luborsky, L., Dahl, L., Popp, C., Mellon, J., & Mark, D. (1988). Clinicians can agree in assessing relationship patterns in psychotherapy: the core conflictual relationship theme method. *Archives of General Psychiatry*, 45, 1001-1004.

Dryden, W. (1996). Rational Emotive Behaviour Therapy. In W. Dryden (Ed.), *Handbook of individual therapy*. London: Sage.

Dryden, W. (1998). Understanding persons in the context of their problems: a rational emotive behaviour therapy perspective. In M. Bruch & F.W. Bond (Eds), *Beyond diagnosis: Case formulation approaches in CBT*. Chichester: Wiley.

Eells, T. (1997). Psychotherapy case formulation: history and current status. In T. Eells (Ed.), *Handbook of psychotherapy case formulation*. New York: Guildford.

Ellis, A. (1962). *Reason and emotion in psychotherapy*. New-York: Lyle Stuart.

Ellis, A., (1994). *Reason and emotion in psychotherapy. A comprehensive method of treating human disturbances. Revised and updated.* New York: Birch Lane Press.

Erikson, E.H. (1968). *Identity: Youth and crisis*. New York: Norton.

Evans, J., & Parry, G. (1996). The impact of reformulation in cognitive-analytic therapy with difficult-to-help clients. *Clinical Psychology and Psychotherapy*, 3, 2, 109-117.

Fowler, D. (1999). Workshop on cognitive behaviour therapy for psychosis. *British Association for Behavioural Cognitive Psychotherapies Annual Conference.*

Fowler, D. (2000). Psychological formulation of early episodes of psychosis. In M. Birchwood, D. Fowler, & C. Jackson (Eds), *Early intervention in psychosis: A guide to concepts, evidence and interventions.* Chichester, UK: Wiley.

Fowler, D., Garety, P., & Kuipers, E. (1998). Cognitive therapy for psychosis: formulation, treatment effects and service implications. *Journal of Mental Health*, 7, 2, 123-143.

Goldfried, M.R. (1995). Toward a common language for case formulation. *Journal of Psychotherapy Integration,* 5, 3, 221-244.

Greenberger, D., & Padesky, C. (1995). *Mind over mood.* New York: Guildford Press.

Haddock, G., Morrison, A.P., Hopkins, R., Lewis, & Tarrier, N. (1998). Individual cognitive-behavioural interventions in early psychosis. *British Journal of Psychiatry*, 172, 101-106.

Henry, L.A., & Williams, R.M. (1997). Problems in conceptualisation with cognitive therapy: an illustrative case study. *Clinical Psychology and Psychotherapy*, 4, 201-213.

Hirsch, P.A., & Stone, G.L. (1983). Cognitive strategies and the client conceptualisation process. *Journal of Counselling Psychology,* 30, 566-572.

Horowitz, M.J. (1997). *Formulation as a basis for planning psychotherapy treatment.* London: American Psychiatric Press.

John, C.H., & Turkington, D. (1996). A model-building approach in cognitive therapy with a woman with chronic 'schizophrenic' hallucinations: why did it work? *Clinical Psychology and Psychotherapy*, 3, 1, 46-61.

Kingdon, D.G., & Turkington, D. (1994). *Cognitive-behavioural therapy of schizophrenia.* Sussex: Psychology Press, Erlbaum.

Luborsky, L., & Crits-Cristoph. (1990). *Understanding transference: the Core Conflictual Relationship Theme method.* New York: Basic Books.

Manpower Planning Advisory Group. (1990). *Clinical psychology project: Summary report.* Department of Health, London.

Messer, S.B. (1996). Introduction to special section: case formulation. *Journal of Psychotherapy Integration*, 6, 81-83.

Meyer, V., & Turkat, I.D. (1979). Behavioural analysis of clinical cases. *Journal of Behavioural Assessment*, 1, 259-269.

Needleman, L.D. (1999). *Cognitive case conceptualisation: a guidebook for practitioners*. Mahwah, NJ: Lawrence Erlbaum.

Padesky, C. (1998). When there's not enough time: Innovations in cognitive therapy. Cognitive therapy workshop. London.

Padesky, C., & Greenberger, D. (1995). *Clinicians guide to mind over mood.* Guildford Press.

Padesky, C., & Mooney, K.A. (1990). Clinical tip: presenting the cognitive model to clients. *International Cognitive Therapy Newsletter*, 6, 1.

Persons, J.B. (1989). *Cognitive therapy in practice: A case formulation approach.* New York: Norton.

Persons, J.B. (1993). Case conceptualisation in cognitive behaviour therapy. In K.T. Kuelwein & H. Rosen (Eds), *Cognitive therapy in action.* San Francisco: Jossey Bass.

Persons, J.B., & Bertagnolli, A. (1999). Inter-rater reliability of cognitive-behavioural case formulations of depression: a replication. *Cognitive Therapy and Research*, 23, 3, 271-283.

Persons, J.B., Mooney, K.A., & Padesky, C.A. (1995). Inter-rater reliability of cognitive behavioural case formulation. *Cognitive Therapy and Research*, 19, 21-34.

Persons, J.B., & Tompkins, M.A. (1997). Cognitive-behavioural case formulation. In T.Eells (Ed.) *Handbook of psychotherapy case formulation.* New York: Guildford.

Powell, G.E. (1996). The selection and development of measures. In G. Parry & F.N. Watts (Eds), *Behavioural and mental health research: Handbook of skills and methods.* 2nd Edition. Erlbaum (UK).

Ryle, A. (1990). *Cognitive analytic therapy: Active participation in change.* Chichester: Wiley, UK.

Ryle, A. (1995). *Cognitive analytic therapy: Developments in theory and practice.* Chichester, Wiley.

Schulte, D; Kunsel, R., Pepping, G., & Schulte-Bahrenberg, T. (1992). Tailor made versus standardised therapy of phobic patients. *Advances in Behaviour Research and Therapy*, 14, 67-92.

Tarrier, N., Wells, A., & Haddock, G. (1998). *Treating complex cases: The cognitive behavioural therapy approach.* Chichester: Wiley.

Tompkins, M.A. (1996). Cognitive-behavioural case formulation: the case of Jim. *Journal of Psychotherapy Integration*, 6,2, 97-105.

Turkat, I.D. (1985). *Behavioural case formulation.* Plenum Press: London.

Waddington, L., & Morley, S. (2000). Availability bias in clinical formulation: The first idea that comes to mind. *British Journal of Medical Psychology*, 73, 117-127.

Weissman, A. N., & Beck, A.T. (1978). Development and validation of the Dysfunctional Attitudes Scale: a preliminary investigation. Paper presented at American Educational Research Association, Annual Meeting, Toronto.

Wilson, G.T. (1996). Manual-based treatments: The clinical application of research findings. *Behaviour Research and Therapy*, 34, 295-314.

Young, J.E. (1990). *Cognitive therapy for personality disorders: A schema-focused approach.* Sarasota, FL: Professional Resource Exchange.

Table 1. Summary of cognitive therapists' views of formulation

	Components	Practice	Function
Common views held by *all five* authors	1. Predisposing factors as defined by developmental or historical events or experiences 2. Cognitive component to current problems	1. Share with client 2. Refine and modify formulation in light of new information	1. Guides or informs treatment
Persons (1997)	Problem list Core beliefs Precipitants of problems Working hypothesis to explain maintenance of problems Treatment plan Obstacles to treatment Also advocates using specific situational formulations	Present to client in narrative or written form Use table of criteria to structure Timing – after problem list, before treatment (3^{rd} - 4^{th} session)	Indicates point & form of intervention Ties problems together Estimates treatment success Understands non-compliance & relationship difficulties
Beck (J) (1995)	Core dysfunctional beliefs Enduring pattern of interpretation Maintaining cycle including negative thoughts and other behaviours, emotions, physical and cognitive features	Draw diagrams / cognitive conceptualisation diagram Timing – early, in the evaluation phase Share with client	Provides framework to understand maladaptive behaviour and modify dysfunctional attitudes Assists assimilation of the cognitive model
Padesky (1995)	Maintenance cycle of cognition, behaviour, emotion and physiological symptoms Social factors Treatment plan	Collaboratively devise with client Use hot cross bun framework and maintenance cycles	Elucidates current problems and solutions Provides building blocks to treatment plan
Butler (1998)	General and specific relationship between particular thoughts and feelings Maintaining cycles Precipitating factors Personal context Treatment plan	Collaborative effort Use diagrammatic cognitive framework Keep clear and simple Start with specific situations	Clarifies hypotheses & questions & improves overall understanding Prioritises problems Highlights specific interventions Predicts responses to strategies and potential problems Determines criteria for effective outcome
Dryden (1997)	Problem list Goals for therapy Activating events Core irrational beliefs Dysfunctional behaviours Compensatory strategies Interpersonal problems Health issues Predictions regarding therapy	Share with client to get feedback Put in narrative form to client, sometimes in writing Timing – variable according to client (before or after intervention)	Generates an overall understanding of client in context of his or her problems Gives direction to therapy and guides treatment planning Identifies obstacles to treatment

Title Page - Empirical Paper

Title: **The Impact of Case Formulation in Cognitive Therapy for Psychosis**

Prepared For Submitting to: **Behavioural and Cognitive Psychotherapy**

(Instructions to Authors in Appendix 2)

The Impact of Case Formulation in Cognitive Therapy for Psychosis

Joanna Mackenzie

University of Southampton

Running Head: Impact of formulation in CT for psychosis

Address for correspondence: Joanna Mackenzie, Doctorate in Clinical Psychology, University of Southampton, SO17 1BJ.

Abstract

The clinical value of case formulation is unquestioned and yet there is little, if any, empirical evidence in support of its value. Necessary requirements to research the impact of case formulation include: identifying a population for whom it is likely to have an impact, standardising the process and identifying variables that may change. By standardising the case formulation process, this study evaluates the impact of formulation in cognitive therapy for psychosis. It was predicted that formulation would affect perceptions of the therapeutic alliance and levels of emotional distress positively, over and above the effect of time. Two experiments were conducted: a multiple baseline design with 4 clients, and a repeated measures design with 13 clients, to investigate any change from assessment to formulation. There was no evidence that formulation impacts upon clients' perceptions of the alliance or levels of emotional distress, although therapists' ratings of the alliance improved. Subjective feedback indicates formulation may enhance some clients' understanding of their difficulties and generate optimism, but 6 out of 13 experienced a negative emotional response to formulation. Therapists indicated the formulation process sharpened their clinical practice. This elementary evaluation of the impact of formulation examined only two potential variables; the results suggest more investigations are necessary to clarify the value of case formulation.

Key words: cognitive, formulation, therapy, psychosis, alliance

Introduction

As more pressure is put upon therapeutic services to establish evidence-based practice, so it is becoming more important to evaluate the basic elements of therapeutic approaches. Basic elements of therapy include theory, formulation, intervention, alliance and outcome. It has recently been acknowledged that individual formulation has been the most neglected, "despite its crucial role in demonstrating the unique scientist-practitioner approach of clinical psychology" (Waddington & Morley, 2000, p.1). Formulation is considered to be the cornerstone of clinical psychology. It is used to define the profession of clinical psychology by symbolising the discipline's allegiance to the scientist-practitioner approach, a criterion that distinguishes it from other professions. It seems case formulation has arisen as a psychological counterpart to psychiatric diagnosis. Its importance is acknowledged in a number of therapeutic approaches including cognitive behavioural therapies and psychodynamic psychotherapies (Beck, Freeman & Associates, 1990; J. Beck, 1995; Eells, 1997; Turkat, 1985).

Cognitive therapy, one of the most empirically established effective therapeutic approaches, holds case formulation as its first principle (A. Beck, 1995). In cognitive therapy, case formulation refers to the collaborative process of describing and making sense of an individual's difficulties (Persons, 1989). By applying cognitive theory to understanding the underlying mechanisms that influence the development and maintenance of difficulties, a case formulation guides both therapist and client towards appropriate interventions. A case formulation portrays an ideographic

representation of a person's problems, in contrast to nomothetic formulations that are models for particular psychological disorder such as Beck's cognitive model of depression (Beck, Rush, Shaw & Emery, 1979). The status of case formulation in cognitive therapy is steadily increasing for complex cases (Beck et al., 1990; Eells, 1997; Tarrier, Wells, & Haddock, 1998).

The functions of cognitive case formulations have been portrayed as enhancing understanding about individuals' distress, identifying points for intervention and treatment goals, helping to predict difficulties within therapy and enhancing a sense of collaboration (Butler, 1998; Evans & Parry, 1996; Persons & Tompkins, 1997). Most cognitive therapists agree that formulation is a dynamic process that is continually revised and refined with the advent of new information.

In terms of its value, it has been suggested that case formulation may promote symptomatic relief. "A clearer and presumably more accurate conceptualisation on the client's part will serve to lower their emotional distress and promote more effective functioning" (Goldfried, 1995, p.230). Horowitz (1997) holds that motivation to change and realistic hopes of success in treatment help the patient to reduce states of fear and despair. There is, however, no empirical evidence to support any of the presumed functions or values associated with formulation.

The preceding review emphasises a lack of empirically established reliability with case formulation (Mackenzie & Chadwick, 2000). There is no evidence that cognitive therapists agree on the defining components of a case formulation. The only

components that seem unanimously agreed upon are predisposing experiences, core beliefs and cognitive current symptoms. Similarly, there is no standardisation in terms of the practice of case formulation regarding aspects such as its presentation or timing. Furthermore, despite its presumed clinical value, there is a lack of any empirical evidence of its impact clinically. It is surprising that so little attention has been given to researching case formulation given the climate of scientist-practitioners and collaborative empiricism. It is this striking dearth in the literature that has formed the impetus for this study.

There are a number of challenges to evaluating case formulation that may have influenced the reticence in researching it. These are addressed by the current study. The first task is to identify a clinical group in which case formulation may have significant impact. There appears to be a consensus that case formulation is of real importance for individuals with severe mental health problems (Haddock & Tarrier, 1998; Persons & Bertagnolli, 1999; Tompkins, 1996). Cognitive therapy for people with psychosis has increased the prominence of formulation and some portray formulation as the crux of the intervention (Fowler, 1999; John & Turkington, 1996). "Formulation with psychotic patients is especially crucial as their difficulties are generally extremely complex and multiple and spread across a number of domains" (Haddock & Tarrier, 1998; p.158). With one of the purposes of formulation being the drawing together of information, to enable client and therapist to make sense of these diverse difficulties, it seems reasonable to consider the impact of formulation in this group may be significant.

A second obstacle to evaluating case formulation is attaining an acceptable degree of reliability. Few studies have examined reliability in relation to the practice of case formulation in cognitive therapy. Consequently, there is little consensus about how formulation should be practised. Persons & Bertagnolli (1999) have shown that there can be a considerable variation amongst therapists' when formulating different aspects of a person's problems. A primary objective therefore is to establish a level of standardised practice so that formulation can be studied. This requires a clear definition of necessary components of case formulation in way that represents the cognitive model, and facilitates getting a balance between simplicity and comprehensiveness (Eells, 1997). A standardised formulation diagram like the case conceptualisation diagram proposed by J. Beck (1995) is an important tool to assist with this task. Consolidating the formulation with a letter that describes the formulation in everyday language is also considered to be an asset to the process (Dryden, 1998; Persons & Tompkins, 1997).

The third challenge for case formulation research is to distinguish the effect of formulation from the effect of other aspects of therapy. To maximise the likelihood of this it is important to evaluate sessions that are devoted only to case formulation. Subsequent sessions should then include therapeutic interventions that arise from the formulation (Persons, 1993). In cognitive therapy for psychosis, key authors stipulate case formulation should be a distinctive step in therapy and be clearly written down and shared with the client (Chadwick, Birchwood & Trower, 1996; Fowler, 1999; Haddock & Tarrier, 1998; Kingdon & Turkington, 1998).

A further challenge to researching formulation is to devise feasible hypotheses about the potential areas of impact. As discussed earlier, there are a number of ways in which case formulation may impact, due to the collaborative nature of the process and its functions of enhancing understanding and indicating direction for change.

One of these ways may be to enhance the therapeutic alliance (Persons & Tompkins, 1997). The therapeutic alliance is considered to be necessary to successful cognitive therapy (Beck et al., 1979; Beck et al., 1990; Safran & Segal, 1990). The therapeutic alliance has been conceptualised as having three main components, bond between therapist and client, goals to be pursued and mutually agreed upon tasks (Bordin, 1979). Studies have shown that a positive alliance correlates with improved outcome in CT particularly in conjunction with good technical therapy skills (Horvath & Symonds, 1991; Rector, Zuroff & Segal, 1999). The process of formulating with a client by providing a theoretical framework for understanding their problems may enhance aspects of the alliance such as agreement over therapy objectives, sense of team-working and spirit of collaborative empiricism.

In cognitive therapy for psychosis, presenting case formulations to clients is assumed to enhance collaboration (Haddock, Morrison, Hopkins, Lewis & Tarrier, 1998). Case formulation is also considered to benefit the therapeutic relationship by validating clients' psychotic experiences (Kingdon & Turkington, 1998; Fowler, 2000). There is no empirical evidence that supports these assumptions and it is needed. A strong therapeutic alliance has been shown to correlate with favourable treatment course and outcome for people with psychosis (Frank & Gunderson, 1990; Svensson & Hansson,

1999). Investigations into therapeutic ingredients that may encourage the development of a positive alliance are needed (Davidson, Lambert, & McGlashan, 1998).

Another area that case formulation may impact upon is individuals' level of distress. A case formulation is a way to offer a new interpretation of clients' psychotic problems that may have a less distressing meaning for them (Fowler, Garety & Kuipers, 1998). It " ...helps to reduce fear which accompanies ill-understood experiences, to render the emotional difficulties amenable to therapeutic resolution..." (John & Turkington, 1996, p.47). Formulations are assumed to show ways in which people can find ways out of their difficulties and so it is possible they may generate hope.

The suggested ways to meet the challenges of evaluating case formulation have been incorporated within this study. The present paper reports an investigation into the impact of case formulation in cognitive therapy for people with psychosis. It comprises two linked experiments. Both experiments report the link between case formulation, and the perceived strength of the therapeutic alliance and levels of distress. Experiment 1 is a multiple baseline design that examines the levels of therapeutic alliance and emotional distress during baseline and formulation. Experiment 2 is a repeated measures design that examines whether there is a significant value-added effect on the alliance and levels of emotional distress from formulation. A standardised format for cognitive case formulation was developed to ensure a level of reliability in the process.

Experimental hypotheses

There are two main hypotheses to the study. Firstly, it was predicted that formulation has a positive impact on the therapeutic alliance as perceived by both clients and therapists over and above the effect of time. Secondly, the impact of formulation will reduce levels of distress in clients as measured by ratings of anxiety and depressive symptoms.

General Method

Participants

Participants for both experiments comprised clients and therapists from a tertiary Cognitive Therapy Service for people with Psychosis (CTSP). Clients are referred to the CTSP for mental health problems relating to psychotic symptoms (hallucinations and delusions). Suitable clients were provided with information about the study and if they were willing to participate they were asked to sign a consent form (see Appendices 3 & 4). The therapists in this study were two accredited clinical psychologists with minimum of 5 years experience of cognitive therapy for people with psychosis, and their respective trainee clinical psychologists on specialist placements (one of whom was the author). All clinicians attended the same supervision group and adhered to the same model of cognitive therapy and case formulation.

Measures

A measure of therapeutic alliance and a measure of emotional distress were used in both experiments.

The Helping Alliance Questionnaire (HAQ, Alexander & Luborsky, 1986) was used to measure the therapeutic alliance. The HAQ is an 11-itemed self-report questionnaire rated on a 6-point Likert-type scale, with 3 points negatively orientated and 3 positively orientated with no neutral response. There is a patient-rated version (HAQ-P) and a therapist-rated version (HAQ-T). Items on the HAQ reflect the extent to which the patient or therapist perceives the therapist as providing, or able to provide, needed help and how collaborative each experiences therapy to be. These aspects are pertinent in cognitive therapy (Beck et al., 1990).

The HAQ has established validity (correlation with outcome = .58, Alexander & Luborsky, 1986) and inter-rater reliability (60% no discrepancy). Other studies have deemed it to be a reliable and valid measure (Bassler, Potratz & Krauthauser, 1995). There is both theoretical and empirical support for separating out alliance items from outcome items in the HAQ measure (Hatcher, Barends, Hansell & Gutfreund, 1995). Four items out of the 11 items refer to outcome rather than alliance. Therefore analyses were conducted using a HAQ total score (11 items), and a sub-scale HAQ-alliance score (7 items). Copies of HAQ-P and HAQ-T are shown in Appendix 5 & 6; the four outcome items are asterisked.

Hospital Anxiety and Depression Scale (HADs; Zigmond & Snaith, 1983) was used to measure levels of anxiety and depression. The HADs is a widely used 14-itemed scale designed to assess the presence of anxiety and depression symptoms. It has established reliability and validity (Cronbach's alpha = 0.8, test-retest reliability = 0.84, concurrent validity r = 0.63, Herrman, 1997). The psychometric properties of the sub-scales for anxiety and depression have been recently verified using a psychiatric outpatient population most of whom had clinical depression (Dagnan, Chadwick & Trower, 2000). The HADs is recommended for use when it is important to measure distress relatively independently of the impact of physiological or cognitive components. This factor was pertinent for patients with psychosis as both symptoms and medication can affect these aspects.

Procedure

The therapeutic process was standardised for all clients. Each client was seen for an initial assessment. If suitable for cognitive therapy they entered a baseline phase during which information for formulation was gathered. Formulation was the focus for the next phase spanning two sessions. Following formulation clients elected whether or not to go on to intervention work.

The format and practice for case formulation was standardised within the supervision group for the participating therapists. A format for formulation was agreed upon and a cognitive formulation diagram was constructed called "A Cognitive Therapy Understanding of Current Problems" (Appendix 7). The formulation diagram was

completed collaboratively with the client in the session. The client was asked to contribute their views and actively make changes to any aspect. The therapist supplemented the formulation diagram with a letter describing the diagram in ordinary language if it was deemed helpful. Clients were given the formulation to reflect upon during the subsequent week and feedback any additional views in the following session. All formulation diagrams were checked for consistency and accuracy by at least one other accredited cognitive therapist who was familiar with the case.

Semi-structured interview. Clients and therapists were asked separately to attend brief, semi-structured interviews shortly after formulation to gather subjective information about their experiences of formulation. Prompting questions asked about how relevant and helpful formulation was, if it had an emotional impact and how they felt it affected therapy. The interviews were conducted by the author.

Local ethics approval was obtained prior to commencing the study (Appendix 8).

EXPERIMENT 1

Method (Experiment 1)

Experimental design

The experiment used a multiple-baseline design across four subjects. Following a minimum of 3 weeks baseline, the intervention (formulation) was introduced at

staggered weekly intervals for each client (see Figures 1 & 2). The purpose of a multiple baseline design is to show that change only occurs when the intervention is applied. It also allows for session-by-session observation of effects during baseline.

Procedure

Four clients were selected to go into the multiple-baseline design because they were at the point of starting the baseline phase. Case 1 was a 35 year-old man suffering from persecutory delusions. Case 2 was a 38 year-old man suffering from paranoid delusions and delusional guilt. Case 3 was 38 year-old woman with depression related to persistent auditory hallucinations. Case 4 was a 29 year-old man suffering from auditory hallucinations and somatic delusions. The two accredited clinical psychologists each saw two clients. Participants completed the measures after each session and put them in sealed envelopes addressed to the author. For this experiment all four case formulation diagrams were supplemented with a letter provided by the therapist. Therapists and patients were interviewed for feedback on their experience of formulation using the semi-structured interview described earlier. Comments are compiled with those from Experiment 2 and presented in the Results section from Experiment 2.

Results (Experiment 1)

All four clients identified for Experiment 1 remained in the study. One of the four required no further help after formulation whilst the other three remained in therapy.

Perceptions of the alliance (HAQ-P and HAQ-T)

The 11 items on the HAQ are scored from 1 to 6, where a rating of 4 or more reflects a positive response, giving a minimum total score of 11, a maximum of 66 and mid-point of 38. A total score between 33 and 44 reflects an uncertain overall response, 44 or more indicates a positive overall response and less than 33 indicates a negative overall response. Figure 1 presents total scores on the HAQ-P and HAQ-T across the assessment and formulation sessions. Three out of four clients' total scores were consistently positive i.e. over 44, one very much so (Case 3). This suggests three clients had a positive view of the alliance throughout the baseline and formulation stages of therapy. Their scores did not appear to significantly rise or fall following formulation. Case 4 rated the alliance, if anything, slightly negatively during baseline but the ratings increased to a positive level at formulation. Examination of clients' HAQ scores with the 4 outcome items removed (HAQ-P Alliance sub-score) showed very similar patterns to the HAQ-total scores (Figure 1 in Appendix 9).

Insert Figure 1

Therapists' scores on the HAQ-T version were on average slightly lower than their clients' scores, although therapists appeared to rate the alliance more positively after formulation. There were no major discrepancies between client and therapist ratings. In two cases the ratings were well matched (Case 1 & Case 4). In the other two cases (Case 2 and Case 3) therapist ratings were lower than clients' ratings during assessment but they rose after formulation. Pearson's *rho* correlation showed that

25% of the variance in patient's scores related to 25% of the variance in therapist's scores indicating a moderate correlation between patient's perceptions and therapist's perceptions ($r = 0.51, p < .01$).

Symptoms of anxiety and depression (from the HADs)

Figure 2 shows scores on HADs anxiety and depression sub-scales over time. A score of 8 or more on each of the sub-scales indicates a clinical level of distress. All four clients' initial scores indicated a clinical level of anxiety and two scored at the clinical level for depression. There was no consistent pattern or apparent change in levels of anxiety and depression during baseline or formulation. Case 1's level of anxiety zigzagged, going from mild to moderate during baseline, dropping back to mild at formulation then rising again to moderate. Case 2 showed a mild to moderate level of anxiety during baseline that rose slightly at the start of formulation but dropped to a non-clinical level by the second session. The level of depression for Cases 1 and 2 remained at a non-clinical level. For Case 3 levels of anxiety and depression were at the moderate to severe level during baseline falling slightly to a moderate level during formulation. Case 4 showed the most erratic pattern for anxiety and depression. Both anxiety and depression levels fluctuated between severe and mild levels during baseline going to a moderate level at formulation. Overall, data from the HADs do not support the second hypothesis that formulation impacts upon levels of emotional distress.

Insert Figure 2

Discussion (Experiment 1)

The multiple baseline design allowed for observation of effect over time on perceptions of the alliance and levels of anxiety and depression. Clients' views of the alliance gradually increased during assessment and formulation so we cannot conclude that formulation had a value-added impact per se. Formulation seemed to have more of a positive impact with Case 4 who did not perceive the alliance positively during baseline. Case 4 also had the longest baseline which perhaps strengthens the finding that there was an improvement.

Encouragingly, 3 clients rated the alliance positively throughout, and the fourth by the 7th and 8th session. The same measure has indicated positive therapeutic relationships early in therapy with clients with severe mental health problems (Gunderson, Najavits, Leonhard, Sullivan & Sabo, 1997; Wilson, Loeb, Walsh, Labouvie, Liu & Waternaux, 1999). More data are required to consolidate these findings with this measure for people with psychosis. The moderate correlation between clients' ratings and therapists' ratings suggests that they may have similar perceptions about the alliance. Therapists rated the alliance more conservatively than clients during the assessment phase but seem significantly more positive following formulation. Formulation appears to have an impact upon the therapists' perceptions of the alliance.

Ideally single case experiments have four time points for the intervention phase and in the present study there were only two. It was decided not to delay the therapy intervention phase by extending the formulation phase, as there was no theoretical reason to expect change to occur at a later time if no change was evident at formulation (Evans & Parry, 1996). It may have been useful to continue administering the measures after formulation and into treatment to see whether ratings changed after formulation although any relationship between formulation and outcome scores would be hard to prove. A matched control group without case formulation would be a useful adjunct to this multiple-baseline experiment.

EXPERIMENT 2

Method (Experiment 2)

Design & Procedure

A further 11 clients were recruited to form a within subject, repeated measures study. The timing of formulation was naturalistic; therapists were advised to formulate with their respective clients when they normally would do to create clinically valid conditions. Therapists were asked to gather HAQ and HADs data from the two sessions prior to formulating and for the two formulation sessions (i.e. for 4 consecutive sessions). Participants completed the measures after each session and put them in sealed envelopes addressed to the author. For the two cases seen by the author, data was collected independently by one of the other participating therapists.

Scores on the HAQ and HADs formed the dependent variables. The nature of the therapy session (either baseline or formulation) formed the independent variable.

Results (Experiment 2)

HAQ: descriptive data

Nine clients completed the measures for all 4 time points. Two clients dropped out of therapy prior to formulation. A summary of clients' psychiatric status and presenting problems is contained in Appendix 10. The session for which the first measure was taken (i.e. time 1) ranged from session 1 to session 11, the median was 4. Two clients had found it difficult to engage so formulation was delayed until it was appropriate.

Insert Table 1

Including the four clients from Experiment 1, data from 13 clients was examined. An item analysis of the HAQ was performed because there is no normative data for psychotic populations and there are only 11 items to the measure. Descriptive statistics for the items are shown in Table 1. The median scores and skewness statistic for items on the HAQ-P suggest that the data is not normally distributed. Data from the HAQ-T seemed less skewed. Both versions of the HAQ showed good internal reliability for this population using Cronbach's Alpha (reliability coefficient = 0.93 for both).

Insert Table 2

Data was analysed across the four times points (times 1 & 2 = two baseline sessions and times 3 & 4 = formulation sessions). Table 2 presents descriptive data for the HAQ-P, HAQ-T and the HADs during baseline and formulation. Further data analysis used non-parametric tests because numbers were conservative and a normal distribution could not be assumed. The mean HAQ (total) scores were slightly higher at formulation than baseline for both clients and therapists. There was no apparent change in either anxiety or depression scores over time.

A Friedman 2-way ANOVA for related samples was used to test for differences across the four time points. In support of the first hypothesis, analyses indicated there was significant increase in the total scores of the alliance over time on the HAQ-P (Chi squared = 10.7, $p < .05$) and the HAQ-T (Chi squared = 10.9, $p < .05$). With the four outcome items removed from the HAQ there was also significant increases in scores over time (HAQ-P: Chi squared = 8.1, HAQ-T: Chi squared = 15.5, $p<.05$).

In order to test the hypothesis that formulation would have a value added impact upon the alliance six pair-wise comparisons were completed using the Wilcoxon Signed Ranks Test. The data are tabulated in Appendix 11. Due to the number of comparisons interpretations of significance may need to be conservative.

HAQ-P (clients' perceptions of the alliance)

For clients there was only a significant increase in ratings between times 1 & 3 ($\underline{T}$=-2.12, p<.05) and times 1 & 4 ($\underline{T}$=-2.25, p<.05). This would be expected from the earlier finding that clients' perceptions of the alliance improve over time. Were formulation to have a value added effect upon the alliance we would expect a significance between time 2 and time 3, and between time 2 and time 4 as well, but contrary to the hypothesis there was no significant difference. With the four outcome items removed (7-itemed HAQ-P) the difference between times 1 & 3 was just significant (p=.045).

HAQ-T (therapists' perceptions)

For therapists there was a significant increase in alliance ratings between times 1 & 3 ($\underline{T}$=-2.24, p<.05), times 2 & 3 ($\underline{T}$=-2.5, p<.05) and times 2 & 4 ($\underline{T}$=-2.1, p<.05). The difference between times 2 & 3 was the most significant (p=0.013). This supports the hypothesis that formulation has a value added effect upon the alliance for therapists. With the 4 outcome items removed from the HAQ-T, similar results emerged for therapists with significant increases between the same time points.

Symptoms of anxiety and depression (HADs data)

The number of people scoring at the different levels of severity on the anxiety and depression sub-scales remained fairly constant over time (see Figures 3 & 4). Anxiety

scores were fairly normally distributed over time although in the session prior to formulation (time 2) there was a slight increase in people scoring in the severe range, from 3 to 5, that reduced to 1 by the end of formulation. There was a reduction in people scoring in the moderate to severe ranges for depression at formulation. Three people at time 3 and four at time 4 scored in this range compared to 5 and 6 for times 1 & 2 respectively. However, analysis of the HADs data showed no significant change over time.

Insert Figs 3 & 4

Subjective views

Eleven out of 13 clients were interviewed to obtain some feedback about their experience of formulation. Open questions were asked about how relevant they found formulation and what effect it had on them. Responses were noted when explicit reference was made about what was helpful or unhelpful. Comments from participants are summarised in Appendix 12.

Nine clients said they found formulation helped by enhancing their understanding. Six indicated that formulation had had a positive effect using descriptions such as containing, reassuring, hope-inspiring and touching. The reasons given for their positive affect included "*I felt more optimistic about therapy*" and "*I felt we were getting somewhere and saw I could make improvements*". Six clients reported a negative emotional response to formulation. Some described their experiences as saddening, upsetting and worrying. Reasons for their negative affect included "*my*

problems seemed so long-standing, I didn't realise they went back to my childhood" and "*there are so many factors, I can't see how the patterns can be stopped*". Four of these 6 were also those who made positive comments about it, indicating a degree of ambivalence about formulation. Four clients implied their formulation showed them a way forward. Three said they felt their therapist understood them from the formulation. Three clients seemed indifferent about formulation.

Subjective feedback in Experiment 1 indicated clients and their respective therapists were reasonably consistent about the impact of formulation for the client. Two clients (Cases 2 & 3) indicated their formulation seemed complicated and said they would have liked to have had an example case formulation presented to them first. In these two cases the therapists' ratings were lower during baseline but rose to a closer level at formulation. Views from therapists indicated that using a standardised approach to case formulation sharpened their clinical practice. Most (3/4) held the view that formulation enhanced their understanding of the client's problems and had a positive impact upon therapeutic alliance and sense of collaboration.

Discussion (Experiment 2)

Findings from this experiment suggest there is no impact over and above the effect of time on clients' perceptions of the alliance as a consequence of formulation. Clients' ratings of the alliance were generally positive and increased over time. Therapists' perceptions of the alliance started at a lower level but they improved at formulation.

Neither clients' nor therapists' ratings on the HAQ changed significantly between the two formulation sessions.

Formulation appeared to have no significant effect upon symptoms of anxiety and depression. The failure of formulation to impact upon levels of anxiety and depression may be explained by people's beliefs not changing during this stage of therapy. The cognitive therapy model for psychosis indicates that affective change is unlikely in the absence of a cognitive shift (Chadwick et al., 1996).

Clients' views about the experience of formulation varied. Whilst most found the experience enhanced their understanding, approximately half reported a negative emotional response to it. The benefits for clients seemed more about feeling clearer about their problems and how therapy could help. The negative reactions seemed focused around feeling oppressed by the content of the formulation. Two individuals suggested an example case formulation would help the process perhaps by helping them understand the model or reducing the personal impact.

For therapists, formulation did appear to enhance perceptions that therapy was collaborative and that they were helping the clients. Formulation seems to be the first point at which therapists get feedback from clients as to whether they have got it right. This finding may be significant as some hold the view that therapists' sense of active collaboration in therapy is related to outcome (Hatcher, 1999). Overall, presumptions about the benefits of formulation for clients' with regard to their

relationship with the therapist and their levels of distress have not been validated by this experiment.

General Discussion

Summary of main findings

The present two experiments assessed the impact of case formulation on therapists' and clients' perceptions of the therapeutic alliance as measured by the HAQ, and symptoms of anxiety and depression as measured by the HADs. The process of case formulation was conducted in accordance with a standardised framework, and it was written down and shared with the client over two sessions devoted solely to case formulation. The study hypothesised that formulation would improve clients' perceptions of the therapeutic alliance and symptoms of anxiety and depression, but this was not substantiated. In one case, where the therapeutic relationship was rated negatively during baseline, there was an improvement at formulation. It was also hypothesised that formulation would impact upon therapists' perceptions of the therapeutic alliance and there was some evidence that perceptions improved at formulation.

Secondary findings

Encouragingly this study showed the therapeutic relationship was rated positively by most clients and that ratings also improved over time. The pattern of ratings was

unaltered when the items assessing outcome on the alliance measure were removed. Scores were below maximum values indicating the absence of a ceiling effect. The positive ratings support findings from another study that reported high and positive ratings of the alliance in cognitive therapy for people with psychosis (Svensson & Hansson, 1999). Qualitative feedback suggests the impact of case formulation is a mixed process for clients. Six clients reported positive emotional reactions that appeared to revolve around feeling more optimistic about therapy and having an enhanced understanding about their problems. Poignantly, six clients reported negative emotional reactions to formulation.

Discussion of findings

The rudimentary findings indicate that formulation may not have the impact for clients that we predicted. We have faith that formulation is a beneficial experience for clients but for some it seems it is not. However, it is possible that there is a group of individuals for whom formulation could improve the alliance. Formulation could be the intervention of choice for clients who are difficult to engage, or where the therapeutic relationship is struggling.

How clients' understanding is affected by formulation is an important area for future research. It is possible that therapy may be more effective overall as a result of case formulation even if it does not affect ratings of alliance and distress at the time of formulation. Cognitive case formulation may promote clients' assimilation of the cognitive model that in turn may affect their attributions about their problems. For

example, following formulation clients may see the way in which they make sense of symptoms as contributing more to their problems. Williams & Chadwick (2000) recently examined the effect of formulation on clients' strength of beliefs about voices (auditory hallucinations) but found no significant change.

Research into the negative impact of formulation needs to be taken seriously to understand more about how the process could be improved. Discouraging responses may relate to a despairing picture that a developmental formulation can generate. Its impact could possibly be enhanced by including positive or encouraging statements within the formulation, or providing examples beforehand to allow the person to digest the model without being overwhelmed by the personal content. Some authors recommend that case formulations should contain positive information (such as functional as well as dysfunctional assumptions) as well problematic information (Ellis, 1994).

For therapists, one of the possible benefits of formulation seems to be sharpening their practice of cognitive therapy. This issue needs to be explored further to elicit what factors influence therapists' perceptions of their practice. For example, it may relate to the degree of collaboration, adherence to the cognitive model or completeness of understanding. It raises an interesting question – are therapists more competent at cognitive therapy when they have to prepare a shared formulation?

Future research

It is important to emphasise that we cannot assert that case formulation has no value. The reasons for this are because a) there are limitations to the study, b) the study did indicate benefit for the therapist, c) some clients whose scores showed no significant improvement on the measures reported benefiting from formulation, and d) there could still be a myriad of other therapeutic benefits not evaluated here. These issues are discussed and highlight ways to take research in this area forward.

The current study could be built upon in a number of ways. The most obvious is to increase the number of participants to extend the data (both qualitatively and quantitatively) and determine whether the results are replicated. Another recommendation would be to repeat measures throughout the course of therapy. This would allow for observation of delayed effects of formulation. Thirdly, other measures of the therapeutic alliance may generate more objective information. For example, observational methods of rating the alliance are available that may have better predictive validity in terms of outcome (Safran & Wallner, 1991). These methods, however, would not capture clients' and therapists' perceptions, which were important in this study.

A program of research is needed to establish the status of case formulation. For example, studies are needed that compare cognitive therapy using shared case formulations, with cognitive therapy that does not share formulation. Again research could assess whether a shared formulation reduces drop out, as it is presumed to

enhance treatment compliance (Persons & Tompkins, 1997).

It would be interesting to compare different clinical groups using the same measures as the present study. Formulation is considered to be crucial for cognitive therapy with other groups such as people with personality disorders or severe depression (Beck et al., 1990). It is possible that the impact of formulation may vary according to the presenting problems. The nature of the clients' problems in this study, and possible secondary effects of severe and enduring mental illness, such as low self-esteem and lack of empowerment, may have influenced the impact of formulation. Clients may find it difficult to perceive improvements either because they are so immersed in their current symptoms, or the chronicity of their problems has meant they are apprehensive of change.

Future research could also consider the validity of ideographic case formulations. For example, does the accuracy of individual case formulations influence the value of the process to clients? Formulations require on-going modifications to enhance their accuracy (Beck et al., 1990; Butler, 1998, Persons, 1989). Cognitive therapy should foster collaboration and encourage clients to feedback to their therapists to improve the correctness of formulation. The refinement of case formulations could be studied by comparing initial formulations with outcome formulations to see how many changes have been made and to see if their accuracy relates to their impact. How meaningful case formulations are may relate to improvements in alliance, understanding or symptoms. Other variables that could be assessed include other emotions such as shame, guilt or anger.

It is apparent that there are enormous opportunities to take this area of research forward. The clinical implications from this study are unknown until such research is developed.

The concept of case formulation is given central status in cognitive therapy. The present study was an attempt to identify two variables that may be affected by the process of case formulation and offers some of the first data on the impact of formulation. Case formulation has been shown to be of clinical value to therapists and the study suggests that their therapeutic service to clients may be enhanced as a result. However, the assumed importance of a shared formulation for clients is dubious. An important message from this study, appropriate within the field of cognitive therapy is: question your assumptions. Case formulation needs to be verified in the scientific sense to continue to uphold the practice of clinical psychology. The area is in desperate need of a program of research.

References

ALEXANDER, L.B., & LUBORSKY, L. (1986). The Penn Helping Alliance Scales. In L. S. Greenberg & W. Pinsof (Eds), *The psychotherapeutic process: A research handbook*. London: Guildford Press.

BASSLER, M., POTRATZ,B., & KRAUTHAUSER, H. (1995). The Helping Alliance Questionnaire (HAQ) by Luborsky – possibilities for evaluation of the inpatient psychotherapy treatment process. *Psychotherpeut*, 40, 23-32.

BECK, A.T., RUSH, A.J., SHAW, B.F., & EMERY, G. (1979). *Cognitive therapy for depression*. Guildford Press, London.

BECK, A. T. (1995). Beyond belief: a theory of modes, personality and psychopathology in J.S. Beck (Ed), *Cognitive therapy: Basics and beyond.* Guildford Press.

BECK, A.T., FREEMAN, A., & ASSOCIATES. (1990). *Cognitive therapy of personality disorders*. New York: Guildford.

BECK, J.S. (1995). *Cognitive therapy: basics and beyond.* Guildford Press.

BUTLER, G. (1998). Clinical formulation. Chap. 6 In: A. S. Bellack & M. Hersen (eds), *Comprehensive clinical psychology*. UK: Pergamon.

BORDIN, E.S. (1979). The generality of the psychoanalytic concept of the working alliance. *Psychotherapy*, 16, 252-260.

CHADWICK, P., BIRCHWOOD, M., & TROWER, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Chichester: Wiley.

DAGNAN, D., CHADWICK, P., & TROWER, P. (2000). Psychometric properties of the Hospital Anxiety and Depression Scale with a population of members of a depression self-help group. *British Journal of Medical Psychology*, 73, 129-137.

DAVIDSON, L., LAMBERT, S., & MCGLASHAN, T. (1998). Chap. 1 in C. Perris & P. McGorry (Eds.), *Cognitive psychotherapy of psychotic and personality disorders: Handbook of theory and practice.* Wiley: U.K.

DRYDEN, W. (1998). Understanding persons in the context of their problems: a rational emotive behaviour therapy perspective. In M.Bruch & F.W. Bond (Eds), *Beyond diagnosis: Case formulation approaches in CBT.* Chichester: Wiley.

EELLS, T. (1997). *Handbook of psychotherapy case formulation.* New York: Guildford.

ELLIS, A. (1994). *Reason and emotion in psychotherapy: Revised and updated edition.* New-York: Birch Lane Press.

EVANS, J., & PARRY, G. (1996). The impact of reformulation in Cognitive-Analytic Therapy with difficult-to-help clients. *Clinical Psychology and Psychotherapy,* 3, 109-117.

FOWLER, D. (1999). British Association for Behavioural Cognitive Psychotherapies Annual Conference: workshop on cognitive behaviour therapy for psychosis.

FOWLER, D., GARETY, P., & KUIPERS, E. (1998). Cognitive therapy for psychosis: formulation, treatment effects and service implications. *Journal of Mental Health,* 7, 2, 123-143.

FOWLER, D. (2000). Psychological formulation of early episodes of psychosis: a cognitive model. In M. Birchwood, D. Fowler, & C. Jackson (Eds), *Early Intervention in Psychosis: A Guide to Concepts, Evidence & Interventions.* Chichester: Wiley.

FRANK, A. & GUNDERSON, J.G. (1990). The role of the therapeutic alliance in the treatment of schizophrenia. *Archives of General Psychiatry,* 47, 228-236.

GOLDFRIED, M.R. (1995). Toward a common language for case formulation. *Journal of Psychotherapy Integration,* 5, 221-244.

GUNDERSON, J.G., NAJAVITS, L.M., LEONHARD, C., SULLIVAN, C., & SABO, A. (1997). Ontogeny of the therapeutic alliance in borderline patients. *Psychotherapy Research*, 7, 301-309.

HADDOCK, G., MORRISON, A.P., HOPKINS, R., LEWIS, S., & TARRIER, N. (1998). Individual cognitive–behavioural interventions in early psychosis. *British Journal of Psychiatry*, 172, 101-106.

HADDOCK, G., & TARRIER, N. (1998). Assessment and formulation in cognitive behavioural treatment of psychosis. In N. Tarrier, A. Wells, & G. Haddock (Eds), *Treating complex cases: The cognitive behavioural therapy approach.* Wiley: Chichester, UK.

HADDOCK, G., TARRIER, N., & SPAULDING, W. (1998). Individual cognitive therapy in the treatment of hallucinations and delusions: a review. *Clinical Psychology Review*, 18, 821-838.

HATCHER, R.L. (1999). Therapists' views of the treatment alliance and collaboration in therapy. *Psychotherapy research*, 9, 405-423.

HATCHER, R.L., BARENDS, A., HANSELL, J., & GUTFREUND, M.J. (1995). Patients' and therapists' shared and unique views of the therapeutic alliance: an investigation using confirmatory factor analysis in a nested design. *Journal of Consulting and Clinical Psychology*, 63, 636-643.

HERRMAN, C. (1997). International experiences with the Hospital Anxiety and Depression scale – a review of the validation data and clinical results. *Journal of Psychosomatic Research,* 42, 17-41.

HOROWITZ, M.J. (1997). *Formulation as a basis for planning psychotherapy treatment*. London: American Psychiatric Press.

HORVATH, A. O., & SYMONDS, B.D. (1991). Relationship between working alliance and outcome in psychotherapy: a meta-analysis. *Journal of Counseling Psychology*, 38, 139-149.

JOHN, C.H., & TURKINGTON, D. (1996). A model-building approach in cognitive therapy with a woman with chronic 'schizophrenic' hallucinations: why did it work? *Clinical Psychology and Psychotherapy*, 3, 46-61.

KINGDON, D., & TURKINGTON, D. (1998). Cognitive therapy of schizophrenia: collaborative and intergrated approaches. In C. Perris & P. McGorry (Eds), *Cognitive psychotherapy of psychotic and personality disorders: Handbook of theory and practice.* Wiley: U.K.

MACKENZIE, J., & CHADWICK, P. (2000). A conceptual analysis of cognitive case formulation (In preparation). Department of Clinical Psychology, University of Southampton.

PERSONS, J.B. (1989). *Cognitive therapy in practice*. UK: W.W. Norton & Co.

PERSONS, J.B., & BERTAGNOLLI, A. (1999). Inter-rater reliability of cognitive-behavioural case formulations of depression: a replication. *Cognitive Therapy and Research*, 23, 3, 271-283.

PERSONS, J.B., & TOMPKINS, M.A. (1997). Cognitive-behavioural case formulation. In T.Eells (Ed.) *Handbook of Psychotherapy Case Formulation*. New York: Guildford.

RECTOR, N.A, ZUROFF, D.C., & SEGAL, Z.V. (1999). Cognitive change and the therapeutic alliance: the role of technical and non-technical factors in cognitive therapy. *Psychotherapy*, 36, 320-328.

SAFRAN, J.D., & WALLNER, L.K. (1991). The relative predictive validity of two therapeutic alliance measures in cognitive therapy. *Psychological assessment: A Journal of Consulting and Clinical Psychology*, 3, 188-195.

SVENSSON, B., & HANSSON, L. (1999). Therapeutic alliance in cognitive therapy for schizophrenic and other long-term mentally ill patients: development and relationship to outcome in an in-patient treatment programme. *Acta Psychiatrica Scandinavica*, 99, 281-287.

TOMPKINS, M.A. (1996). Cognitive-behavioural case formulation: the case of Jim. *Journal of Psychotherapy Integration*, 6,2, 97-105.

TURKAT, I.D. (1985). *Behavioural case formulation.* Plenum Press: London.

WADDINGTON, L., & MORLEY, S. (2000). Availability bias in clinical formulation: the first idea that comes to mind. *British Journal of Medical Psychology*, 73, 117-127.

WILLIAMS, C., & CHADWICK, P. (2000). Belief change in cognitive therapy for people with auditory hallucinations (in preparation). Department of Psychology, Royal South Hants Hospital, Southampton.

WILSON,G.T., LOEB K.L., WALSH, B.T., LABOUVIE,E., LIU.X., & WATERNAUX, C. (1999). Psychological versus pharmacological treatment so bulimia nervosa: predictors and processes of change. *Journal of Consulting and Clinical Psychology*, 67, 4, 451-459.

ZIGMOND, A.S., & SNAITH, R.P. (1983). The Hospital Anxiety and Depression Scale. *Acta Scandinavica*, 67, 361-370.

Figure 1. Client and therapist scores on HAQ during baseline and formulation phases (differentiated by vertical line) in Experiment 1

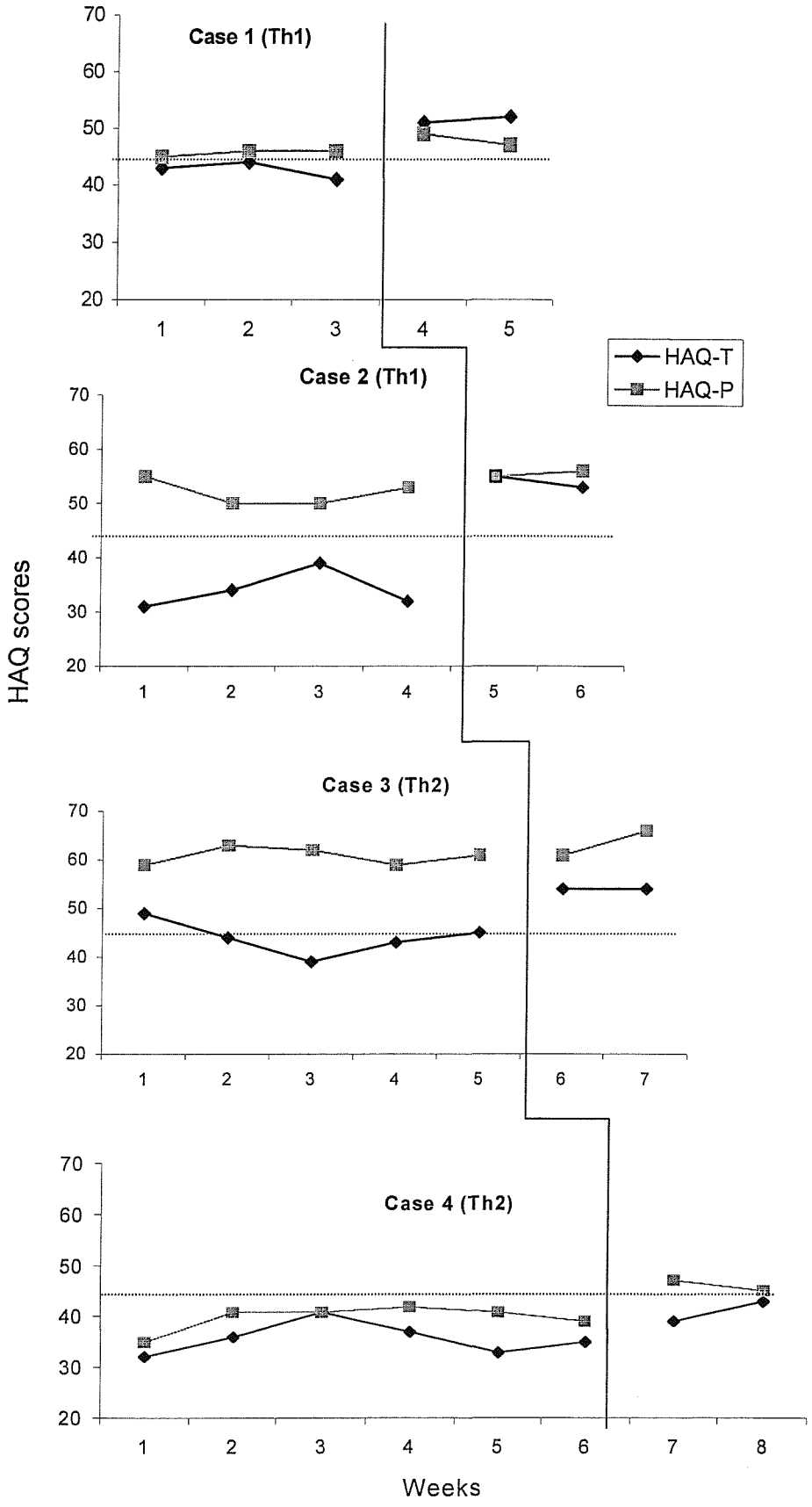


Figure 2. Anxiety and depression sub-scale scores during baseline and formulation phases (differentiated by vertical line) in Experiment 1

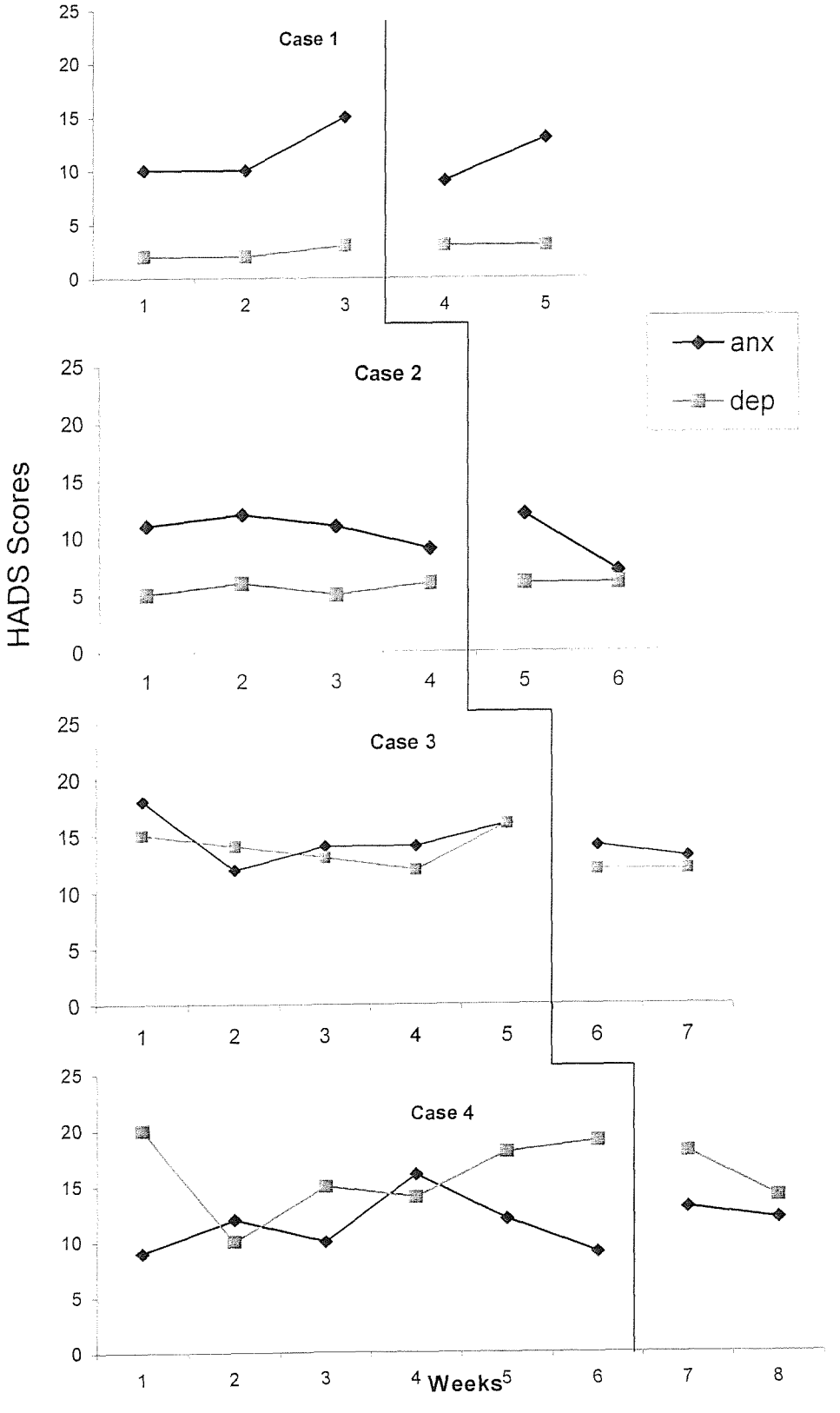


Table 1. Descriptive statistics for HAQ item analysis

	HAQ-Patient			***HAQ-Therapist***		
HAQ Item	Range	Median	Skewness statistic	Range	Median	Skewness statistic
1	2-6	5	-0.95	2-6	4	0.03
2	2-6	5	-0.8	1-6	4	-0.68
3	2-6	5	-1.16	3-6	5	-0.24
4	1-6	4	-0.87	3-6	4	0.21
5	1-6	4.5	-1.02	1-6	4	-0.12
6	2-6	5	-0.68	2-5	4	-0.28
7	2-6	5	-1.03	2-6	5	-0.57
8	4-6	6	-1.03	3-6	4	0.25
9	3-6	5	-0.78	3-6	5	-0.42
10	2-6	5	-0.51	2-6	4	0.03
11	1-6	3	0.17	1-6	4	-0.19

Table 2. Descriptive statistics showing means and standard deviations for the HAQ (11 items) and HADs

	Baseline				***Formulation***			
(n= 13)	*Time 1*		*Time 2*		*Time 3*		*Time 4*	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
HAQ								
HAQ-P	48.7	(10.13)	51.7	(9.68)	53.6	(9.38)	54.1	(8.73)
HAQ-T	44.5	(6.74)	44.4	(7.15)	50	(6.75)	49.9	(7.22)
HADs								
Anxiety	11.4	(3.88)	11.5	(5.44)	11.1	(4.39)	10.8	(5.61)
Depress-ion	8.7	(5.28)	9.0	(5.72)	8.2	(4.73)	8.3	(4.62)

Figure 3. Number of people scoring at different severity levels on the anxiety sub-scale of HADs

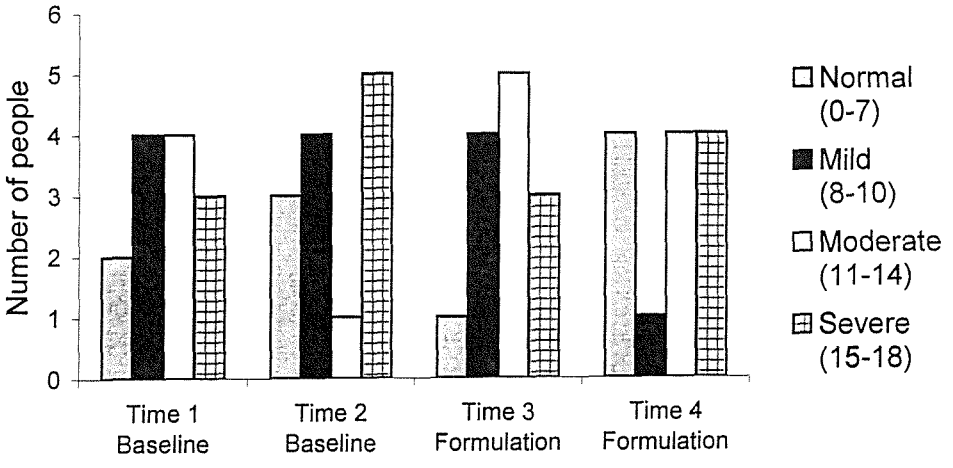
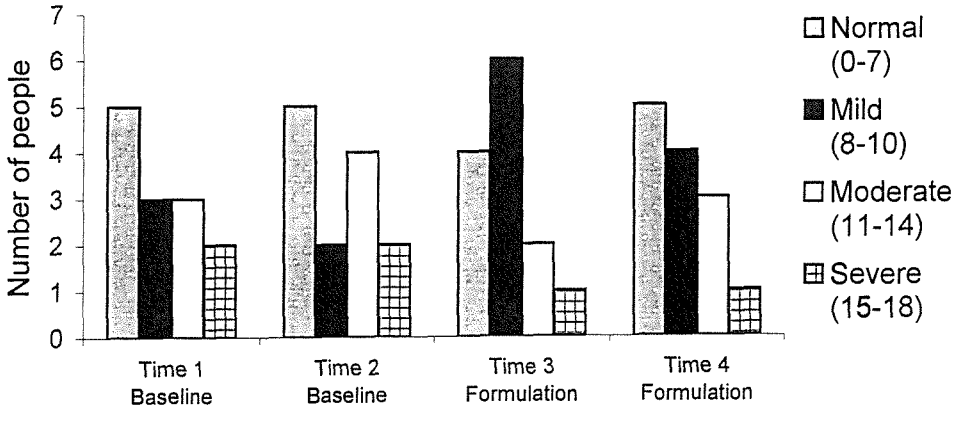


Figure 4. Number of people scoring at different severity levels on the depression sub-scale of the HADs



Appendices

Appendix 1

Clinical Psychology Review: Instructions to Authors

CLINICAL PSYCHOLOGY REVIEW

INSTRUCTIONS TO AUTHORS

AIMS AND SCOPE: *Clinical Psychology Review* publishes substantive reviews of topics germane to clinical psychology. Its purpose is to help clinical psychologists keep up-to-date on relevant issues outside of their immediate areas of expertise by publishing scholarly but readable reviews. Papers cover diverse issues, including: psychopathology, psychotherapy, behavior therapy, behavioral medicine, community mental health, assessment, and child development.

Reviews on other topics, such as psychophysiology, learning therapy, and social psychology, often appear if they have a clear relationship to research or practice in clinical psychology. Integrative literature reviews and summary reports of innovative ongoing clinical research programs are also sometimes published. Reports on individual research studies are not appropriate.

SUBMISSION REQUIREMENTS: All manuscripts should be submitted to Alan S. Bellack, The University of Maryland at Baltimore, Department of Psychiatry, 737 W. Lombard St., Suite 551, Baltimore, MD 21201, USA. Submit three (3) high-quality copies of the entire manuscript; the original is not required. Allow ample margins and type double-space throughout. Papers should not exceed 50 pages (including references). One of the paper's authors should enclose a letter to the Editor, requesting review and possible publication; the letter must also state that the manuscript has not been previously published and has not been submitted elsewhere. One author's address (as well as any upcoming address change), telephone and FAX numbers, and **E-mail address** (if available) should be included; this individual will receive all correspondence from the Editor and Publisher.

Papers accepted for *Clinical Psychology Review* may not be published elsewhere in any language without written permission from the author(s) and publishers. Upon acceptance for publication, the author(s) must complete a Transfer of Copyright Agreement form.

COMPUTER DISKS: Authors are encouraged to submit a 3.5" HD/DD computer disk to the editorial office. Please observe the following criteria: (1) Send only hard copy when first submitting your paper. (2) When your paper has been refereed, revised if necessary, and accepted, send a disk containing the final version with the final hard copy. If the disk cannot be converted, the hard copy will be used. (3) Specify what software was used, including which release, e.g., WordPerfect 6.0a. (4) Specify what computer was used (IBM compatible PC, Apple Macintosh, etc.). (5) The article file should include all textual material (text, references, tables, figure captions, etc.) and separate illustration files, if available. (6) The file should follow the general instructions on style/arrangement and, in particular, the reference style of this journal as given in the Instructions to Contributors. (7) The file should be single-spaced and should use the wrap-around end-of-line feature, i.e., returns at the end of paragraphs only. Place two returns after every element such as title, headings, paragraphs, figure and table call-outs. (8) Keep a back-up disk for reference and safety.

TITLE PAGE: The title page should list (1) the article; (2) the authors' names and affiliations at the time the work was conducted; (3) a concise running title; and (4) an unnumbered footnote giving an address for reprint requests and acknowledgments.

ABSTRACT: An abstract should be submitted that does not exceed 200 words in length. This should be typed on a separate page following the title page.

KEYWORDS: Authors should include up to six keywords with their article. Keywords should be selected from the APA list of index descriptors, unless otherwise agreed with the Editor.

STYLE AND REFERENCES: Manuscripts should be carefully prepared using the *Publication Manual of the American Psychological Association*, 4th ed., 1994, for style. The reference section must be double spaced, and all works cited must be listed. Avoid abbreviations of journal titles and incomplete information.

Reference Style for Journals:

Raymond, M. J. (1964). The treatment of addiction by aversion conditioning with apomorphine. *Behavior Research and Therapy, 3*, 287–290.

For Books:

Barlow, D. H., Hayes, S. C., & Nelson, R. O. (1984). *The scientist practitioner: Research and accountability in clinical and educational settings*. Elmsford, NY: Pergamon.

TABLES AND FIGURES: Do not send glossy prints, photographs or original artwork until acceptance. Copies of all tables and figures should be included with each copy of the manuscript. Upon acceptance of a manuscript for publication, original, camera-ready photographs and artwork must be submitted, unmounted and on glossy paper. Photocopies, blue ink or pencil are not acceptable. Use black india ink and type figure legends on a separate sheet. Write the article title and figure number lightly in pencil on the back of each.

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Appendix 2

Behavioural and Cognitive Psychotherapy: Instructions to Authors

Behavioural and Cognitive Psychotherapy
Instructions to Authors

Submission

Articles written in English and not submitted for publication elsewhere should be sent to:

Paul Salkovskis
Editor
Behavioural and Cognitive Psychotherapy
Department of Psychiatry
University of Oxford
Warneford Hospital
Oxford OX3 7JX
UK

Manuscript preparation

Four complete copies of the manuscript must be submitted. Original figures should be supplied at the time of submission. Articles must be typed double-spaced throughout on standard sized paper (preferably A4) allowing wide margins all round. Where unpublished material, e.g. behaviour rating scales, therapy manuals etc., is referred to in an article, copies should be submitted to facilitate review.

Manuscripts will be sent out for review exactly as submitted. Authors who want a blind review should mark three copies of their article 'review copy', omitting from these copies details of authorship and other identifying information. Submission for blind review is encouraged.

Abbreviations where used must be standard. The Systeme International (SI) should be used for all units; where metric units are used the SI equivalent must also be given. Probability values and power statistics should be given with statistical values and degrees of freedom (e.g. $F(1,34) = 123.07$, $p<.001$), but such information may be included in tables rather than the main text. *Spelling* must be consistent within an article, either using British usage *(The Shorter Oxford English dictionary)*, or American usage *(Webster's new collegiate dictionary)*. However, spelling in the list of references must be literal to each original publication.

Details of style not specified here may be determined by reference to the *Publication manual of the American Psychological Association* or the style manual of the British Psychological Society.

Articles should conform to the following scheme:

(a) *Title page.* The title should phrase concisely the major issues. Author(s) to be given with departmental affiliations and addresses, grouped appropriately. A running head of no more than 40 characters should be indicated.

(b) *Abstract.* The abstract should include up to six key words that could be used to describe the article. This should summarize the article in no more than 200 words.

(c) *Text.* This should begin with an introduction, succinctly introducing the point of the paper to those interested in the general area of the journal. *Attention should be paid to the Editorial Statement which appears in the January and July issues at the back of the Journal.* References within the text should be given in the form Jones and Smith (1973) or (Jones & Smith, 1973). When there are three or up to and including five authors the first citation should include all authors; subsequent citations should be given as Williams et al. (1973). Authors with the same surname should be distinguished by their initials. The approximate positions of tables and figures should be indicated in the text. Footnotes should be avoided where possible.

(d) *Reference note(s).* A list of all cited unpublished or limited circulation material, numbered in order of appearance in the text, giving as much information as possible about extant manuscripts.

(e) *References.* All citations in the text should be listed in strict alphabetical order according to surnames. Multiple references to the same author(s) should be listed chronologically, using a, b, etc., for entries within the same year. Formats for journal articles, books and chapters should follow these examples:

BECKER, M. R., & GREEN, L. W. (1975). A family approach to compliance with medical treatment: A selective review of the literature. *International Journal of Health Education, 18*, 173-182.

THARP, R. G., & WETZEL, R. J. (1969). ***Behaviour modification in the natural environment,*** New York: Academic Press.

ROSKIES, E., & LAZARUS, R. S. (1980). Coping theory and the teaching of coping skills. In P. O. Davidson & S. M. Davidson (Eds.), *Behavioural medicine: Changing health lifestyles.* New York: Brunner/Mazel.

(f) *Footnotes.* The first, and preferably only, footnote will appear at the foot of the first page of each article, and subsequently may acknowledge previous unpublished presentation (e.g. dissertation, meeting paper), financial support, scholarly or technical assistance, or a change in affiliation. A concluding (or only) paragraph must be the name and full mailing address of the author to whom reprint requests or other enquiries should be sent.

(g) *Tables.* Tables should be numbered and given explanatory titles.

(h) *Figure captions.* Numbered captions should be typed on a separate page.

(i) *Figures.* Original drawings or prints must be submitted for each line or half-tone illustration. Figures should be clearly labelled and be camera-ready wherever possible.

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On acceptance a 3.5 soft copy will be requested. Proofs of accepted articles will be sent to authors for the correction of printers' errors; authors' alterations may be charged. Authors submitting a manuscript do so on the understanding that if it is accepted for publication exclusive copyright of the paper shall be assigned to the Association. In consideration of the assignment of copyright, 25 copies of each paper will be supplied. Further reprints may be ordered at extra cost: the reprint order form will be sent with the proofs. The publishers will not put any limitation on the personal freedom of the author to use material contained in the paper in other works.

Appendix 3

Client information sheet

Client Information Sheet

Described below is some information about the research study that you have been asked to take part in.

The purpose of the study is to look at which aspects of cognitive therapy strengthen the therapeutic relationship. There should be no negative effects to your therapy.

You would be asked to complete 2 short questionnaires at the end of some therapy sessions. They should not take more than 10 minutes to complete. Your psychologist would be asked to complete a questionnaire at the same time. You would also be asked to take part in a short (max. 15 mins) interview with the researcher after the questionnaires have been collected to talk about what you have found helpful in your therapy.

You would be welcome to see the information collected at the end of the study. You could also say whether or not you would like for your psychologist to see the information you give.

You do not have to take part in this study. If you decide to participate, you are free to pull out at any stage and this will not effect your therapy. All information collected will be completely confidential, and any report or publication written as a result of this study will protect your anonymity.

Should you wish for more information about the study, please ask your psychologist or contact myself on 01703 825531 or write to Joanna Mackenzie, Trainee Clinical Psychologist, Psychology Department, Department of Psychiatry, Royal South Hants Hospital, Brintons Terrace, Southampton.

Yours faithfully

Joanna Mackenzie

Trainee Clinical Psychologist

Appendix 4

Client consent form

Client Consent Form

Study Title: Factors affecting the Alliance in Cognitive Therapy

Please complete the following:

	Please circle as necessary
Have you read the Patient Information Sheet?	Yes / No
Have you had an opportunity to ask questions?	Yes / No
Are you satisfied with the information you have received?	Yes / No

To whom have you spoken?

Do you understand that you are free to withdraw from the study:

- At any time?
- Without having to give a reason for withdrawing?
- And without affecting your future therapeutic care? Yes / No

Do you agree to take part in this study? Yes / No

Signed..... Date

(Name in block letters) .....

Signed (Researchers): ..... Date

Appendix 5

Measure: HAQ-P

Helping Alliance Questionnaire – Patient version (HAQ-P)

ID _____ Date _____

Below are listed a variety of ways that one person may feel or behave in relation to another person. Please consider each statement with reference to your present relationship with your therapist.

Mark each statement according to how strongly you feel that it is true, or not true in this relationship. Please mark every statement. Write in +3. +2, +1, or -1, -2, -3, to stand for the following answers:

+3 -- Yes, I strongly feel that it is true
+2 -- Yes, I feel it is true
+1 -- Yes, I feel that it is probably true, or more true than untrue
-1 -- No, I feel that it is probably untrue, or more untrue than true
-2 – No, I feel it is not true
-3 – No, I strongly feel that it is not true

_____ 1. I believe that my therapist is helping me. *

_____ 2. I believe that the treatment is helping me. *

_____ 3. I have obtained some new understanding.

_____ 4. I have been feeling better recently. *

_____ 5. I can already see that I will eventually work out the problems I came to treatment for.

_____ 6. I feel I can depend on the therapist.

_____ 7. I feel the therapist understands me.

_____ 8. I feel the therapist wants me to achieve my goals.

_____ 9. I feel I am working together with therapist in a joint effort.

_____ 10. I believe we have similar ideas about the nature of my problems / difficulties.

_____ 11. I feel now that I can understand myself and would be able to deal with myself on own (if therapy stopped). *

* Items referring to outcome

Appendix 6

Measure: HAQ-T

Helping Alliance Questionnaire – Therapist version (HAQ-T)

ID _____ Date

Below are listed a variety of ways that one person may feel or behave in relation to another person. Please consider each statement with reference to your present relationship with your client.

Mark each statement according to how strongly you feel that it is true, or not true in this relationship. Please mark every statement. Write in +3. +2, +1, or -1, -2, -3, to stand for the following answers:

+3 -- Yes, I strongly feel that it is true
+2 -- Yes, I feel it is true
+1 -- Yes, I feel that it is probably true, or more true than untrue
-1 -- No, I feel that it is probably untrue, or more untrue than true
-2 – No, I feel it is not true
-3 – No, I strongly feel that it is not true

_____ 1. I believe I am helping my patient. *

_____ 2. The patient believes that he or she is getting help from me. *

_____ 3. I believe I convey a sense of wanting my patient to achieve his or her goals.

_____ 4. The patient has obtained some new understanding.

_____ 5. I believe the patient has been feeling better than when he or she began. *

_____ 6. I believe the patient will eventually work out the problems he or she came to treatment for.

_____ 7. I feel I understand the patient.

_____ 8. The patient feels I understand him or her.

_____ 9. I feel that I am working together with the patient in a joint effort; we are on the same team.

_____ 10. I believe we have similar ideas about the nature of the patient's problems

_____ 11. I feel that the patient feels a growing sense of being able to do by him or herself what we do together. *

* Items referring to outcome

Appendix 7

'Cognitive Therapy Understanding of Current Problems' diagram

Cognitive Therapy Understanding of Current Problems

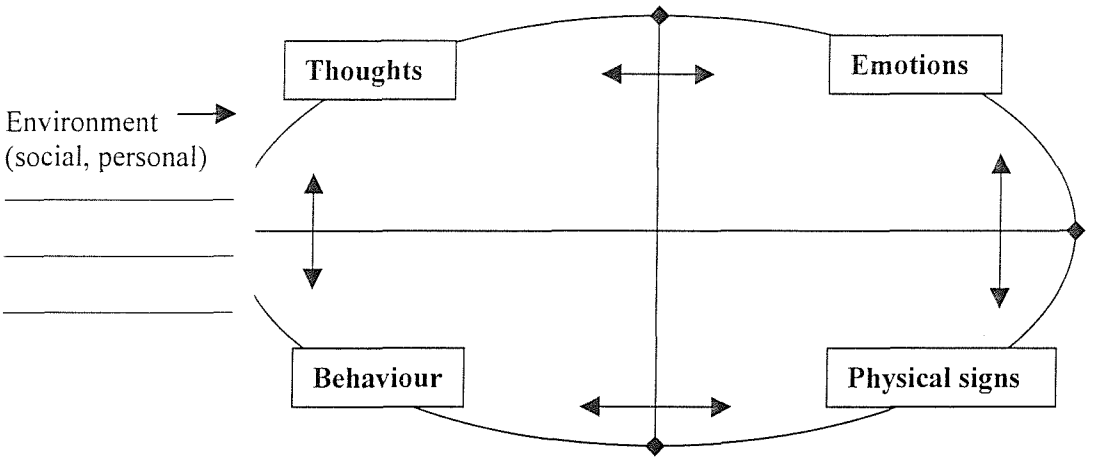
Formative experiences (relevant earlier experiences)

Core beliefs (re: self, others, world & future)

Rules for living (arising from core beliefs)

Onset (event or experience that marked the start of the problem)

Current Trigger (internal or external) _____



Appendix 8

Letter of local ethics approval

Southampton
University
Hospitals
NHS Trust

Southampton & S.W. Hants
Joint Research Ethics Committee
Trust Management Offices
Mailpoint 18
Southampton General Hospital
Tremona Road
Southampton SO16 6YD

Tel 01703 794912
Fax 01703 798678

Ref: CPW/DBL

20th September 1999

Miss J Mackenzie
14 Pennine Gardens
Dibden Purlieu
Southampton
SO45 5RZ

Dear Miss Mackenzie

Submission No:259/99 - Investigating the impact of formulation in cognitive therapy for psychosis.

Following the conditional approval and in response to your letter undated 1999, I am pleased to confirm **full approval** having received the amended (missing signature for question no 4) as requested for the above study.

This approval was granted under Chairman's action by Ms Clair Wilkinson and will be brought to the attention of the Committee at their meeting on 27th October 1999.

This committee is fully compliant with the International Committee on Harmonisation/Good Clinical Practice (ICH) Guidelines for the Conduct of Trials involving the participation of human subjects as they relate to the responsibilities, composition, function, operations and records of an independent Ethics Committee/Independent Review Board. To this end it undertakes to adhere as far as is consistent with its Constitution, to the relevant clauses of the ICH Harmonised Tripartite Guideline for Good Clinical Practice, adopted by the Commission of the European Union on 17 January 1997.

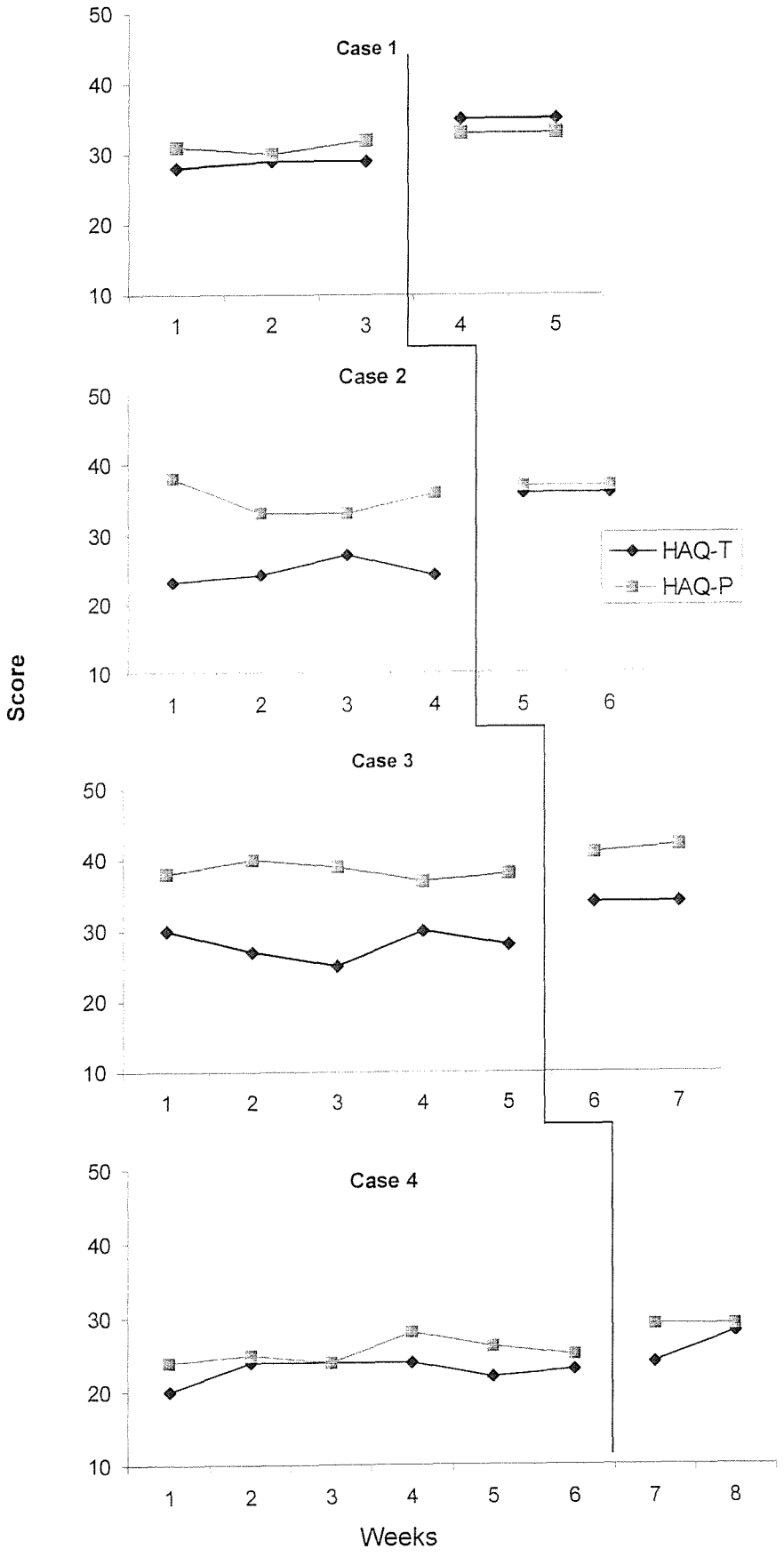
Yours sincerely,

Clair Wilkinson (Ms)
Research Ethics Administrator

Appendix 9

Figure 1. Alliance scores from HAQ (7 items)

Figure 1. Ratings of alliance using the HAQ (7-items)



Appendix 10

Clients' demographic information

CLIENT INFORMATION

ID	AGE	SEX	MAIN PSYCHOTIC SYMPTOM(S) / DIAGNOSIS	PRESENTING PROBLEM	HADS ANX	HADS DEP	1ST measure session
1*	31	M	Persecutory delusions and hallucinations	Dysfunctional assumptions re. failing others with resulting anxiety, psychotic symptoms relating to d/ass	10	2	4
2	30	F	Delusions and voices	High distress and anxiety about delusional beliefs	9	5	4
3*	29	F	Paranoid delusions, voices / Schizophrenia	Depression and suicidality related to psychosis. Major avoidance of situations due to paranoid beliefs	18	15	2
4	20	M	Voices, visual hallucinations, depression / Schizo-depressive disorder	Thought disorder, loss of motivation and concentration, depression	5	4	11
5	40	F	Delusional beliefs, depression, voices visual hallucinations / Psychotic depression	Depression, voices and self-injurious behaviour	15	12	15
6	35	F	Delusional beliefs – ideas of reference, suicidal / Psychotic depression	Depression and needing to understand psychotic depression	6	0	8
7	31	F	Paranoid delusions	Extreme anxiety and depression re. persecution	18	10	3
8	31	F	Delusional belief, depression, voices / Psychotic depression	Unable to control anger, panic and depression related to paranoid beliefs and voices	17	13	6
9	23	M	Drug induced psychosis, thought disorder	Social anxiety and fear of going mad	12	10	5
10	37	M	Schizophrenia	Delusional thinking and anger	10	8	4
11*	33	M	Paranoid beliefs and negative symptoms and depression / Schizophrenia	Paranoid beliefs and feelings of fear, depression and avoidance	9	20	2
12	31	M	Auditory hallucinations	Hopelessness and low motivation relating to abusive voices	9	10	6
13*	38	M	Paranoid delusions and delusional guilt	Long standing anxiety relating to meeting others' (high) expectations	17	5	1

* Cases in Experiment 1 (1=Case 1, 3=Case 3, 11=Case 4, 13=Case 2).

Appendix 11

Table 1 – Pairwise comparisons across the four points for the HAQ

Table 1. **Pairwise comparisons across the four times points (t1, t2, t3, t4) for the HAQ-P and HAQ-T using Wilcoxon Signed Ranks test**

Pairwise comparisons	t1 / t2	t1 / t3	t1 / t4	t2 / t3	t2 / t4	t3 / t4
HAQ-P (total)	ns	T=-2.12* p=.034	T=-2.25* p=.025	ns	ns	ns
HAQ-P (7 items)	ns	T=-1.97 p=0.049	ns	ns	ns	ns
HAQ-T (total)	ns	T=-2.24* p=.025	ns	T=-2.5* p=.013	T=-2.1* p=.036	ns
HAQ-T (7 items)	ns	ns	ns	T=-2.26* p=.024	T=-2.26* p=.024	ns

* significance $p<.05$

Appendix 12

Summary of subjective feedback

Summary of Clients' Feedback

View (n=11)	Improved understand-ing	Indicated way forward	Therapist accurately understood	Positive emotional response	Negative emotional response
No. with this view	9	4	3	6	6
Comm-ents	*Helped me to understand how my problems started* *It pulled information together and showed causative links, I learned about my underlying motivation,* *Surprised about pertinence of childhood issues,* *Showed how complicated my problems are,* *Helped me understand what was going on*	*It gave me ideas about what to work on* *Helped to show how I could change my thoughts* *Helped me to see if this is what I need* *Gave ideas about what I could work on* *Good to see that things could change if I wanted them to* *Helped marked where we have got to* *Was all I needed for now*	*It's good to have someone who understands* *She (therapist) had got a grip of what's going on* *He (therapist) drew attention to same things that I thought were relevant* *Felt understood by someone* *Was able to make changes to bits that weren't right* *Confirmed sense of working together*	*Felt much more positive about therapy* *Optimistic about the future* *Reassured* *Surprised* *Touched* *I felt more optimistic about therapy* *I felt we were getting somewhere and saw I could improve* *Encourage d me to understand more*	*Upsetting* *Saddening* *Worried about not changing* *Anxious about therapy* *My problems seemed so long-standing, I didn't realise they went back to my childhood* *There are so many factors, I can't see how the patterns can be stopped*

Examples of Therapists' Feedback

Impact for client	Impact for themselves
Validating yet saddening at same time *Improved client's sense of collaboration and commitment to therapy* *Improved alliance* *Improved hopefulness* *Changed her view of the cause of problems by making CT links* *Improved sense of working towards same goal*	*Powerful positive effect to see their understanding match client's* *Positive response towards therapy (possibly lowered depression)* *Increase sense of alliance* *Improved optimism of therapy* *Strengthened his understanding & view of appropriateness of therapy*

Critical Overview

This dissertation presents a preliminary empirical study on the impact of cognitive case formulation, first in its field. The conclusion suggests there are extensive ways in which research on case formulation can develop. The objective of this critical overview is to reflect upon the process of completing the dissertation and to draw attention to the significant issues arising from process. The hope is that anyone contemplating a similar study is made aware of potential strengths and limitations. There seems to be three main issues: the first concerns researching a relatively unexplored area, the second is about the challenge of conducting outcome research within the time constraints of the training course, and the third relates to evaluating therapeutic practice within a specialist service.

The impetus for the study arose from an interest in formulation and beginning an elective cognitive therapy and psychosis placement. Case formulation is emphasised throughout clinical psychology training as a crucial aspect to clinical work. There seems to be an unquestioning acceptance of its importance in clinical psychology training's favoured therapeutic approach, cognitive behaviour therapy. Hence, it was surprising to unearth so little empirical literature. Investigating an area where so little previous research has been undertaken has pros and cons. It is stimulating to be at the forefront of an exciting area generating innovative ideas. The literature review was a conceptual challenge; it was necessary to develop a strategic line of enquiry that accounted for the dearth of empirical literature on case formulation. With the empirical study, there were no previous examples of studies to model the study upon. It was important to keep the line of enquiry simple and the design of the study tight despite the temptation to cover all areas that have not been explored.

It was also important to plan the size study realistically. The length of time given for this research was 12 months, from proposal to submission. Once ethical permission had been obtained, there remained only 8 months in which data collection was possible. Potential therapists identified to participate in the study were asked to

cautiously estimate how many clients they would anticipate seeing over a six-month period. The number of subjects for the study was calculated from their estimations.

Suitable clients were hard to predict and fewer were referred to the therapists than anticipated, so less were seen than forecasted. It was necessary for the author to be included as one of the participating therapists in order to achieve the necessary numbers and the deadline for data collection time had to be pushed back by two months. Fortunately, the minimum number of clients was attained. The study chose to use clients referred for CBT for psychosis because formulation is deemed to be of particular value and also because it fitted logistically with a specialist placement. Greater numbers may have been achievable with a more available client group.

In order to achieve a sufficient degree of consistency in the case formulation process, it was necessary to prioritise reliability over the number of participants. The format and practice of case formulation was standardised amongst the participating therapists who all received joint supervision. Had the study been extended to other cognitive therapy services it would not have been possible to ensure such a degree of standardisation of across therapists.

The study placed a number of demands upon the participating therapists. It was dependent upon them conducting regular therapy sessions, completing measures, attending at regular supervision, adhering to the cognitive therapy model and being open about their clinical practice. Fortunately, the therapists involved supported the study and saw it as an opportunity to examine and refine their practice of formulation. Nevertheless, there are restrictions to being reliant upon other clinicians undertaking clinical work and collecting the data. One cannot control for therapists' leave, and clients' not attending appointments or not completing measures.

Despite the need for perseverance, one should not be discouraged from conducting clinically based experimental studies. There is enormous satisfaction to be gleaned from conducting research with real clinical value. Both the author and the clinicians involved feel that this study is an important exemplar within a key area of contemporary research.