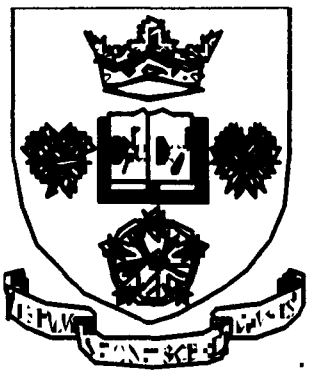

Therapeutic Impact of Case Formulation in Beck's Cognitive Therapy for Depression

by

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Therapeutic Impact of Case Formulation in Beck's Cognitive Therapy for Depression

Declaration and Statement of Originality

In accordance with the General Regulations for the Degree of Doctor of Clinical Psychology I declare that this thesis is substantially my own work and that it has not been submitted to any other institution or for any other qualification than the one for which it is being submitted here. Where reference is made to the works of others the extent to which that work has been used is indicated and duly acknowledged in the text and list of references.

July. 2006

STRUCTURE AND WORD COUNTS

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(Prepared for the Clinical Psychology Review)[1]

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Critical Appraisal .....2,003 words

With References.....2,090 words

TOTAL.....21,324 words

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[1] The letter approving this choice of journal can be found in Appendix A (p.89). In addition, the instruction for authors for this journal can be found in Appendix B (p.90).

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LITERATURE REVIEW[1]

A Critical Review of the Role and Impact of Case Formulation in the Theory and Practice of CBT

Abstract

Within the field of clinical psychology, case formulation (CF) is considered central to the treatment of individuals with psychological difficulties (Bieling & Kuyken, 2002). The importance of formulation has also been emphasised in a number of psychological therapies, particularly CBT (Persons, 1989). Within CBT, CF is reported to play many roles in the therapeutic process with the aim of securing improved treatment outcomes. This review identified sixteen quantitative studies that examined the relationship between CF and outcomes in CBT. Contrary to expectations, no (statistical) evidence was found to support the relationship; it was only through personal interviews that clients reported CF to have an impact on them. Quantitative studies, however, may be criticised for viewing treatment outcome exclusively in terms of changes in symptom presentation. To understand the impact of CF on treatment outcomes, studies need to assess aspects of therapeutic change beyond the narrow focus of symptomatology and relief from symptoms.

The importance of formulation in clinical psychology

Within the field of clinical psychology it has come to be regarded as axiomatic that 'formulation' plays a central role in the treatment of individuals experiencing psychological difficulties. In the DCP's *Core Purpose and Philosophy of the Profession* (Division of Clinical Psychology, 2001), formulation is one of the four "core skills" of a clinical psychologist working in the NHS (p.2). Formulation is also a central process in the role of scientific practitioner (Tarrier & Calam, 2002) and at the heart of evidence-based practice (Bieling & Kuyken, 2003).

[1] This review was prepared for publication in the Clinical Psychology Review. Appendix A (p.83) contains the letter approving this choice of journal. The instruction for authors can be found in Appendix B (p.84).

The importance of formulation in clinical psychology has been emphasised by a number of commentators. Bieling and Kuyken (2002) assert that formulation occupies a fundamental place in clinical psychology, like the role of diagnosis in psychiatry. For Kinderman (2001), clinical psychology is a discipline and a profession based on formulation, and he argues that the success enjoyed by clinical psychology is, in fact, the success of formulation. Furthermore, he argues that the ability to use psychological formulations in training, consultancy and supervision is what makes clinical psychology unique to other professions associated with the field of mental health. It is true that other professions formulate, but it is the clinical psychologist's special skills in developing and using formulations that set them apart from the rest (Harper & Moss, 2003).

The importance of formulation in clinical psychology is evident from the sheer volume of journal articles discussing formulation in recent years and the recent publication of books (e.g. Johnstone & Dallos, 2006) and various conferences (e.g. EABCT conference, Manchester, September 2004) devoted to the subject. In the last decade, Special Issues of journals devoted exclusively to psychological formulation also attest to this trend. It is therefore not surprising that the ability to develop a CF is currently at the forefront of clinical psychology training in the UK (Harper & Moss, 2003). Formulation is also a topic that is frequently revisited post qualification as evidenced by the number of psychologists requesting and attending practical workshops on the subject (Butler, 2006).

The importance of formulation in CBT

The importance of formulation has also been emphasised in a number of psychological therapies (Eells, 1997; Johnstone & Dallos, 2006). These include therapies ranging from psychodynamic psychotherapy (Barber & Crits-Christoph, 1993), through systemic (Vetere & Dallos, 2003) and narrative therapy (Bob, 1999), to behaviour (Nezu *et al.*, 2002; Turkat, 1985), dialectical behaviour (McMain, 2000) and cognitive-behaviour therapy (CBT: Persons, 1989). Steps have also been taken to provide 'integrative' approaches to

formulation (Gardner, 2005), in which single formulations are generated drawing on a number of psychotherapeutic schools of thought.

The importance of formulation has been particularly emphasised in CBT (Kinderman & Lobban, 2000). Aaron Beck (1995), for example, described formulation as the 'first principle' of CBT. Indeed in CBT, Bieling and Kuyken note how,

> it is increasingly accepted as a dictum among cognitive therapy trainers that a comprehensive and valid case formulation is needed to successfully treat a person in distress (...). Indeed, a great deal of time and expense is devoted to the training and supervision of novice cognitive therapists in 'the art of case formulation'.
>
> (Bieling & Kuyken, 2003: p.61)

This is supported by Stopa and Thorne (1999) who highlight the need for specific training and supervision in formulation within CBT. They argue that, "without an ability to formulate a case, trainees have no hope of knowing which questions to ask, which techniques to apply, or at what stage in the therapy to apply them" (Stopa & Thorne, 1999: p.22). Some commentators have even published detailed guidelines on how best to facilitate training in case formulation within CBT (e.g. Persons & Tompkins, 1999).

The importance of formulation has also led several researchers to devise formal systems for generating formulations in CBT (Bieling & Kuyken, 2003). These include (but are not limited to) J.S. Beck (1995), Greenberger and Padesky (1995), Linehan (1993), Muran and Segal (1992) and Persons (1993). Whilst some of these systems are relatively crude, others are more complex (Denman, 1995). The significance of formulation in CBT is also reflected in measures of cognitive therapy adherence (e.g. Startup & Shapiro, 1993; Liese, 1995), which include items designed to assess clinicians' use of an individualised formulation (Persons, Bostrom & Bertagnolli, 1999).

Whilst the dangers of trying to intervene without having a clear enough understanding of a case seem to be self-evident (Ball, Bush, & Emerson, 2004), it is not so clear why

formulation is considered so central to the theory and practice of CBT. A review of the literature pertaining to the role and impact of formulation in CBT may provide a clearer understanding of why 'formulation' has become so important in this mode of therapy.

Aim of the review

This review examines the role and impact of formulation in the theory and practice of CBT. In order to keep the review to a manageable size, emphasis has been given to CBT although reference has also been made to allied therapies: namely behaviour therapy and CAT (Cognitive Analytic Therapy). CBT warrants a focus because it has emerged as one of the most popular therapies of the last three decades (Rush & Beck, 2000) and since there is current interest within the field of clinical psychology in the role (Evans & Midence, 2005) and value (Butler, 2006) of formulation in CBT. CBT has also been chosen because common themes have emerged from the CBT literature regarding the role of formulation and since research exists examining the relationship between formulation and treatment outcomes in CBT.

The review will begin with a brief description of the strategy used to search the relevant literature database followed by a short exploration of the definition of 'formulation'. The review will then examine the emergent themes regarding the perceived role of formulation in CBT, and finish with a review of the empirical studies that provide evidence regarding the impact of formulation on treatment outcomes in CBT.

Literature search strategy

A literature search was performed to find articles that contained information about the role and impact of formulation in CBT. The search strategy involved searching the PsycINFO database for references published in the last six decades. Each search was initiated using various strings of three search terms e.g. Role/Formulation/CBT. The first term of the string always consisted of a word to describe role or impact: use, utility, purpose, usage,

benefit, role, job, function, impact, effect, outcome, influence or efficacy[2]. The second term always consisted of the term formulation or conceptualisation, and the third always consisted of the terms CBT, behaviour therapy or cognitive therapy[3].

In total, 45 different citations were found to relate to the general concept of 'the role of formulation in CBT': These were in the form of 8 book chapters and 34 journal articles. A copy of all these references was obtained. Three dissertations were also retrieved (Boelens, 1990; Hess, 2000 & Burchardt, 2004), but were excluded from review by virtue of being unpublished. To ensure a comprehensive search, the reference section of each obtained citation was examined to determine whether it contained relevant references that were not located by the initial searches. A copy of further relevant references was obtained.

Definition of case formulation

Within CBT a number of definitions of case formulation have been proposed (Johnstone & Dallos, 2006). In its broadest terms, Persons and Davidson (2001) define 'case formulation' as "a theory of a particular case" (p.86), where 'case' does not just include 'a person with a problem' but may also refer to a family, a group, institution or pattern of distress (Gardner, 2005). At the more specific level, this (individualised) theory is conceptualised as a "hypothesis about the causes, precipitants and maintaining influences of patients' psychological, interpersonal and behavioural problems" (Eells, 1997: p.1). In CBT, this hypothesis is generated on the basis of cognitive-behavioural theory and research (Haynes, Kaholokula & Nelson, 2000).

In the CBT literature, the term 'formulation' is often used interchangeably with the term 'case formulation' (CF), also known as "case conceptualization" (Persons, 1993; p.33). For Westmeyer (2003), the term 'case formulation' refers to "the process of formulating a case, as well as the result of this process" (p.162). For Persons and Davidson, CF is defined as "a

[2] Six terms were inputted with an asterix (use*, benefit*, role*, function*, outcome*, influence*) to ensure inclusion of both the singular and plural forms of the term. Effect* was used to ensure inclusion of the variants effect, effects, and effectiveness.

[3] Two terms were inputted with an asterix (conceptuali* and behavio*) to ensure inclusion of both the British and American spellings of the terms: conceptualisation, behaviour (UK); conceptualization, behavior (US).

systematic *method* for developing a hypothesis (the formulation) about the mechanisms causing a patient's symptoms and problems, developing a treatment plan based on the formulation, and evaluating the outcome of the treatment plan" (Persons & Davidson, 2001: p.106: *emphasis added*). Bieling and Kuyken (2003) concur with the notion of CF as a methodological approach. Clearly for these commentators, the 'formulation' is the theory of a case (hypothesis), whilst the 'case formulation' is the process of developing the formulation and the treatment plan which follows from it.

For the purpose of this review, CF is defined as the process of applying and integrating cognitive-behavioural theory and research with information about a specific individual in order to understand the origins, development and maintenance of the individual's psychological difficulties. Its purpose is to provide an accurate explanation of the individual's difficulties in the form of hypotheses and provide the foundation for developing of a course of treatment using CBT.

Role of case formulation in CBT

CF has been found to be helpful in at least four broad areas (Denman, 1995). (1) In the initial management of individuals, Denham argues that CFs can help clinicians assess the suitability of clients for psychotherapy and decide on the most suitable form of psychotherapy for particular individuals. (2) In the treatment of individuals, CFs may also be used to guide treatment plans, focus interventions and help predict the evolution of treatments. (3) In terms of clinical research, CFs allow research to be based on formulations rather than crude diagnostic categories, which may yield more interesting and generalisable results. (4) Denman also asserts that CFs may be useful for the auditing of a psychotherapy service, where a review of the outcomes of cases with similar CFs may help identify weaknesses in the service.

For the purpose of this review emphasis will be given to the role of CFs in the treatment of individuals using CBT, although it is recognised that their roles (as described by

Denman) extend beyond this boundary. A review of the literature in CBT (e.g. J.S. Beck, 1995; Needleman, 1999; Persons & Tompkins, 1999) suggests a broad range of claimed benefits for CF in the treatment of individuals using CBT. Both Persons (1989) and Butler (1999) identify and describe nine main roles (or major functions) of CF in enhancing treatment effectiveness. Presented below is not a review of each and every role or function that a CF is thought to play within CBT, but rather a summary of the main themes that have emerged from the CBT literature.

Understanding of clients and their difficulties

It is perhaps self-evident that a CF helps CBT therapists obtain a broader and deeper understanding of their clients, rather than simply seeing them as a collection of symptoms or psychiatric diagnoses (Bieling & Kuyken, 2003). By acting as a lens which can focus the many details of the case into a coherent vision, the CF can act as a guide to the therapist who may be temporarily bogged down in a mass of individual detail (Denman, 1995). Without a CF, problems may simply be seen as a "random collection of difficulties" (Person, 1989; p.38). Furthermore, by drawing on psychological models and theories, CF help clinicians and clients develop an improved description and understanding of presenting problems by making sense of the relationships among the various difficulties being experienced (Bruch, 1998). CF can also indicate where information is missing and prompt appropriate questions (Butler, 1999), ensuring important parts of a client's life are not over-looked (Williams, Williams, & Appleton, 1997).

Planning and guidance of treatment

Persons and Davidson (2001) explain how the overall role of the CF in CBT is to assist the clinician in the treatment process, with the "primary role" (p.102) being to guide the clinician in treatment planning and intervention. CFs not only allow treatments to be focused on clinically relevant areas (Williams *et al.*, 1997), but also assist in the selection of intervention strategies (Persons, 1993; Butler, 1999) and the clarification of treatment

goals (Persons & Davidson, 2001). They may also provide the rationale for deciding when CBT is not an appropriate therapeutic approach to use or when deciding no intervention is desirable or required at this point in time (Denman, 1995).

CF can also be helpful in the treatment of rare conditions (Tarrier & Calam, 2002) or when presentations seem complex or confusing (Tarrier, Wells, & Haddock, 1998). Without a CF, clinicians may be reduced to attempting a random series of therapy interventions (Persons & Davidson, 2001). Furthermore, CF can help when presentations involve multiple problems (Mumma, 1998). The CF may help clinicians and clients prioritise which problems should be treated and in what order (Butler, 1999). Equally, CFs may help clinicians address a number of problems at once by highlighting the common mechanisms underlying them (Persons & Davidson, 2001). CFs may also be surprisingly helpful in longer treatments where clinicians may lose focus and forget (or overlook) important areas of work that were identified earlier in assessment (Williams *et al.*, 1997).

Facilitating the therapeutic relationship

The CF may also be used to facilitate the treatment process by providing clinicians with a way of understanding and working productively with the therapeutic relationship (Persons, Davidson & Tompkins, 2001). CFs may enhance the relationship, for example, by engaging clinicians and their clients in a collaborative process (Bieling & Kuyken, 2003; Persons & Davidson, 2001). CFs promote discussions, which help formulations evolve and develop, and CFs afford a greater depth of collaboration (Kinderman & Lobban, 2000). In this vein, CFs may give clients powerful evidence of being listened to (Denman, 1995) and understood thereby providing evidence of empathy (Bruch, 1998).

Understanding and managing difficulties in treatment

CFs may also facilitate the treatment process by helping CBT therapists anticipate the potential problems likely to occur in therapy giving them time to take preventative measures (Bruch, 1998; Butler, 1999). CFs also provide a way of thinking about and

responding to problems when they do occur in therapy (Leahy, 2003). CFs have been used successfully to manage problems ranging from resistance to cognitive or behavioural change (Persons, 1989), through difficulties that arise in the therapeutic relationship (Bruch, 1998; Persons, 1993), to homework non-compliance (Persons, Davidson, & Tompkins, 2001).

CF may also be used to manage treatment that isn't progressing (Tompkins, 1999; Butler, 1999), as well as redirect treatment following its failure (Persons, 1989; 1993) or manage relapse following initial treatment success (Persons & Tompkins, 1999). Rather than attempting some different interventions blindly or simply giving up completely (Persons, 1989), clinicians can review their formulations and develop new treatment plans based upon their revisions (Persons & Davidson, 2001).

Concerns associated with the use of case formulation in CBT

Despite a widespread support for the value of CF in CBT, it is not without its critics (Wilson, 1996). There are two rather distinct concerns associated with CF. The first argues that the very act of developing a CF may encourage clinicians to form 'premature conclusions' about their clients, which restrict their abilities to develop further understanding of clients from new information. In a seminal study over five decades ago, Charles Dailey (1952) found evidence that early judgements among undergraduate psychology students influenced their subsequent use of additional information in the process of acquiring an understanding of people. He found that "premature conclusions" (p.133) were made on the basis of small amounts of information, which impacted adversely upon the ability to develop further understanding of an individual from additional information. Dailey concluded that premature judgements can make new information harder to assimilate than when judgments are withheld until larger amounts of information are seen. These concerns are similar to those of some psychodynamic therapists who argue that adherence to a formulation is "over-confining" (Denman, 1995: p.176). Bion's (1988)

recommendation to approach each therapy session without memory or desire is based on the concern that adherence to a CF closes a clinician's mind to the acquisition of new information through an over-rigid view of the case, leading to the missing of significant details (Denman, 1995).

The second distinct concern associated with CF is based on a much larger research evidence base. It argues that the CF is a particular instance of clinical judgment, which research has found to be all too fallible (Nisbett & Ross, 1980). Numerous studies have shown that experienced clinicians are no less immune to cognitive biases in drawing inferences about behaviour and making judgements about people than non-professionals (Wilson, 1996). These include bias information gathering, problems integrating different kinds of data, overconfidence, and generation of flawed hypotheses (Salovey & Turk, 1991). Clinicians also detect co-variation between events where there is none and tend to miss it when it is present (Chapman & Chapman, 1969; Starr & Katkin, 1969). They also find relationships between variables based on their prior expectations of what relationships they expect to find instead of what relationships actually exist (O'Donohoe & Szymanski, 1994). It has also been argued that in generating a CF, clinicians are guided by their personal experiences. Unfortunately, several well-researched cognitive processes, such as confirmatory bias and the availability, representative, and anchoring heuristics, undermine the utility of personal experiences (Garb, 1994; Tversky & Kahneman, 1974).

In response to these difficulties, it may be argued that the initial generation of inaccurate or flawed CFs is not a cause for concern given that CFs consist of hypotheses that are constantly revised, corrected and updated in the light of disconfirming evidence (Bieling & Kuyken, 2003; Bruch, 1998). Unfortunately, Wilson (1996) claims that clinicians generally develop CFs that largely remain unchanged throughout therapy even when later evidence disproves them. Indeed, Meehl (1960) found that non-behavioural therapists developed early impressions of their patients, which largely remained unchanged despite additional information. This contention is supported by research in the field of cognitive psychology,

which suggest that like people in general, clinicians are not very good at relinquishing prior beliefs, even in the face of disconfirming evidence (Wason, 1960). This occurs, in part, because clinicians tend to seek confirmatory evidence when testing hypotheses, whilst undervaluing or ignoring disconfirmatory evidence (Salovey & Turk, 1991).

Conclusion

As a result of these concerns, not all commentators are sanguine about the value of CFs in CBT. It has also been argued that much of the popularity of CBT is based on a body of findings from controlled outcomes studies which support its efficacy (Clark, Beck, & Alford, 1999). It has been pointed out, however, that the outcome studies that make up this evidence base adopted standardised (manualised) treatment protocols, which (it is argued) generally do not make use of the individualised CFs that are typically used in clinical practice (Persons, 1991; Persons & Tompkins, 1999). Given that CBT has been shown to be effective in outcome studies in which individualised CFs have not been developed, along with the overall malaise and scepticism amongst some commentators about the accuracy of CFs, the importance generally given to CFs in CBT may be questioned.

Bieling and Kuyken (2003) argue that although the CF literature in CBT suggests a broad range of claimed benefits for CF in CBT, surprisingly, they do not know of any literature review of the studies that evaluate these claims. Given that research suggests that CF may sometimes hinder rather than help the therapeutic process, it is now time, as recommended by Bieling and Kuyken (2003) and Mumma (1998), to review the studies that provide evidence as to whether (or not) CFs contribute to improved treatment and treatment outcomes in CBT.

Impact of case formulation on therapeutic outcome in CBT

It is argued by some that the role of the CF ultimately is to improve treatment outcome (Persons, 1993). Indeed, it has been argued that a CF's contribution to improved treatment outcome is both the cornerstone of its value (Hayes, Nelson, & Jarrett, 1987) and the

primary criterion upon which CF in CBT should stand or fall (Bieling & Kuyken, 2003). A search of the CBT literature revealed at least sixteen empirical studies that provide evidence for the impact of CF on treatment outcomes in CBT or related therapies (behaviour therapy and CAT). The studies were conducted with both children and adults, and people with and without learning disabilities, using various research methodologies and covering a wide range of psychological presentations. Table 1 overleaf provides a summary of these studies.

Studies comparing interventions with and without formulation

Over the last two decades, at least six studies compared the outcomes of individualised treatments based on an individualised CF with standardised (manualised) treatments, which typically were not. Standardised treatments are delivered by way of treatment manuals that are implemented more or less uniformly for all clients (Mumma, 1998). Put another way, rather than choosing interventions on the basis of an individualised CF, clinicians apply the same treatment procedure to all clients as detailed in a manual.

In the review below, it will be seen that from the six studies reviewed, only two found evidence for the advantage of an individualised treatment over a standardised one (Iwata *et al.*, 1994; Schneider & Byrne, 1987). Of the remaining studies, two found individualised treatments to be comparable to standardised ones (Emmelkamp, Bouman & Blaauw, 1994; Jacobson *et al.*, 1989), whilst one study found mixed results (Persons, Bostrom & Bertagnolli, 1999). In contrast to all these, the final study actually found evidence to suggest that overall a standardised treatment can be superior to an individualised one based on a CF (Schultz *et al.*, 1992).

Iwata *et al.* (1994) provides some evidence for a salutary effect on outcome by a CF in a study comparing standardised with individualised behaviour therapy for 121 learning disabled inpatients exhibiting self-injurious behaviour (SIB). CF took the form of a functional analysis (FA), which consists of identifying the important controllable and to

Original citation	*Number of participants*	*Participants*	*Psychological Difficulties/ Diagnoses*	*Models of therapy used in treatment*
Comparison of standardised with individualised treatments				
Schultz, Kunzel, Pepping *et al.* (1992)	120	Adult	Mixed Specific Phobias	CBT & Behaviour therapy
Emmelkamp, Bouman & Blaauw (1994)	22	Adult	Obsessive Compulsive Disorder	CBT & Behaviour therapy
Jacobson, Schmaling, *et al.* (1989)	30*	Adult	Marital distress	CBT & Marital therapy
Persons, Bostrom & Bertagnolli (1999)	45	Adult	Depression	CBT
Iwata, Pace, Dorsey, *et al.* (1994)	121	LD Adult^	Self-injurious behaviours	Behaviour therapy
Schneider & Byrne (1987)	35	Child	Behaviour difficulties in children	CBT (Social skills training)
Single case studies				
AuBuchon (1993)	1	Adult	Balloon Phobia	Behaviour therapy
Malatesta (1995)	1	Adult	Obsessive Compulsive Disorder	Behaviour therapy & Marital therapy
Turkat and Carlson (1984)	1	Adult	Anxiety	Behaviour therapy & CBT
Persons (1992)	1	Adult	Panic Disorder and Chronic anxiety	CBT
Single case experiments				
Evans & Parry (1996)	4	Adult	Mixed psychiatric disorders	Cognitive Analytic Therapy
Bennett (1994)	1	Adult	Depressive and anxiety symptoms	Cognitive Analytic Therapy
Kellett (2005)	1	Adult	Dissociative Identity Disorder	Cognitive Analytic Therapy
Chadwick, Williams & Mackenzie (2003)	4	Adult	Psychosis	CBT
Repp, Felce & Barton (1988)	3	LD Child^	Stereotypic & self-injurious behaviour	Behaviour therapy
Small-n (within subject) studies				
Chadwick, Williams & Mackenzie (2003)	13	Adult	Psychosis	CBT
Qualitative (interview) studies				
Evans and Parry (1996)	4	Adult	Mixed psychiatric disorders	Cognitive Analytic Therapy
Chadwick, Williams & Mackenzie (2003)	11**	Adult	Psychosis	CBT

* That is, 30 couples.

** Eleven clients (and their respective therapists) were separately interviewed.

^ With Learning Disabilities (LD)

causal functional relationships applicable to problem behaviours. Interventions that were "relevant" the CF were found to be effective or highly effective in reducing SIB in most participants or resulted in almost complete elimination of the SIB. In contrast, interventions not corresponding to the FA tended to be either ineffective, have no effect or have modest effects at best. It was concluded that that interventions relevant to behavioural function (as identified by a FA) are more likely to be effective than those that are arbitrarily chosen. The only other evidence for an advantage of CF comes from Schneider and Byrne (1987) who compared individualised with non-individualised social skills training in 35 children exhibiting a range of behavioural difficulties. A "screening procedure" was used to determine what social skills training was needed by each child in the individualised group. Children in the non-individualised group received training over 24 sessions in a random group of social skills. They found that tailoring interventions to the needs of the children led to enhanced treatment outcomes in terms of increased cooperative interaction, although not in terms of decreased aggression. It was concluded that these results provide only very limited support for the superiority of individualised social skills training over training that is standardised.

In contrast to these results, two studies found individualised treatments to be comparable to standardised ones in terms of their impact on treatment outcomes. Emmelkamp, Bouman and Blaauw (1994) compared standardised and individualised CBT with 22 individuals experiencing Obsessive-Compulsive Disorder (OCD). Standardised CBT involved *in vivo* exposure therapy whereas individualised CBT involved some combination of assertiveness training, cognitive therapy, marital therapy, and self-instructional training. Contrary to expectations, both treatments were found to be equally effective with both resulting in highly significant improvements on ODC symptoms. This trend was maintained at two-month follow-up. It was concluded that there was no evidence that individualised treatments based upon a CF are better than treatments based on standardised protocols. Similar results were found by Jacobson *et al.* (1989) in a study of 30 couples seeking marital therapy in the US. In the standardised treatment, therapists administered six modules of therapy in a fixed order. In the

individualised treatments, therapists chose a tailored treatment from the 6 modules that comprised the standardised treatment. Which modules, and how and when they were used, was left up the therapist's clinical judgment. At the end of therapy, it was found that couples who had received the structured, modular approach to marital therapy improved just as much on all measures as did the couples receiving an individually-tailored treatment.

Of the six studies reviewed, one study found mixed results. In this study, Persons, Bostrom and Bertagnolli (1999) compared the outcomes of 45 clients who received individualised CBT for depression with those of clients who received a manualised treatment some years earlier in studies by Murphy *et al.* (1984) and Elkin *et al.* (1989). In a comparison of the clients receiving individualised CBT with the Murphy *et al.* sample, no differences were found on post-treatment BDI scores. The individualised group, however, reported significantly lower *pre*-treatment BDI scores suggesting they may have overall actually experienced a *smaller* degree of improvement as a result of treatment. A different result, however, was found when the individualised group was then compared with the Elkin *et al.* sample[4]. Results showed that the proportion of individuals showing clinically significant change were quite comparable for the two groups, with 57 and 50 percent of the two samples showing 'reliable change' respectively[5]. In summary, different results were found depending on which sample was used.

In the final study, evidence was actually found to suggest that a standardised treatment can be superior to an individualised one. In this study, Schultz *et al.* (1992) compared individualised versus standardised treatment for various specific phobias in 120 individuals. The standardised treatment group received only *in vivo* exposure plus self-statement training, whereas the individualised therapy group received whatever cognitive or behavioural technique clinicians chose for them based on a CF. The standardised group showed the most improvement and this result was maintained after two years indicating that the CF had no significant effect on treatment outcome. The superiority of the standardised treatment over the

[4] As published by Ogles *et al.* (1995).

[5] The measure of 'clinical significance' developed by Jacobson and Trux (1991) was the method used to calculate the clinical significance of change in each of the two samples.

individualised group (taken as a whole) was attributed to the tendency for some clinicians in the individual treatment group to reject empirically-validated treatments in favour of their own choice of strategies based on their CFs.

Conclusion and discussion

The results of the studies reviewed here are clearly equivocal and suggest there may be little advantage in the use of an individualised treatment over a standard, one-fits-all package. There are a number of methodological difficulties, however, that plague these studies. Firstly, all the studies reviewed here relied on the assumption that standardised treatments are not individualised and that clinicians do not develop an individualised formulation when using standardised protocols. This assumption may not be entirely valid (Persons & Davidson, 2001). There is evidence, for example, that clinicians tailor manuals to individuals, even when instructed not to (Schultze *et al.*, 1992). It also argued that the distinction between manualised and individualised treatments is somewhat arbitrary anyway because many factors confound this distinction (Bieling & Kuyken, 2003). Wilson (1996), for example, argues that whilst standardised treatments prescribe a definite sequence of treatment interventions as part of an overall, integrated course of therapy, the pace at which the different elements are introduced may vary according to the client's needs. Equally, the introduction of specific techniques may be delayed or accelerated depending on the particular individual. The wide-ranging nature of these different techniques means that manuals are versatile and flexible even though they do not make use of the kind of individualised CF that is typically found in clinical practice.

Secondly, sample size was an issue in all the studies reviewed here. Tarrier and Calam (2002) argue that given standardised treatments have been shown to be effective for a number of psychological disorders, even if individualised treatments based on CFs were superior the difference in effect size would most probably be small. Accordingly, the sample size required to detect such a small difference would in turn need to be large. The studies reviewed here were potentially underpowered, suffering from Type II statistical errors. Tarrier and Calam

provide a number of sample size calculations for some of these studies to substantiate this point.

Lastly, whereas the valid administration of standardised treatments may be readily achieved, it is more difficult to ensure and assess for quality control in individualised treatments based on CFs. Mumma (1998) has argued that the few empirical studies comparing formulation-based with manual-based treatments have done little to ensure the former were delivered adequately. None of the studies reviewed here, for example, incorporated systematic or formalized procedures or guidelines that aimed to increase or evaluate the reliability or validity of the CF. Whilst, Jacobson *et al.* (1989) used a group context to develop the tailored treatment plans, they did not measure the impact of this procedure on the reliability or validity of the CFs or on the utility of the treatment plans. Equally, Schneider and Byrne (1987) only provided individualised training based upon an unspecified "screening procedure" rather than a detailed CF.

Single case studies

Other studies have obviated the problem of sample size by using the "traditional" (clinical) case study design. Reviewed below are case studies that provide some evidence for the impact of CF on treatment outcomes. In all four studies, it will be seen how the client presented with anxiety difficulties or an anxiety disorder and was initially treated with a standardised, empirically-validated behavioural treatment without developing a CF first. Following treatment failure, an individual CF was subsequently developed and the treatment indicated by the CF was delivered. In all cases, tailored-CBT based on a CF led to treatment success.

In the first two studies, standardised treatments were initially provided on the assumption that a CF was not necessary. In a study by AuBuchon (1993), a 22-year-old woman with a complex and severe balloon phobia was treated with *in vivo* exposure with limited success. A CF was developed afterwards and the interventions indicated by the CF were delivered. Following treatment based on the CF, the woman made further improvements, which were

maintained at eighteen month and three year follow-up. It was concluded that this study demonstrated the clinical utility of a CF to guide and organize treatment. Malatesta (1995) also presented an example of a standardised behavioural treatment that initially failed in order to show the potential danger of using a standardised approach without first consulting a CF. The case involved a 32-year-old woman experiencing obsessive-compulsive disorder (OCD) who had originally been treated with a standard behaviour therapy. Following a complete relapse, a CF was developed, which revealed that the OCD had been precipitated, and was being maintained, by marital difficulties. Following the marital therapy indicated by the CF, the woman's OCD symptoms decreased rapidly and response prevention helped eliminate the remaining symptoms over the three months following treatment. At one year post-treatment, the woman had remained symptom free.

In the final two case studies, standard treatments were provided following failed attempts to develop a CF. In the first case, Turkat and Carlson (1984) reported difficulties developing a CF with a 48-year-old woman experiencing anxiety and avoidance. As a result, the woman was initially provided with standard relaxation training and anxiety management involving imaginal and *in vivo* exposure. Two weeks following treatment, the woman experienced a complete relapse. The woman subsequently agreed to participate in a second attempt to formulate her problems, drawing on observations that the therapist had made during the first course of treatment. This time efforts to develop a CF succeeded. The CF revealed that the woman experienced fundamental difficulties with interpersonal dependency. Newly designed interventions based on the CF were successful in producing a significant reduction in symptoms, which were maintained at follow-up. It was concluded that the successful outcome of this case had been dependent on the development of an accurate CF, pointing to the superiority of CF treatments over symptomatic treatments. In the second case, Persons (1992) initially failed to generate a CF due to the reticence of a client with panic disorder and chronic anxiety. As a result, symptom-focused CBT was initiated (relaxation training using a tape). Four weeks of this treatment seemed to produce a reduction in most of the overt central

difficulties and so the client suggested termination. Persons, however, urged the client to continue treatment until the causes of her panic attacks could be understood. Extensive data collection revealed other sources of anxiety that the client had not been fully aware of. Family history and further exploration of current relationships all helped develop a detailed CF, which led to several ideas for intervention. These included cognitive therapy, couples therapy and assertiveness training. These interventions were initiated. Follow-up data six months after the conclusion of treatment indicated the client was free of panic and acute anxiety difficulties.

Conclusion and discussion

So far in this review, these case studies provide the strongest evidence to support the value of CF in enhancing treatment outcomes. However, although these studies obviated the difficulty of recruiting sufficient participants for a group study, case studies have been criticised as being scientifically unsound and prone to excessive levels of bias in reporting (Kazdin, 1981). Another criticism is that the case studies reviewed here used CF to redirect treatment following treatment failure or relapse. The success in these studies therefore show *not* that CFs generally lead to more effective outcomes *in most cases*, but rather lead to more effective outcomes in the few (atypical) individuals where the well-established treatments of choice for the particular presentations are inappropriate. Furthermore, in most cases initial treatment consisted of a limited range of behavioural strategies. Following CF, a wider range of cognitive-behavioural strategies was employed. These CF-based treatments may have been more effective than the initial treatments simply by virtue of being more comprehensive or "multi-model" (Lazarus, 1973; 1976) rather than because of the involvement of a CF.

Single case experiments

The efforts of research methodologists to improve the weaknesses that beset the traditional case study led to the development of the Single Case Experimental Design (SCED). SCEDs provide a more rigorous means of evaluating the effectiveness of therapeutic interventions than other single case designs (Turpin, 2001). By gathering and evaluating data serially across

assessment baselines and specified treatment periods, they also provide a means of demonstrating the impact of interventions, as well as phases of intervention (Bromley, 1986) such as CF.

At least five studies have examined the impact of CF on treatment outcome using a SCED. The first three examined the impact of CF within Cognitive Analytic Therapy (CAT), where CF takes the form a Reformulation Letter and a Sequential Diagrammatic Reformulation (SDR). The letter is a narrative of the client's CF based on CAT theory and the SDR is the reformulation in diagrammatic form. In the first study, Evans and Parry (1996) examined the short-term impact of the letter with four clients experiencing a range of difficulties previously resistant to treatment. Although three clients made significant improvements over the course of therapy, the letter was found to have had no direct short-term impact in terms of perceived helpfulness of sessions, the therapeutic alliance or severity of symptoms. In contrast to these findings, Kellett (2005) and Bennett (1994) found both a 'reformulation letter' and an SDR had more positive and significant impact on therapeutic outcomes. Kellett (2005) administered a number of measures to a client experiencing Dissociative Identity Disorder. On some outcome variables evidence of "sudden gains" was found for both the letter and SDR, with the letter and SDR found to have independent effects. In the same vein, Bennett (1994) administered a rating sheet to a client experiencing depressive and anxiety symptoms, along with personality difficulties and problems with insomnia and self-harm. The reformulation letter and the SDR were found to enhance the client's capacity for self-observation and control, and help the client recognise and disrupt maladaptive behavioural patterns. They were also found to facilitate the development of alternative behaviours. Bennett concluded that the process of reformulation may be considered to be powerful agent of containment and change.

Of the remaining two studies using a SCED, one examined the impact of CF in CBT and the other in behaviour therapy. In the study of CBT, Chadwick, Williams and Mackenzie (2003) investigated the impact of CF in four clients experiencing auditory hallucinations and paranoid delusions. It was found that when delivered over four sessions, the CF did not have a

significant impact on any of the four clients on a number of variables. For two clients, scores attained during the assessment phase were largely similar to those attained immediately following the CF sessions. On one measure, one client actually worsened whilst another had improved, although improvement had already started to occur during baseline. It was only on one measure that one of the four clients showed improvement. Chadwick *et al.* were forced to conclude they found no evidence that a CF in CBT has a direct impact on some of the symptoms of psychosis.

In the final study, Repp, Felce and Barton (1988) evaluated the impact of CF on outcomes in behaviour therapy for stereotypic or self-injurious behaviour in three young children with severe learning disabilities. Following the development of a CF in the form of a Functional Analysis (FA), each child was provided with two different interventions each delivered in separate classroom. One was based on the FA, whilst the other was not. Although it took several days to take effect, the interventions based on the FAs led to a significant reduction in problem behaviour in all three children, whereas the arbitrary chosen treatments (i.e. those unrelated to the FAs) had little or no overall mean effect. It was concluded that treatments based upon a FA in the form of a hypothesis regarding the cause of the behaviour are more likely to be effective than treatment interventions that are arbitrarily chosen. These support the results of Iwata *et al.* cited early.

The results of studies using a SCED are equivocal. Whilst Evans and Parry found no impact for a reformulation letter in CAT, Kellett (2005) and Bennett (1994) found a positive impact on therapeutic outcomes for both the reformulation letter and the SDR. Equally, whilst a CF was found to have no impact in CBT for psychosis, a CF was found to have an impact on the outcomes of behaviour therapy, when it took the form of a FA. These findings suggest that CF may only have an impact on certain outcome variables and not others, and only in particular psychological presentations. It may also be that CF may have a greater impact in behaviour therapy (in the form of a FA), than in CBT or CAT.

The negative results found by Chadwick *et al.* and Evans and Parry, however, conflicted with semi-structured interview reports from their clients, which suggested that the CF did, in fact, have a considerable impact upon them. (This interview data is examined in detail later in this review). This discrepancy suggests that the limited range of psychometrics used in the Evans and Parry and Chadwick studies failed to detect an effect of CF that occurred on certain outcome variables as they were not designed to tap them. It also supports the assertion that indeed CF may only have impact on certain outcome variables and not others.

Small-*n* (within subject) studies

In their study of CBT for psychosis, Chadwick *et al.* (2003) also investigated the impact of CF on treatment outcomes for 13 clients, using a small-*n*, within subjects, repeated measures AB design. The advantage of design over single-case experiments is that they generate data that may be analysed using conventional statistical procedures unlike their single-case counterparts for which different procedures have been developed (Todman & Dugard, 2001). Measures were taken during assessment to provide baseline data and immediately after each of two formulation sessions, which were devoted to developing an individualised CF. Using a Friedman two-way ANOVA for related samples and the Wilcoxon Signed Ranks Test, the evidence suggested that the CF had not had a direct impact on two of the main targets of CBT for psychosis from the client's point of view; namely the therapeutic relationship and client distress. Whilst there was some improvement in client-rated scores on one measure, they were consistent with a general improvement in scores over time. Significant results were only found on a measure of the therapeutic relationship from the therapists suggesting the CF impacted only on the alliance from the therapist's point of view.

Qualitative (interview) studies

In contrast to all the previous studies which collected quantitative (objective) data through psychometric measures, the final two studies reviewed collected qualitative (subjective) data thorough interviews. In the first study, Chadwick *et al.* (2003) interviewed eleven of their

clients (in addition to their therapists) shortly after the CF process to ask questions about their experiences of it. Although some clients reported that CF had had no emotional impact at all, some reported experiencing both positive and negative emotions in response to their CF. Six clients reported feeling reassured, encouraged, and more optimistic based on increased understanding and seeing a way forward. Three said the CF showed their therapist understood them. On the negative side, six clients described their experience of CF as saddening, upsetting and worrying on the basis of the perceptions of their problems as complex and longstanding. One client reported feeling surprised by the CF, a response neither positive nor negative. For the therapists, the CF had a number of positive effects. Overall therapists found it was powerful and validating to have clients endorse the CF and it helped therapists feel more hopeful about therapy. For others, the CF increased a sense of alliance and collaboration, and increased their confidence that CBT was an appropriate therapy for the client. Therapists also felt the CF helped them maintain their adherence to the CBT model and increased their understanding of their client's difficulties.

Similar results were found by Evans and Parry (1996) who interviewed four clients immediately after the CF (reformulation) sessions to ask about the impact of them on the therapeutic process. Reading the 'reformulation letter' appeared to have a "considerable emotional impact" (p.112) on all four clients, with two using the word "overwhelming" and two the word "frightening" to describe the experience. Also for all four clients, there was material contained in the CF (such as painful memories from childhood) that they had tired to forget. The CF did, however, have some positive effects. All four agreed that the CF had given them a better understanding of their problems, and three thought that it had provided a focus for therapy. Another common theme was that the CF demonstrated that the therapist had been listening and understood their problems, which was vital to their belief that they could trust the therapist.

Summary and Discussion

Within CBT, CF is heralded to be central to the treatment of individuals with psychological difficulties. Although the value of CF has been contested by some, CF is claimed to afford a range of benefits for the treatment process. Given the great expense involved in training clinicians to develop CFs and the amount of time and effort involved in developing them during treatment, it is important to establish whether CFs lead to improved treatment and treatment outcomes. This report critically reviewed sixteen empirical studies that provide evidence for the impact of CF on treatment outcomes in CBT and allied therapies.

Six studies provided evidence for the impact of CF by comparing standardised treatments that do not use CFs with individualised treatments that do. Only one study found clear evidence for individualised treatment leading to improved treatment outcomes (Iwata *et al.*, 1994), with a second showing they only led to improved outcome on one variable (Schneider & Byrne, 1987). There are a number of methodological difficulties, however, (such as sample size and quality control) that plague this studies. Four case studies did provide some evidence for improved treatment outcomes as a result of using a CF. All the cases, however, were examples of CFs being used to manage treatments that weren't progressing or used to redirect treatments that had failed or led to relapse. This implied that the CFs lead to more effective treatment outcomes only in a few (atypical) cases. Studies using a SCED were also reviewed. Only one study found positive results (Repp *et al.*, 1988), which were for learning disabled children exhibiting stereotypic or self-injurious behaviour. In three studies using CAT, conflicting evidence was found. Evans and Parry (1996) found no immediate impact of CF (in the form of a reformulation letter) on outcome variables, whereas Kellett (2005) and Bennett (1994) found a positive impact on therapeutic outcomes for both the reformulation letter and the SDR. In contrast to these studies, Chadwick *et al.* (2003) found no impact of CF in CBT for psychosis when using a SCED on four clients. Even when Chadwick studied thirteen clients using a small-*n* research design, the same 'no effect' result was found.

In conclusion, there is little doubt that CFs can be useful in atypical cases involving treatment difficulties. At present, however, whilst there may be a *prima facia* case for the use of CF in CBT through its claimed benefits, there is little empirical evidence supporting the relationship between CF and improved treatment outcomes. With the exception of Kellett's (2005) single case of multiple personality and Bennett's (1994) single case of anxiety and depression, only the studies by Iwata *et al.* (1994) and Repp *et al.* (1988) provide quantitative (statistical) evidence for improved treatment outcomes using a CF across a number of individuals. The generalisability of these studies is limited, however, as both were conducted on learning disabled individuals exhibiting self-injurious behaviour using behaviour therapy and a CF in the form of a functional analysis. Bieling and Kuyken (2003) found this absence of support for the relationship between CF and improved treatment outcomes in CBT to be "of considerable concern" (p.61).

An absence of empirical evidence from *quantitative* studies, however, does not necessarily signify a lack of impact of CF on treatment and treatment outcomes. Clearly, all the studies reviewed here involved methodological weaknesses and future research in this area should endeavour to overcome or minimise these. Some of these are certainly possible, as in the case of underpowered studies which require larger samples. Furthermore, evidence for an impact of CF on outcome comes from interview data in which clients' reported CF to have a wide ranging impact (both negative and positive) on their thoughts and feelings. It influenced their understanding and view of their difficulties as well as their therapy which, in turn, impacted their feelings (e.g. confidence) towards their treatment. The CF also influenced their view of and feelings towards their clinicians and the therapeutic relationship (level of trust and sense of collaboration). These findings suggest that in the quantitative studies reviewed earlier, CF may have had an impact on a number of treatment outcome variables that were not assessed and therefore detected. By and large, the studies reviewed tended to view treatment outcome in terms of changes in symptom presentation and this is reflected in the psychometrics that were used to measures them.

This issue was mooted by Evans and Parry (1996) and may be significant in light of recent trends in research on recovery from significant mental ill-health. Young *et al.* (1999) explain how mental health recovery,

> refers to an ongoing process of working to better handle problems in living, learning to cope more successfully with challenging life situations, or coping better with psychiatric symptoms. (...) This process may also include changes in your feelings, thoughts, and behaviours that give you a renewed sense of hope and purpose, a new sense of yourself, or better adjustment to psychiatric symptoms.
>
> Young, Ensing & Bullock (1999: p.1)

Research (e.g. Bullock *et al.*, 2000) suggests that the assessment of symptomatology alone may not provide a systematic and comprehensive assessment of the phenomenological process of recovery from significant psychological difficulties. As Ralph and Muskie (2005) explain, the concept of recovery is common in the fields of physical illness and disability, as well as addiction, but has seldom been used in the definition and measurement of mental health outcomes. To understand the impact of CF on treatment outcomes, perhaps outcome measures need to tap other aspects of therapeutic change beyond the narrow focus of symptomatology and relief from symptoms. A number of recovery and recovery-related measures have recently been developed towards this (Ralph, Kidder & Phillips, 2000).

It is also notable that in the qualitative studies by Chadwick *et al.* (2003) and Evans and Parry (1996), the impact of CF on clients was assessed immediately following CF. This contrasts with the other quantitative studies reviewed earlier, which assessed for the impact of CF at the very end of the treatment process. Careful attention is needed to the scope of CF. Greenberg (1986) provides an analysis of the hierarchy of immediate, intermediate, and final outcomes in change process research. It has been argued that immediate and intermediate therapy processes may be more easily linked to CFs than final outcomes which, over the course of an extended therapy, may be subject to many uncontrollable and unpredictable factors, such as current life events (Schacht, 1991). What is needed is research which not only

looks at the impact of CF on a wider range of therapeutic outcome variables, but also at the impact of CF on immediate therapy processes.

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RESEARCH REPORT (Option A)

Therapeutic Impact of Case Formulation in Beck's Cognitive Therapy for Depression

Abstract

Background: Within Cognitive Behaviour Therapy, case formulation (CF) is considered central to the treatment of individuals with psychological difficulties (Persons, 1989). CF is reported to play many roles in the therapeutic process with the aim of securing improved treatment outcomes. This study assessed the therapeutic impact of CF on sixteen individuals experiencing moderate to severe depression.

Method: The study used a small-*n* (16 clients), within-subjects, repeated measures, AB type experimental group design. During phase 'A', baseline measures were established for a range of outcome variables associated with depression and a number of recovery-related constructs. During phase 'B', a CF based on Beck's cognitive model of depression was developed and shared with each participant.

Results: The results suggest that generating a CF during phase 'B' led to a number of therapeutic changes associated with recovery. CF also led to a reduction in depressive symptomatology, although this was not found to be statistically significant.

Discussion: These findings suggest the CF can have an immediate therapeutic impact on clients early on in therapy, in addition to the practical impact it is reported to have on treatment planning and intervention later in the therapeutic process.

Introduction

Since the seminal publication of *Cognitive Therapy and the Emotional Disorders* (A.T. Beck, 1976), cognitive behaviour therapy (CBT) has emerged as one of the most popular therapies of the last three decades (Rush & Beck, 2000). Particularly in the area of depression, numerous outcome studies suggest that CBT leads to clinically significant relief of depressive symptoms for a large proportion of individuals (Dobson, 1989; Clark, Beck & Alford, 1999). This is

pertinent for the NHS given depression has been found to be one of the most common mental health difficulties experienced in the United Kingdom at present (National Statistics, 2005).

As with most systematic models of therapy, CBT provides a theory for the understanding of particular cases through case formulation (CF: Bieling & Kuyken, 2003). CF is a method of generating hypotheses about the precipitants and maintaining influences of clients' psychological difficulties (Eells, 1997) on the basis of CBT theory and research (Haynes, Kaholokula & Nelson, 2000). The importance of CF has been emphasised by a number of commentators. Aaron Beck (1995) described CF as the 'first principle' of CBT. In clinical practice, Bieling and Kuyken (2003) noted how "it is increasingly accepted as a dictum among cognitive therapy trainers that a comprehensive and valid case formulation is needed to successfully treat a person in distress" (p.61). This is supported by Stopa and Thorne (1999) who highlight the need for specific training and supervision in formulation within CBT. They argue that, "without an ability to formulate a case, trainees have no hope of knowing which questions to ask, which techniques to apply, or at what stage in the therapy to apply them" (p.22). The importance of CF has also led several clinicians to devise formal systems for generating them in CBT (Bieling & Kuyken, 2003), along with measures of cognitive therapy adherence which in part are designed to assess competence in their use (Persons, et 1999).

The importance of CF in CBT comes from the roles that CFs play in the therapeutic process and the favourable impact they are thought to have on treatment outcomes. Within the field of clinical psychology both the role (Evans & Midence, 2005) and value (Butler, 2006) of CF within CBT have recently been discussed. Both emphasize a broad range of claimed benefits for CF in the treatment of individuals using CBT. This is supported by Persons (1989) and Butler (1999) who identify nine main roles of CF in enhancing treatment effectiveness in CBT.

The impact of case formulation on treatment outcomes

CF plays many roles in the treatment process with the aim of securing improved treatment outcomes. At least sixteen empirical studies provide evidence for the impact of CF on

treatment outcomes in CBT. Over the last two decades, six studies compared the outcomes of individualised treatments (based on an individualised CF) with standardised (manualised) treatments. Standardised treatments are implemented via treatment manuals that are delivered more or less uniformly for all clients (Mumma, 1998). Of the six studies, only two (Iwata *et al.*, 1994; Schneider & Byrne, 1987) found evidence for the advantage of an individualised treatment over a standardised one. Of the remaining studies, two (Emmelkamp *et al.*, 1994; Jacobson *et al.*, 1989) found individualised treatments were comparable to standardised ones in terms of their impact on treatment outcomes and one found mixed results (Persons *et al.*, 1999). The final study (Schultz *et al.*, 1992) found evidence that a standardised treatment was actually superior to an individualised one.

The results of these studies are clearly equivocal and suggest there may be little advantage in using a treatment based on a CF over a standard, one-fits-all treatment package. The studies, however, had serious methodological limitations. Tarrier and Calam (2002) argue that if individualised treatments based on CFs are superior to standardised ones, the difference in effect size would most probably be small given that standardised treatments have been shown to be effective for a number of psychological disorders. Accordingly, the sample size required to detect such a small difference would in turn need to be large. Four of the six studies cited here used a sample size of less than forty-six and as a result were potentially underpowered.

Other studies obviated the problem of sample size by using the traditional case study design. A review of the literature revealed at least four case studies that provided evidence for the impact of CF on treatment outcomes (AuBuchon, 1993; Malatesta, 1995; Turkat & Carlson, 1984; and Persons, 1992). Whilst all these case studies found evidence to support the value of CF in enhancing treatment outcomes, they all describe examples of CF used to redirect treatment following treatment failure or relapse. The success in these studies show not that CFs generally lead to more effective outcomes in most individuals, but rather lead to more effective outcomes in a few atypical cases.

A further five studies used a Single Case Experimental Design (SCED) to examine the impact of CF on treatment outcome. The first three examined the impact of CF within Cognitive Analytic Therapy. The results of these studies were contradictory. Whilst Evans and Parry (1996) found no impact of CF on outcomes in four clients experiencing difficulties previously resistant to treatment, Kellett (2005) and Bennett (1994) both found a 'reformulation letter' and an Sequential Diagrammatic Reformulation had a more positive and significant impact on therapeutic outcomes for two individuals. Of the remaining two studies using a SCED, one examined the impact of CF on outcomes in CBT for psychosis (Chadwick *et al.*, 2003) and the other on outcomes in behaviour therapy for self-injurious behaviour (Repp *et al.*, 1988). Again contradictory results were found. Whilst Chadwick and colleagues found no impact of CF on outcomes in four adults, Repp and colleagues found that the development of a CF in the form of a Functional Analysis led to a significant reduction in problem behaviour in three children with severe learning disabilities.

Two final studies used a small-*n*, within subject, AB experimental design to examine the impact of CF on treatment outcome. Chadwick *et al.* (2003) investigated the impact of CF in CBT on treatment outcomes in thirteen individuals experiencing psychosis. The evidence suggested that the CF had not had a direct impact on the therapeutic relationship or client distress from the client's point of view. There was only evidence to suggest that the CF had impacted on the therapeutic relationship from the therapist's point of view. Similar non-significant results were also found by Hess (2001) in an unpublished doctoral study, which examined the impact of CF in CBT for depression. Again no evidence was found to support the value of CF in enhancing treatment outcomes.

Summary

Within CBT, CF is reported to play many roles in the treatment process with the aim of securing improved treatment outcomes. From the case studies cited here, there is little doubt that CFs can be useful in some cases involving treatment difficulties. At present, however,

overall there is little empirical evidence supporting the relationship between CF and improved treatment outcomes in CBT. With the exception of Kellett's (2005) single case of multiple personality and Bennett's (1994) single case of anxiety and depression, only the studies by Iwata *et al.* (1994) and Repp *et al.* (1988) provide quantitative (statistical) evidence for improved treatment outcomes using a CF across a number of individuals. The generalisability of these two studies is limited, however, as both were conducted on learning disabled individuals exhibiting self-injurious behaviour using behaviour therapy and a CF in the form of a functional analysis.

An absence of empirical evidence from *quantitative* studies, however, does not necessarily signify a lack of impact of CF on treatment and treatment outcomes. Evidence for an impact of CF on treatment outcome comes from *qualitative* studies in which clients reported CF to have a significant impact on them. In their study of CBT for psychosis, Chadwick *et al.* (2003) interviewed eleven clients shortly after the CF process to ask questions about their experiences of it. Although some clients reported that the CF had had no emotional impact on them, some clients reported experiencing positive emotions in response to their CF. Six clients reported feeling reassured, encouraged, and more optimistic based on increased understanding and seeing a way forward. Three said the CF showed their therapist understood them. Evans and Parry (1996) also interviewed four clients immediately after the CF sessions to ask them about their views regarding the impact of the CF process. All four agreed that the CF had given them a better understanding of their problems, and three thought that it had provided a focus for therapy. Another common theme was that the CF demonstrated the therapist had been listening and understood their problems, which was vital to their belief that they could trust the therapist.

These findings suggest that in the quantitative studies cited earlier, CF may have had an impact on a number of treatment outcome variables that were not assessed and therefore detected. By and large, the studies tended to view treatment outcome in terms of changes in symptom presentation and this was reflected in the psychometrics that were used to measure

them. This issue was mooted by Evans and Parry (1996) and may be significant in light of recent trends in research on mental health recovery. Research (e.g. Bullock *et al.*, 2000) suggests that the assessment of symptomatology alone may not provide a systematic and comprehensive assessment of the phenomenological process of recovery from significant psychological difficulties. To understand the impact of CF on treatment outcomes, outcome measures may need to tap other aspects of therapeutic change beyond the narrow focus of symptomatology and relief from symptoms.

Particularly in cases of depression, logical reasoning may be used to explain how CF may lead to outcomes beyond changes in depressive symptomatology. It may be argued that the development of a CF based on Beck's model of depression (Beck *at al.*, 1979) can show clients that the origins of their problems may be traced back to earlier formative (childhood) experiences over which they had limited or no control or responsibility. By relieving the clients to some degree of a sense of past personal failure, a CF may lead to an increase in self esteem. Equally, a CF based on Beck's model can help clients learn about themselves, their difficulties and the factors maintaining their difficulties. This may lead to self-redefinition and an increase the clients' sense of empowerment. It may also be reasoned that the development of a CF can show clients that some of the psychological factors maintaining their difficulties are within their control and therefore amenable to change through psychological therapy. In the context of increased empowerment and self-esteem this, in turn, could lead to clients feeling more hopeful about the future.

Both self-esteem and hope have been found to be central themes in the recovery process (Allott & Loganathan, 2006) and may be important for reducing depressive symptomology overall. In the Beck Depression Inventory II (BDI-II; Beck, Steer & Brown, 1996), a sense of personal failure, self-dislike, self-criticalness, and feelings of worthlessness are considered four symptoms of depression. It may be argued that a CF may raise a person's self-esteem which, in turn, impacts favourably on all these four symptoms. Similarly, a CF may lead to hope that, in turn, leads to a decrease in pessimism, which is considered another symptom of

depression. Given that an increase in hope and self-esteem may lead to a reduction in five symptoms of depression, the CF may lead to reduced feelings of depression overall.

Rationale

Given the great expense involved in training clinicians to develop CFs and the amount of time and effort involved in developing them during treatment (Stopa & Thorne, 1999), it is important to establish whether CFs lead to improved treatment outcomes. Whilst there may be a *prima facia* case for the use of CF through the multiple roles they are reported to play in treatment, there is currently no compelling evidence linking CF in CBT to improved treatment outcomes. Given the weaknesses of previous research and the possible mechanisms by which CF could lead to a number of therapeutic changes in people experiencing depression, further research is needed that examines the impact of CF on a wider range of therapeutic outcome variables.

Careful attention is also needed to the scope of CF. Greenberg (1986) provides an analysis of the hierarchy of immediate, intermediate, and final outcomes in change process research. It has been argued that immediate and intermediate therapy processes may be more easily linked to CFs than final outcomes which, over the course of an extended therapy, may be subject to many uncontrollable and unpredictable factors, such as current life events (Schacht, 1991). What is also needed is research into the impact of CF on immediate therapy processes.

Aim

The aim of this study was to establish whether the process of generating an individualised CF with clients who were depressed had an immediate and direct impact on a wide range of therapeutic outcome variables.

Hypotheses

In general, it was predicted that the process of generating with clients a cognitive-behavioural CF of their depression would directly lead to a reduction in the severity of their depressions

and a number of cognitive, emotional and behavioural changes associated with recovery from mental ill-health. More specifically, it was predicted that the development of a CF would:

- lead to an increase in self-esteem. (Hypothesis 1)
- help clients learn about themselves, their difficulties and the factors maintaining their difficulties leading to an increase in their sense of empowerment. (Hypothesis 2)
- lead to clients feeling more hopeful about the future. (Hypothesis 3)
- lead to a reduction in the severity of depression experienced by the clients (Hypothesis 4)

Method

Research design

This study employed a small-*n* (16 clients), within-subjects, repeated measures, AB type experimental group design. Traditionally, phase 'A' of the AB design refers to the baseline phase, whilst 'B' denotes the intervention. In this study, 'A' was termed the 'Pre-formulation' phase in which baseline measures were established for several different outcome variables over a number of assessment sessions. In contrast, 'B' was denoted the 'formulation' phase, where the process of generating a CF acted as the intervention. The impact of the formulation (B) was judged by the extent to which the measured outcome variables shifted when the CF was introduced and completed following phase (A).

Participants

Nine therapists (3 males: 6 females) who held professional post-graduate qualifications in Clinical Psychology or CBT which permitted them to practice CBT in England were recruited for this study. All therapists worked with clients aged 18 to 65 and the average duration of experience using CBT was 8.77 years (with range 3 to 20+ years). Of the nine therapists, eight worked in NHS out-patient clinics in the Strategic Health Authority of South Yorkshire and one worked in a private practice in Birmingham. Furthermore, two thirds of the therapists (6 out of 9) were cognitive-behaviour therapists whom were accredited with the BABCP (British

Association of Behavioural and Cognitive Psychotherapists). The contact details of the CBT therapists were retrieved from the BABCP's website (at www.babcp.org.uk), which provides the contact details of accredited therapists who wish to have there contacts details made available to the general public. The remainder of the therapists were recruited by way of the researcher's professional contacts.

The sample for this study consisted of sixteen adults (6 males; 10 females) experiencing clinical depression. [Power calculations suggested that at least 16 participants were required for this study (Appendix Y; p.130)]. The ethnic origin of the vast majority of the sample (N=15) was White British, with one of Asian British (Pakistani) origin. The mean age of the sample was 41.4 years (range 24 to 59 years). Only those experiencing moderate or severe depression as measured by the Beck Depression Inventory II (BDI-II: Beck *et al.*, 1996) were eligible for inclusion in the study. The mean BDI-II score taken during the first assessment session was 26.94 (with SD=6.80; range 20 to 38). On the BDI-II 'moderate depression' is indicated by a score falling in the 20 to 28 range and 'severe depression' by a score of 29 to 38. Clients experiencing both depression and anxiety were eligible provided depression was deemed (by their therapist) to be the main complaint requiring intervention. Individuals who presented with depression comorbid with either psychosis, or alcohol or substance dependence were excluded from enrolment as it was considered that such difficulties might potentially interfere with their understanding of a CF[6]. By the same token, clients with a global learning disability or any neuropsychological difficulty that impaired their comprehension capabilities were also excluded from participation. Lastly, clients were excluded if their therapists felt it was not desirable to explicitly share a CF with them following an assessment. This can arise because the amount of information might be too overwhelming or its content too distressing to appreciate early on in the therapeutic process (Bieling & Kuyken, 2003).

[6] Kinderman and Lobban (2000) explain how developing CFs with clients experiencing psychosis can be difficult. They explain how the complexity and changing nature of CFs present difficulties for these clients as they frequently demonstrate difficulties with abstract reasoning, mental flexibility and comprehension (David & Cutting, 1994). It is reasonable to assume the same applies to others experiencing intellectual difficulties.

Recruitment of participants

All eligible therapists whom were approached were invited to take part in the study using a 'Therapist Information Pack' consisting of Letter of Invitation (Appendix K: p.107), a Therapist Information Sheet (Appendix L; p.108) and a Therapist Consent Form (Appendix M: p.111). The information sheet was comprehensive to ensure consent was fully informed as recommended by the COREC (UK Central Office for Research Ethics Committees, 2000) and in accordance with Principle 22 of the *Declaration of Helsinki* (World Medical Association, 2000). A Response Form was provided to elicit the contact details of the therapists wishing to take part (Appendix N; p.112).

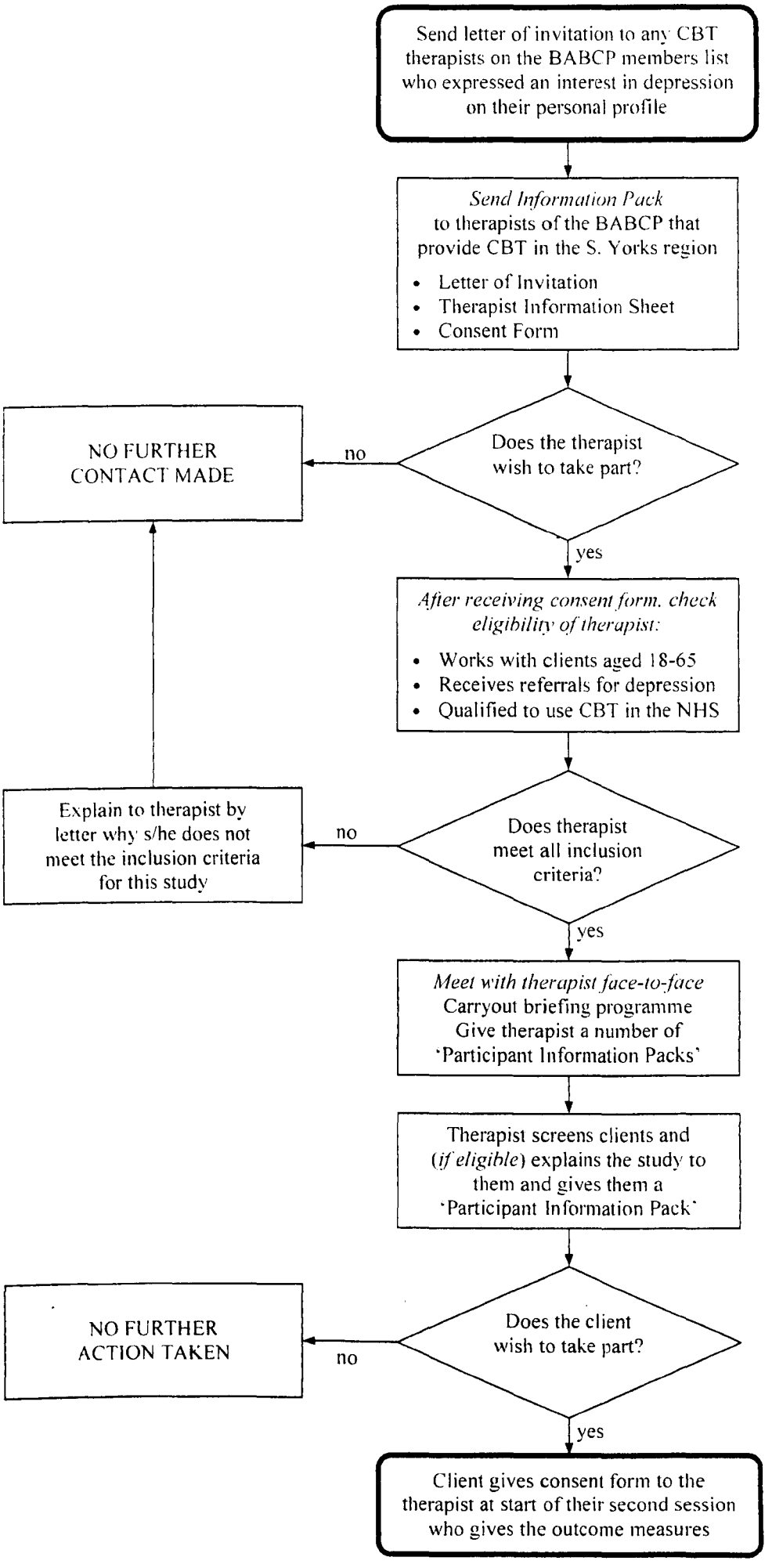
Each therapist who was enrolled tried to identify at least two or three eligible clients in the normal course of their work. They then considered possible clients for the research during the first therapy (assessment) session they had with them. To aid them in this process, all therapists were provided with a quick, easy-to-use checklist to help them judge a client's eligibility (Appendix R; p.118). If a client was deemed to meet the eligibility criteria, therapists explained to the client about the research and passed on a 'Client Information Pack'. This pack consisted of a Letter of Invitation (Appendix O; p.113), a Client Information Sheet (Appendix P; p.114) and a Client Consent Form (Appendix Q; p.117). A flow chart summarising this process is illustrated overleaf.

Treatment procedure

During the pre-formulation (baseline/assessment) phase (A), information was gathered by the therapist to inform the CF. Therapists collected certain information in line with Beck's traditional cognitive model of depression (Beck *et al.*, 1979)[7] following the protocol used by Chadwick *et al.* (2003). This included information regarding the nature of the current depressive difficulties; triggers to those difficulties (either internal or external); onset of the

[7] In essence, Beck's cognitive model of depression is based on the assertion that earlier life experiences lead to the development of schemata, which may be activated later in life by events leading to the negative automatic thoughts that produce depression. Persons and Davidson (2001; p.94) provide a detailed description of a CF based on Beck's cognitive theory.

A flow chart summarising the stages involved in recruiting the 9 therapists and 16 clients



problem (critical incidents); rules for living (dysfunctional assumptions and behaviour implications); core beliefs (about the self, others, world and future) and key formative experiences. Therapists were asked not to share a cognitive model of depression or aspects of the CF as these procedures formed part of the formulation phase (B). They were also asked not to challenge or test core beliefs, maladaptive assumptions or negative automatic thoughts as these are typically part of Beck's treatment process. To create clinically valid conditions, therapists were advised to take whatever number of sessions they needed for the assessment/baseline. The data from the two sessions immediately preceding phase (B) was used to provide baseline data for phase (A).

Baseline was followed by the formulation phase (B) consisting of two sessions devoted exclusively to exploring and refining an individualised CF using Beck's cognitive model of depression as a template (again following the procedure of Chadwick *et al.*, 2003). CF comprised of a developmental diagram containing links between the various pieces of information collected during assessment, including a clear explanation the precipitating and maintaining factors of the current problems and the links between thoughts, feelings, and behaviour. To optimise client engagement with the formulation process, therapists were encouraged not to over-complicate CFs and to ensure that their clients concurred with them. At the close of the first CF session, clients took the CF home. Therapists were asked to encourage their clients to make changes to the diagram before the final session of formulation so their clients could increase their sense of ownership of the CF and the formulation process.

During both the assessment and formulation phase, therapists were also asked to make a note of (and later report to the researcher) any extraneous factors which might have influenced the course of their clients' recovery or symptom presentations over the assessment and formulation. This included any significant life events experienced by the clients or any changes in psychotropic medication. With the absence of such factors, there would be greater confidence in attributing any observed changes in the clients' presentations to the CF rather

than any other extraneous variables[8]. In practice, over the 16 cases, no such factors were reported.

Administration of measures

Therapists passed on to their clients a number of psychometric measures in the 30 minutes before each assessment/baseline session and before each of the two formulation sessions. These were passed to clients in a sealed envelope to ensure therapists did not have access to the research material and to demarcate the boundary between the clinical work and the research. The last administration took place after the second (and final) formulation session, but before the start of treatment. Clients returned the completed measures directly to the researcher in a stamped-addressed envelope. Clients were also told that if there were any responses to the measures that they wished their therapists to know about, they were to inform them of this as their therapists would not have access to their completed measures.

Measures

In this study five psychometric measures were used to assess a wide range of depressive symptomatology, as well as the process of recovery and a number of recovery-related constructs. The Beck Depression Inventory II (BDI-II; Beck, Steer & Brown, 1996) was used to track any changes in depressive symptomatology as a result of the CF (Appendix F; p.99). The Mental Health Recovery Measure (MHRM; Young & Bullock, 2003) was then used to measure a range of changes associated with recovery from mental ill-health (Appendix G; p.101). The final three measures assessed constructs that are associated with recovery from mental ill-health. The Empowerment Scale (ES; Rogers *et al.*, 1997) was used to measure empowerment (Appendix H; p.103); the Hope Scale (HS; Synder *et al.*, 1991) to assess

[8] In the study by Emmelkamp *et al.* (1994) reviewed earlier, the influence of psychotropic medication was actually controlled by instructing clients not to take any anxiety-reducing or anti-depressant drug during the experimental trial. Whilst this was considered as a possible research strategy in this study, it was rejected on the grounds that the therapists did not want to withhold from the clients any treatment options that could lead to a more effective or accelerated recovery from their depressive difficulties.

changes in hope for the future (Appendix I; p.105) and the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) to assess changes in self-esteem (Appendix J; p.106).

Psychometric properties of the measures

Beck Depression Inventory II

The BDI-II is 21-item self-report measure of the presence and severity of depressive symptomatology and is a revised version of the original BDI. It was employed in this study because it has been commonly used to classify participants for research studies in depression (Kendall *et al.*, 1987). Indeed, Nezu *et al.* (2000) described the measure as probably the widest used self-report measure of depression in major research studies. It was also selected because it is said to be sensitive to change and has been used throughout the course of psychological therapy as an index of client improvement and treatment efficacy (Lambert *et al.*, 1986). A large number of studies have assessed the psychometric properties of the original BDI. In their review of these studies, Beck *et al.* (1988) reported the measure to have very good psychometric properties. The BDI-II has been found to have similar (if not better) properties (Dozois *et al.*, 1998). In the users' manual (Beck *et al.*, 1996), the BDI-II is reported to have high internal consistency (α =.93) and in terms of concurrent validity, the BDI-II was found to correlate .71 with the Hamilton Rating Scale for Depression (Hamilton, 1960). As an indication of construct validity, the BDI-II also correlated .68 with the Beck Hopelessness Scale (Beck *et al.*, 1974) and .37 with the Beck Scale for Suicidal Ideation (Beck, Kovacs & Weissman, 1979). Adequate content and factorial validity has also been demonstrated, as well as diagnostic discrimination (Dozois *et al.*, 1998).

Mental Health Recovery Measure

The MHRM is a 30-item, behaviourally-anchored, self-report outcome measure of changes in mental health recovery. For several years, the MHRM has been used in a variety of inpatient, forensic, and community mental health settings as an outcome measure of recovery from major depression, bipolar disorder, or schizophrenia (Bullock *et al.*, 2002). The MHRM is used as a

measure of recovery without relying on the measurement of symptom expression or symptom management (Bullock, 2005). The measure has seven subscales that have been validated: overcoming stuckness, self-empowerment, learning and self-redefinition, basic functioning, overall well-being, new potentials, and advocacy/ enrichment. In terms of reliability, the internal consistency of the MHRM was found to be good (α =.95). Subscale internal consistency values were found to be α =.60, .82, .79, .62, .86, .62, .66 and .89 respectively for the subscales respectively. At one and two-week test intervals, test-retest reliability was found to be r=.92 and .91 respectively. The scale is considered to have good face validity as its item content was developed from statements made by consumers describing their recovery process. Bullock (2005) also reports found correlations of r=.70, .73 and .75 between the MHRM total score with other recovery based measures.

Rosenberg Self-Esteem Scale

The RSES is a 10-item, one-dimensional, self-report measure of global self-esteem. Multiple studies have been conducted to investigate the validity and reliability of the RSE. For construct validity, Both Rosenberg (1965) and Kaplan and Pkorny (1969) found significant associations between the RSE and ratings of depression, anxiety and other relevant constructs such as the use of psychiatric services. For convergent validity, Silbert and Tippett (1965) found significant correlations of .67 with the Kelly Repertory Test (Kelly, 1955), .83 with the Health Self-Image Questionnaire (Heath, 1965) and .56 with interviewer's ratings of self-esteem. Crandal (1973) also found a significant correlation of .60 with Coopersmith's Self-Esteem Inventory (Coopersmith, 1967). Hagborg (1993) found significant correlations of .76, .72 and .66 between the RSE and the Global self-Worth dimension of the Self-Perception Profile for Adolescents (Harter, 1988). In terms of reliability, Silbert and Tippett (1965) found a two-week test-retest coefficient of .85 for 28 individuals, and McCarthy and Hoge (1982) found a Cronbach's alpha of .77. Finally, Shahani, Dipboye, and Phillips (1990) found an alpha of .80 for the total RSE scale.

The Empowerment Scale

The ES is a 28-item, self-report measure of empowerment. In the ES, *lower* scores corresponding to higher degrees of empowerment. In terms of construct validity, Rogers *et al.* (1997) found significant correlations of .15, .24, .36, .17, .34, .51 and .28 between the ES and the number of community activities engaged in, total monthly income, quality of life, social support, number of hours engaged in productive activity, self-esteem, and satisfaction with self-help programs respectively. The ES was also found to discriminate among groups of respondents whose feelings of empowerment were different from those of participants in self-help programs. In addition, in the evaluation of the consumer Leadership Education and Training Program (Bullock *et al.*, 2000), consumer scores on the ES showed significant improvement pre-post training compared with the scores of controls. Recently, Wowra and McCarter (1999) also explained how overall a number of studies have consistently demonstrated the ES has a high internal consistency and stable factor structure. In their own validation study, a high degree of internal consistency was found for the ES (α =.85) with analysis of variance indicating a significant difference between groups on overall empowerment by employment status and education level as expected. University education or some university experience also resulted in higher scores on overall empowerment.

Hope Scale

The HS is a 12-item, self-report measure of hope that consists of two subscales. The 'Agency subscale' measures the perception of successful agency related to goals. This refers to a respondent's sense of successful determination in meeting goals in the past, present and future. The 'Pathway subscale' measures the perceived availability of successful pathways related to their goals. This refers to a respondent's sense of being able to generate successful plans to meet their goals. In the HS, the two components of hope are reciprocal, additive, and positively related, although they are not synonymous. In terms of reliability, Snyder *et al.* (1991) found the internal consistency of the HS to be good with alpha coefficients ranging between .74 and

.84 for eight different samples, with .71 to .76 for the Agency subscale, and .63 to .88 for the Pathways subscale. Test-retest reliability was examined in four samples and found to be .85 ($p<.001$) over a three-week interval, .73 ($p<.001$) over an eight-week interval, and .76 and .82 (both $p<.001$) for two samples over a ten-week period. Discriminant validity of the HS was confirmed by Gibb (1990) who found non-significant correlations of .06 and -.03 between the HS and the two subscales of the Self-Conciousness Scale (Fenigstein *et al.*, 1975). Convergent validity was demonstrated by Holleran and Snyder (1990) who found significant correlations between the HS and a number of other existing scales that tap similar processes.

Ensuring protocol integrity

Weissman, Rounsaville, and Chevron (1982) argue that all therapists who take part in a psychotherapy outcome study should be provided with training in order to prepare them for the restrictions of the research protocol. In this study, all therapists were provided with a 'Research Briefing Programme' in which they met face-to-face with the researcher. This was used to brief therapists on the recruitment of clients and what was required from them during the assessment and formulation process. Appendix R provides the details of the briefing that all therapists received in preparation for this research (p.118).

It has also been argued that in a psychotherapy outcome study, it is important for the integrity of the research protocol to be tested through an assessment of therapist competency and adherence to the protocol (Waltz, Addis, Koerner & Jacobson, 1993). This is because it is thought that null findings in past studies of the effectiveness of psychological therapies may in part be the result of inadequate implementation of the therapeutic protocol, which goes undetected due to the absence of fidelity or competency checks. Waltz and colleagues call for researchers to ensure therapist competency and adherence to the protocol before clear conclusions are reached about the impact of psychological interventions.

Following these recommendations, a number of strategies were used in this study to ensure therapist competency and confirm their adherence to the protocol. Firstly, only therapists with

professional post-graduate training in Clinical Psychology or CBT that qualified them to practice CBT in England were recruited. Therapists were also required to have at least three years post qualification experience of using CBT in a clinical setting. These conditions of inclusion increased the probability that the therapists would be competent to collect the relevant data and from it develop an adequate CF based on Beck's cognitive model of depression.

Secondly, having maximised therapist competency, each therapist audiotaped one assessment and one formulation session for each client so the therapist's adherence to the research protocol could be confirmed. Each therapist rated the tapes of the two sessions on twelve subscales taken from the Sheffield Psychotherapy Rating Scale (SPRS: Startup & Shapiro, 1993). The SPRS was chosen because it is simple to use and because to was design for rating adherence to CBT for depression by raters with a minimal amount of training. Each item in the SPRS rates a specific aspect of the therapist's behaviour on a 7-point Likert scale (See Appendix S for details; p.121). The twelve items were used to confirm the presence of the relevant assessment and formulation processes, and the absence of intervention processes. They were also used to confirm that assessment and formulation processes were kept separate. Following this exercise, therapists were asked not to submit any cases for the research where they found they had failed to engage in the relevant assessment and formulation processes or where their ratings indicated they had not managed to keep assessment, formulation and intervention processes separate.

In addition to the rating of audiotapes, therapist adherence to the research protocol was also assessed by asking therapists to provide a copy of the formulation (the CF diagram) for each of the clients to confirm that the necessary information was included in them. Again, cases were excluded from the research if it was found that the CF did not contain all the relevant information in accordance with the research protocol. As it turned out, none of the cases that were submitted by therapists were excluded on these grounds.

Operationalised Hypotheses

Based on the design described above, the four hypotheses of this study may be operationalised in the following terms. It was predicted that the development of a CF would:

- lead to an increase in the clients' self-esteem as indicated by significantly higher scores on the RSES during post-formulation phase (B) compared to the pre-formulation (baseline/assessment) phase (A). (Hypothesis 1)
- help clients learn about themselves and their difficulties as indicated by significantly higher scores on the Learning/Self-redefinition subscale of the MHRM during post-formulation compared to the pre-formulation phase. Furthermore, it was predicted that the CF would lead to an increase in empowerment as indicated by significantly higher scores on Self-empowerment subscale of the MHRM and (2) lower scores on the Empowerment Scale. (Hypothesis 2)
- lead to clients feeling more hopeful about the future as indicated by significantly higher total scores on the Hope Scale, and the New Potential subscale of the MHRM during post-formulation compared to the pre-formulation phase. (Hypothesis 3)
- lead to a reduction in the severity of the depression experienced by the clients as indicated by lower scores on the BDI-II during post-formulation compared to the pre-formulation phase. (Hypothesis 4)

Results

Selection of statistical tests

Although there is no sharp dividing line between small-*n* and large-*n* studies, the smaller the sample size the more difficult it is to be confident that the assumptions made by parametric statistical procedures are met (Siegel & Castellan, 1988). Consequently, nonparametric alternatives are usually recommended for the analysis of studies with 15 or less participants (Todman & Dugard, 2001; Bryman & Cramer, 1990). Given that sixteen clients were recruited

in this study, parametric tests were considered for use in this study. However, since sixteen was on the threshold of the critical group size, before using each parametric test specific efforts were made to check whether the data for each measure met each of the parametric assumptions underpinning the test. In the instances where one or more of the assumptions were found to be violated, the non-parametric equivalent of the test was used.

Analysis of overall changes across the study period

For each measure, scores were taken at four time points: Two during the assessment/ baseline phase 'A' (T1 and T2) and two during phase 'B' over which a CF was developed (T3 and T4)[9]. In these first analyses, the aim was to gain an appreciation of the general change in scores (on each psychometric measure) over the four consecutive sessions of the study period. In other words, these first analyses do not compare scores attained during assessment with those attained during formulation (i.e. compare pre and post-formulation scores), which is required for testing the four hypotheses of this study.

The One-Factor, Within Subjects, Repeated Measures ANOVA (Kinnear & Gray, 2000: p.209) was used to assess the significance of the difference between scores across the four time points when the assumptions for a parametric test were satisfied. The (non-parametric) Friedman Test for a related design was used when they were found to be violated. Both tests view the data as consisting of one variable (factor) tested under three or more conditions. In this instance the single factor is the therapy session and there are four conditions (measures taken at T1, T2, T3, and T4).

In the ANOVA, two parametric assumptions are made. The first is that the data is normally distributed within the sample. To check the distribution of data, the scores on each measure at each time point was plotted on a histogram and the shape of the distribution observed. An observation of the distribution of scores on each measure at each time point revealed that the data was *not* normally distributed on the BDI-II, ES, pathway and total subscale of the HS, or

[9] See Appendix T (p.117) for the table of raw data.

the learning/self-redefinition and advocacy subscale of the MHRM. Accordingly, the Friedman Test was used to analyse the data on theses scales and a χ^2 value is reported in the results table. The second assumption is that the covariances among the scores at the various levels of the within subjects factor are homogeneous. This is known as the assumption of homogeneity of covariance (or sphericity) and was tested for using Mauchly's Test of Sphericity. For the measures where sphericity could not be assumed (i.e. there was *hetero*geneity of covariance), the ANOVA was modified to make it more conservative using the Huynh-Feldt correction. Table 2 below summarises the means scores on all the measures and their subscales and the significance of the difference across the four time points.

Table 2: Summary of the results of a one-factor, within subjects, repeated measures ANOVA for each measure (or the non-parametric Friedman Test where applicable)

	Assessment/Baseline		*Formulation*		*F ratio*	
Dependent Measure	T1	T2	T3	T4	*or* χ^2 **	*Sig.*
BDI-II	26.94	25.25	25.44	23.31	χ^2=7.84	.050
RSES	12.19	11.31	12.00	12.50	F=1.39	.258
Empowerment Scale (ES)						
Total	73.13	70.81	69.88	70.25	χ^2=9.57	.023
Mean	2.58	2.53	2.50	2.51	χ^2=6.52	.089
Hope Scale (HS)						
Agency	8.56	9.13	9.25	9.31	F=1.48	.232
Pathway	8.31	9.13	9.87	9.50	χ^2=10.4	.016
Total	16.88	18.25	19.13	18.81	χ^2=9.39	.025
MHRM						
Overcom' stuck	8.81	8.19	8.63	8.75	F=.595	.622
Self-empower'	9.75	8.94	9.50	10.69	F=3.44	.024
Learn & self-re	8.37	9.00	8.94	10.37	χ^2=8.19	.042
Basic function'	7.44	7.12	6.56	7.38	F=.707	.497
Well being	6.00	5.38	5.75	6.56	F=1.19	.322
New potential	7.44	7.94	7.63	9.50	F=5.93	.006*
Advoc & enrich	7.88	7.81	7.75	8.00	χ^2=1.72	.633
Total	57.38	55.75	55.94	62.31	F=4.38	.009

* After the Huynh-Feldt correction.

** An F ratio is reported when the one-factor ANOVA was used to analyse the data, whereas χ^2 (df=3) is reported when the Friedman Test was used.

The results suggest there was a significant decrease in BDI-II scores over the four sessions (χ^2=7.84, df=3, p=.05), along with a significant decrease in Empowerment scores when the total ES score was taken (χ^2=9.57, df=3, p=.023). It should be noted, however, that in the scoring of the ES the standard procedure is to use the means rather than the total scores (Rogers *et al.*, 1997). When the mean scores were analysed, the change in ES scores over the four sessions was found not to be statistically significant at χ^2=6.52, df=3, p=.089. No significant change over the four sessions were found either for the self-esteem scores (F=1.39, p=.23).

The results also suggest that there was a significant increase in hope scores over the four sessions (χ^2=9.39, df=3, p=.025), which included a significant increase in scores on the pathways subscale (χ^2=10.4, df=3, p=.016). There appeared to be no statistically significant change, however, on the agency subscale. On the MHRM total score, there was an improvement in mental health recovery overall over the four sessions (F=4.38, p=.009), along with significant change on the subscales of self-empowerment (F=3.44, p=.024), learning and self-redefinition (χ^2=8.19, df=3, p=.042), and new potential (F=5.93, p=.006, Huynh-Feldt corrected). There was no significant change over the four sessions on the remaining subscales of the MHRM.

Whilst the one-factor ANOVA (or its non-parametric counterpart) may be used to trace changes in outcomes over all four sessions, their weakness lies in the fact that no statistical distinction or comparison is made between the assessment/baseline and formulation phases. Since this comparison is central to the four hypotheses being tested in this research, it is a significant limitation. Accordingly, more focused statistical analysis was required in order to test the relationships predicted in the four hypotheses. It was first necessary, however, to establish whether (or not) for each measure a stable baseline had been established over the two assessment sessions.

Evaluating the stability of the baselines

The assessment phase (A) constituted one variable with two conditions (time points T1 and T2) with all subjects scoring in both conditions. To calculate the significance of the difference between scores at T1 and T2 for each measure, the Paired-Samples t-Test was used. The parametric assumption underlying the paired-samples t-Test, however, is that the difference scores (between T1 and T2) are normally distributed. If this assumption was found to be violated, the non-parametric Wilcoxon Signed Ranks Test was used.

To determine which test was to be used, the distributions of the difference scores between T1 and T2 for each client on each measure were plotted on histograms and examined. As can be seen from the histograms illustrated in Appendix V (p.125), the distribution of the data on six of the fifteen scales/subscales were clearly not normally distributed (BDI, overcoming stuckness, self-empowerment, learning and self-redefinition, new potential and advocacy). Accordingly, the Wilcoxon Test was used on these measures, whilst the Paired-Samples t-Test was used on the remaining nine scales/subscales. Table 3 overleaf illustrates the mean scores and standard deviations achieved by the clients at the two time point during assessment and the significance of the difference between T1 and T2.

Differences between the two time points suggest there were some degree of therapeutic gain over the course of the assessment phase. There was a decrease depression symptomology from T1 to T2, along with an increase empowerment (as indicated by lower means scores at T2 on the ES) and increase in hope (as indicated by higher mean scores at T2 on the HS). These differences, however, were not statistically significant suggesting that relatively stable baselines had been achieved on these measures over the assessment. In contrast, there was a small degree of therapeutic deterioration in terms of decreased self-esteem (as indicated by lower means scores at T2 on the RSES), but again this was not significant suggesting a relatively stable baseline had been established over T1 and T2.

Table 3 illustrating the mean scores and standard deviations (N=16) taken at the two time points during the assessment baseline phase (A)

Dependent Measure	*Assessment/Baseline* T1 *Mean (SD)*	T2 *Mean (SD)*	*t(15)*	*Sig.***
BDI-II (Total)	26.94 (6.80)	25.25 (5.78)	Z=1.54*	.123*
RSES (Total)	12.19 (4.29)	11.31 (4.77)	1.88	.079
ES				
Mean	2.58 (.35)	2.53 (.38)	.992	.337
Total	73.13 (9.95)	70.81 (10.6)	1.73	.104
Hope Scale (HS)				
Agency	8.56 (2.22)	9.13 (2.09)	-1.35	.198
Pathway	8.31 (2.12)	9.13 (2.94)	-1.65	.120
Total	16.88 (3.76)	18.25 (4.55)	-1.76	.098
MHMR				
Over' stuckness	8.81 (1.56)	8.19 (2.17)	Z=1.31*	.190*
Self-empower'	9.75 (2.74)	8.94 (3.00)	Z=1.66*	.098*
Learn & redef'	8.38 (2.47)	9.00 (2.50)	Z=1.99*	.047*
Basic function'	7.44 (3.16)	7.13 (2.87)	1.23	.237
Well being	6.00 (2.58)	5.38 (2.70)	1.58	.136
New potential	7.44 (2.39)	7.94 (2.59)	Z=-1.62	.106*
Ad' & enrich'	7.88 (2.96)	7.81 (2.48)	Z=.322*	.747*
Total	57.38 (10.27)	55.75 (10.59)	1.28	.219

* Calculated using the Wilcoxon Signed Ranks Test

** Based on a two-tailed test (as there were no predictions of change in any particular direction).

Table 3 above also illustrates the mean scores achieved by the sixteen clients on the various subscales of the MHRM over the two assessment sessions. Again whilst there were differences between T1 and T2 on the eight subscales and the total score, all of the differences (with the exception of one) were not statistically significant suggesting some degree of relative stability had been established on the baselines for the MHRM during assessment. The only significant difference was between T1 and T2 on the learning and self-redefinition subscale as calculated by the Wilcoxon Signed Ranks Test with Z=1.99, p=.047 (two-tailed). This difference, however, was found not to be significant when the Sign Test was used with p=.27. (The Sign Test is an alternative non-parametric test, which is more robust than the Wilcoxon Test).

Comparison of pre with post-formulation means

As relatively stable baselines had been established during assessment, a mean score was calculated for the two assessment time points to produce a single, overall assessment score for the baseline phase (A)[10]. In order to assess the impact of CF on the outcome measures used in this study, this (pre-formulation) assessment score was compared with the mean score achieved by the sxiteen clients at the end of formulation i.e. T4 in the formulation phase (B). This time point was taken as it represents 'post-formulation' since the scores are taken *after* the second formulation session, but before the start of intervention. Scores achieved at T4 were used because there was evidence (see footnote) to suggest that the CF did not have its full impact on clients until it was completed and the clients were able to see how all its components fitted together into a coherent theory of their difficulties[11].

Again to determine whether or not the Paired-Samples t-Test could be used, the distribution of the difference scores between pre and post-formulation were examined. As can be seen from the histograms illustrated in Appendix W (p.127), the data on three of the fifteen scales were clearly not normally distributed (overcoming stuckness, basic functioning and well being). Accordingly, the Wilcoxon Test was used on these subscales, whilst the t-Test was used on the remaining twelve.

It should be noted, however, that the Paired-Samples t-Test can only determine how confident we can be that there is a difference between pre and post-formulation scores: it cannot measure the magnitude of that difference (Kinnear and Gray, 2000). Accordingly, effect size (usually termed 'd') was calculated by taking mean of paired differences divided by standard deviation. There are, however, no guidelines for interpreting effect sizes over which there is substantial consensus (Bryman and Cramer, 2001). As a rule of thumb Cohen (1962)

[10] Table 6 in Appendix U (p.118) illustrates the average (assessment) score on each measure for each client (i.e. average of T1 and T2).

[11] This was indicated by differences between scores at T3 and T4 i.e. during the formulation phase (B). The results of t-Test comparisons between scores at T3 and T4 indicated that although there were no statistically significant differences between T3 and T4 on most measures, there were significant differences on the MHRM total (p =.023) and three of the eight subscales of the MHRM (p=.039, .004 and .001). See Table 7 in Appendix X (p.123). Clearly on some measures, the CF did not have its full impact on clients until it was completed.

suggests that for t-Test, an effect size of 0.20 represents a 'small' difference, 0.50 a 'medium' difference and 0.80 a 'large' difference. In accordance with an AB design, Table 4 below compares the mean scores achieved by the sixteen clients on the various measures during the assessment/baseline (A) with those achieved following the formulation phase (B).

Table 4 illustrating the mean scores (N=16) for the various measures achieved during the pre-formulation versus post-formulation^*

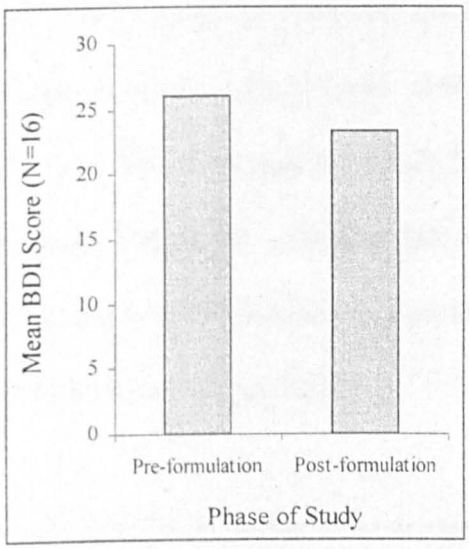
Dependent Measure	*Pre Formulation^* Mean (SD)	*Post Formulation^^* Mean (SD)	*t(15)*	*Sig.* **	*Effect size (d)* ***
BDI-II (Total)	26.09 (6.0)	23.31 (7.5)	-2.04	.060	0.51
RSES (Total)	11.75 (4.4)	12.50 (4.2)	2.08	.054	0.52
ES					
Mean	2.57 (0.35)	2.51 (0.44)	-1.90	.078	0.47
Total	71.97 (9.91)	70.25 (12.5)	-1.87	.081	0.47
Hope Scale (HS)					
Agency	8.84 (2.0)	9.31 (2.0)	1.70	.110	0.43
Pathway	8.72 (2.4)	9.50 (2.3)	2.82	.013	0.70
Total	17.56 (3.9)	18.81 (3.9)	3.27	.005	0.82
MHMR					
Over stuck	8.50 (1.6)	8.75 (2.8)	Z=.519*	.604*	NC
Self-empower	9.34 (2.8)	10.69 (4.4)	2.13	.050	0.53
Learn & redef	8.75 (2.4)	10.38 (2.8)	2.46	.027	0.61
Basic funct'	7.28 (3.0)	7.38 (3.2)	Z=.142*	.887*	NC
Well being	5.69 (2.5)	6.56 (2.6)	Z=1.20*	.232*	NC
New potential	7.69 (2.4)	9.50 (1.9)	2.75	.015	0.69
Ad' & enrich'	7.84 (2.6)	8.00 (2.5)	0.27	.795	0.07
Total	56.75 (10.3)	62.31 (13.7)	2.51	.024	0.63

^ i.e. average of T1 and T2 of the assessment/baseline phase (A).
^^ i.e. T4 of the formulation phase (B).
* Calculated using the Wilcoxon Signed Ranks Test.
** Based on two-tailed significance (to be conservative).
*** Calculated using mean of paired differences/standard deviation. NC=Not calculated

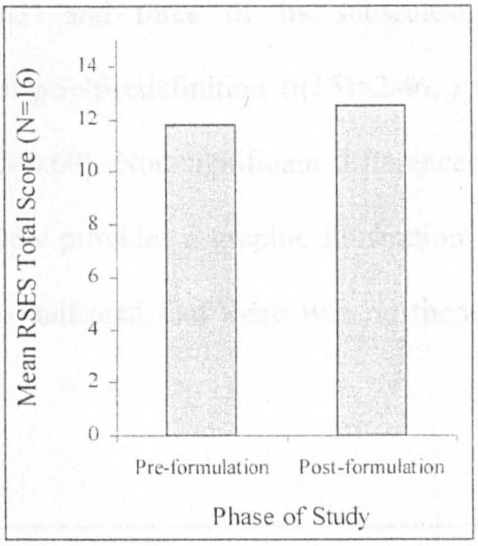
The findings indicate a number of favourable therapeutic gains were made as a result of the CF, some of which were statistically significant. Table 4 reveals that although the CF resulted in a reduction in the severity of depression on average by almost three BDI scale points (see Bar Chart 1 below), the change was found not to be statistically significant ($t(15)=-2.04$, $p = .06$, $d=0.51$). Table 4 also reveals that the CF led to an increase in both self-esteem (as

indicated by a higher mean score on the RSES) and empowerment (as indicated by a lower mean score on the ES) (Bar Charts 2 and 3). Again, however, these improvements fell just outside the accepted level of statistical significant at t(15)=2.08, p=.054, d=0.52 and t(15)=-1.90, p=.078, d =0.47 respectively.

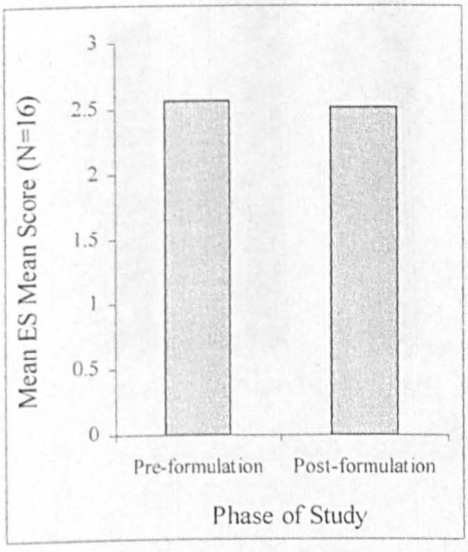
Bar Chart 1



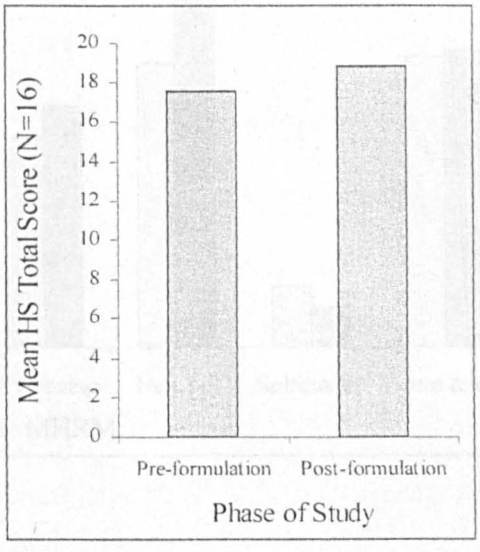
Bar Chart 2



Bar Chart 3



Bar Chart 4



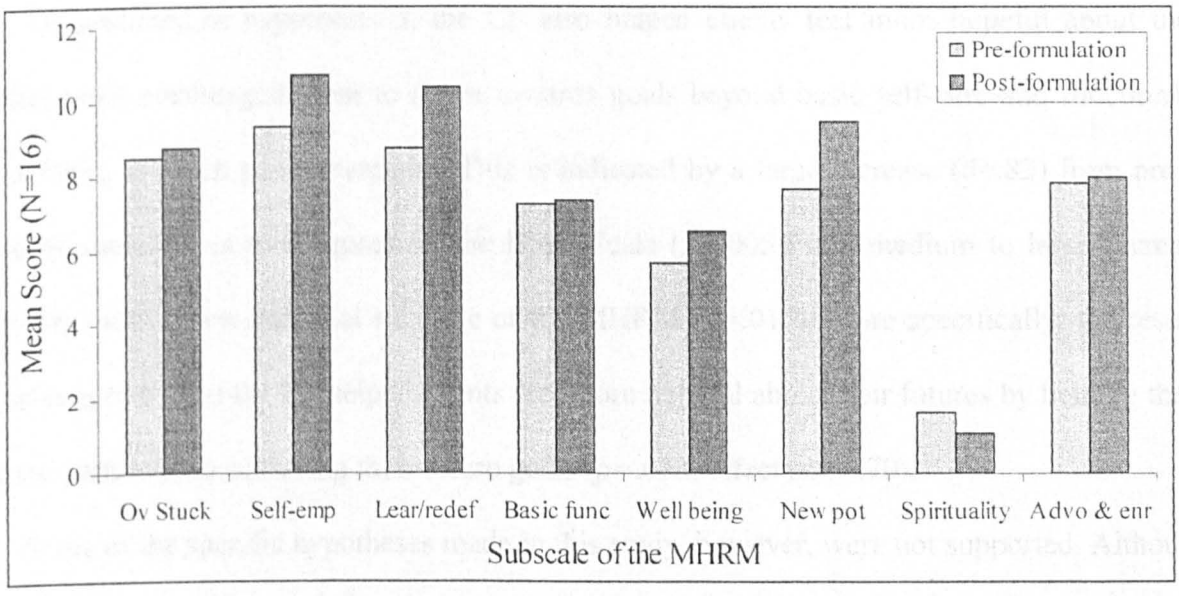
In contrast, significant differences were found on the Hope Scale total (t(15)=3.27, p=.005, d= 0.82) and its Pathway subscale (t(15)=2.82, p=.013, d=0.70). In contrast, a non-significant difference was found on the Agency subscale (p=.110) (Bar Chart 4).

It should be noted, however, that the probability values reported in table 4 were calculated using a two-tailed test. Given that the hypotheses put forward in this study were directional i.e.

predicted an effect in the specific direction of reducing depression and increasing self-esteem and empowerment, it may be argued that a one-tailed may be used. Using a one-tailed test, the BDI change would be significant at p=.03, and the changes in self-esteem and empowerment at p=.027 and .039 respectively.

On the MHRM, the results indicate the CF led to a statistically significant increase in the MHRM Total score (t(15)=2.51, p=.024, d=0.63) and three of its subscales: Self-empowerment (t(15)=2.13, p=.050, d=0.53); Learning/Self-redefinition (t(15)=2.46, p=.027, d=0.61); and New Potential (t(15)=2.75, p=.015, d=0.69). Non-significant differences were found for the remaining subscales. Bar Chart 5 below provides a graphic illustration of the means on the MHRM subscales. The findings also indicated that there was no therapeutic deterioration as a result of the CF.

Bar Chart 5



Discussion

A number of hypotheses were put forward in this study. As predicted in the overarching hypothesis, overall the results suggest that the process of generating a CF led to a reduction in depressive symptoms and to a number of therapeutic changes associated with recovery from mental ill-health. This is indicated by a medium to large increase (d=.63) in the total score on the MHRM from pre to post-formulation (p=.024), along with a reduction in the severity of

depression on average by almost three BDI scale points. The statistical significance of the BDI change at p=.06, however, was found to fall just outside the accepted level of .05.

Some of the more specific hypotheses were also confirmed. As predicted in hypothesis 2, the results suggest that the CF helped clients learn about themselves and their difficulties leading to self-redefinition. This is indicated by the medium to large increase (d=.61) in scores on the Learning and Self-redefinition subscale of the MHRM between pre and post-formulation (p=.027). There is also evidence that the clients felt empowered by the CF as predicted in hypothesis 2. This is indicated by the medium sized increase (d=.53) in scores on the self-empowerment subscale of the MHRM between pre and post-formulation (p=.050), in addition to a medium sized increase (d=.47) in scores on the Empowerment Scale (ES). The change on the ES, however, was found only to be significant when a one-tailed test was used (at p=.039).

As predicted in hypothesis 3, the CF also helped clients feel more hopeful about their futures and encouraged them to strive towards goals beyond basic self-care and functioning (i.e. strive to reach new potentials). This is indicated by a large increase (d=.82) from pre to post-formulation in total scores on the Hope Scale (p=.005); and medium to large increase (d=.69) on the New Potential subscale of the MHRM (p=.015). More specifically, the results also suggested that the CF helped clients feel more hopeful about their futures by helping them to see pathways to achieving their future goals (p=.013; effect size=.70).

Some of the specific hypotheses made in this study, however, were not supported. Although higher scores on the RSES from pre to post-formulation suggest there was an increase in self-esteem as predicted by Hypothesis 1, the change was found to be significant only at the .054 level. Similarly, hypothesis 4 predicted that the CF would lead to reduced feelings of depression overall as indicated by lower scores on the BDI-II following the CF. As explained above, although there was a reduction in the severity of depression on average by almost three BDI scale points, the change was found not to be statistically significant (at p=.06). No

statistically significant difference was found either between pre and post-formulation scores on the well-being subscale of the MHRM (at p=.232) as predicted by hypothesis 4.

In summary, contrary to the findings of past quantitative studies, the results of this study suggest that a CF may have an impact on a range of treatment outcomes, when the CF is based on Beck's model of depression (1979) and when outcomes are conceptualised in terms of therapeutic changes beyond the narrow focus of symptomatology and relief from symptoms. They also suggest the CF may have a direct *therapeutic* impact on clients early on in therapy, in addition to the *practical* impact that the literature reports it to have on treatment planning and intervention later on in the therapeutic process.

A number of clinical implications may be drawn from these results. Overall, the results, suggest that clinicians using CBT along with those who train others in CBT should continue to appreciate the importance of CF in the therapeutic process, not only for its practical utility but also for its therapeutic value. More specifically, the CF may help clients have confidence in the therapeutic process as their general level of depression begin to fall as a result of the CF and as they begin to strive to reach new potentials. The CF may also help motivate clients and enhance their engagement in the therapeutic process through giving them hope, and may help enhance collaboration by empowering clients with an understanding of themselves and their psychological difficulties.

Statistical limitations of this study

The conclusions drawn in this study and their clinical implications, however, may only be made tentatively as the actual level of statistical significance of the findings reported here is of some debate. As noted above, two of the changes between pre and post-formulation were found to fall just outside the accepted level of significance: increase in self-esteem at p=.054 and decrease in depression at p=.06. These values are based on a two-tailed test. Given that the hypotheses put forward in this study were directional i.e. predicted effects in specific directions, it may be argued that a one-tailed may be used. Using a one-tailed test, both these

findings would be statistically significant with the increase in self-esteem at p=.027 and decrease in depression at p=.03. Furthermore, this study used a relatively small sample size (N=16) and it is therefore possible that it generated some Type II statistical errors as a result. As was noted earlier (p.16; p.38), this has been particularly problematical in past studies in this area (Tarrier & Calam, 2002). With a larger sample size, the values reported above which fell on the cusp of significance may well have come out clearly significant. Attempts to replicate the findings of this study using a larger sample size would be advised.

One-tailed testing along with the possibility of Type II errors, however, has to be set against the possibility of Type I errors that may have occurred in this study. Given that a number of tests that were carried out on the data collected in this study, it may have been prudent to use the Bonferroni correction to make some adjustment for inflation of the Type I error rate. Clearly, without the correction only a few significant differences were found using .05 as the acceptable level. With the Bonferroni correction, even fewer of the results would have been found to be statistically significant.

A final limitation centres on the study's conceptualisation of 'therapeutic change' exclusively in terms of differences between pre and post formulation scores that were 'statistically significant' at the group level. The problem is the study only established whether significant therapeutic change had occurred in the group as a whole. Clearly, this approach provides limited information regarding the impact that the CF at the individual level. For a particular measure, for example, a raised post-formulation mean could have been the result of a small degree of change experienced by all or most of the sixteen participants. Equally, the same mean could, in fact, have been the result of larger therapeutic changes experienced by a smaller number of participants (with the majority experience little or no change). Such information is important since if it is established that the CF tends to have a therapeutic benefit only for certain individuals, it would raise the question as to what it is about those individuals, in particular, that help them benefit from this phase of the treatment process.

This kind of important information cannot be gained from observing the group effects detected and measured in this study. In this vein, the study could have made use of Jacobson and Trux's (1991) measure of 'clinical significance' to establish whether 'reliable change' had occurred for each of the sixteen participants in this study. Following this, the proportion (percentage) of participants experiencing 'clinically significant' change could have been calculated. This would have allowed us to establish whether the CF tends to have an impact on most individuals or whether it has benefits for just a small number. As explained earlier in the literature review (p.15), this approach was used by Persons and colleagues (1999) in their study comparing the therapeutic effects of individualized versus standardized treatments.

Limitations of the scope of this study

Although only individuals with a primary diagnosis of depression were included in this study, the sample resembled the heterogeneous samples seen in routine clinical practice since those experiencing comorbid difficulties were not excluded from participation. Despite this, the study has limitations in terms of the generalisability of its results. The results are based exclusively on individuals experiencing moderate to severe depression and one cannot necessarily presume that the CF will have the same impact on people with depression as those experiencing other psychological difficulties or mental disorders. It is therefore also advisable for future research to assess the impact of CF on a wide range of therapeutic outcomes in people experiencing a range of psychological difficulties. This study also failed to distinguish between recurrent or chronic depression from first onset episodes. CF may have different degrees of influence depending on the chronicity of the presentation or where the client is at in the stages of change. Research into this may shed further light on the processes by which CF influence recovery.

Similarly, the CF used in this study was based exclusively on Beck's traditional model of depression (A.T. Beck, 1979). Since the seminal publication of this model, several researchers have developed and extended it (e.g. Persons, 1989; J.S. Beck, 1995; Greenberger & Padesky,

1995) or devised alternative systems for generating CFs in CBT (e.g. Linehan, 1993; Muran & Segal, 1992). It may be that CFs based on more contemporary models of depression have a greater impact on clients than the model used in this study. Research should compare the effects of CFs based on different models of depression.

This study was also limited in scope insofar as it only examined the effect of the CF immediately after its completion. Whilst past research has failed to establish a link between CF and symptom outcomes measured at the end of treatment, this study found an effect for CF on a range of recovery variables earlier on in the therapeutic process. In the future, however, it may be useful for process research to be used to track therapeutic changes throughout the entire treatment process to assess the impact CFs have on immediate and intermediate therapy processes as well as their impact on final treatment outcomes (Greenberg, 1986). This may permit an analysis of how the changes induced earlier on by CF may translate into final outcomes. Tracking such changes would also afford the advantage of monitoring the effect of the dynamic nature of the CF process. The CF is not something that is only written once after the initial assessment (Williams *et al.*, 1997), but something that is constantly revised and updated (Adams, 1996). It is therefore quite possible that the impact of a CF varies from session to session as the CF evolves over time. Clearly, such covariations may not be detected by cross-sectional research, which only measures outcomes at any one given point in time, whether that be immediately after the completion of the first version of the CF (as in this study) or at the end of treatment (as in most of the previous research).

Critique of the measures used in this study

The scope of this study was also limited by the nature of the measures that were used. Although this study was an improvement on previous research insofar as it adopted a number of recovery measures that were able to tap therapeutic changes beyond the narrow focus of symptomatology and relief from symptom, the measures were still limited in scope. Firstly, only client self-reports were used. No efforts were made to collect therapist ratings as used by

Chadwick and colleagues (2003). It has been recommended by Bruch (1998) that therapeutic change criteria be evaluated separately by both clients and their clinicians. Secondly, only objective (psychometric) measures were used in this study. No efforts were made to collect subjective data through interview as collected by Evans and Parry (1996). Given that interview data collected by both Chadwick and colleagues (2003) and Evans and Parry (1996) suggested a "considerable impact" (p.109) of CF on clients, future research should examine both subjective and objective sources of evidence. Thirdly, the measures only tapped depressive symptomatology but not the impact of these symptoms on overall life adjustment and relationships, including social and occupational functioning. The Social Adaptation Self-Evaluation Scale (SASS; Bosc, Dubini & Polin, 1997) could have been used to do this.

Fourthly, the measures in this study only tapped the specific concepts of depression and specific recovery-related concepts such as hope, empowerment, self-redefinition and self-esteem. The emphasis was clearly on the specific rather than the global or general. Stile *et al.*'s (1994) single-item global measure of session goodness and helpfulness or Evans and Parry's (1996) perceived helpfulness of therapy scale could have been used as global session evaluation indexes to assess the degree of helpfulness (or hindrance) of the CF. Similarly, the Session Evaluation Questionnaire (SEQ; Stiles, 1980) or the Session Impacts Scale (SIS; Elliott & Wexler, 1994) could have been used to assess the impact of the CF a range of general session dimensions. The SEQ, for example, could have also been used to measure the degree to which the CF had an impact on the client's post-session feelings[12]. Equally, The SIS could have been used to assess the degree to which the CF led the client to learn something new about others; to become clearer about their feelings or experiences; to feel relieved and comfortable; feel supported and encouraged; feel more involved in therapy or inclined to work harder; feel confused or distracted; feel that the therapist doesn't understand them; or feel inpatient or doubting about the value of therapy.

[12] In terms of feeling angry or pleased, for example, confidant or afraid, wakeful or sleepy, uncertain or definite, calm or exciting, or friendly or unfriendly etc.

Lastly with the exception of the BDI, the measures used in this study were also limited in scope insofar as they only measure the favourable impact of the CF on the clients (e.g. hope, empowerment, self-esteem, self-redefinition). In their study of the impact of CF in CBT for psychosis, Chadwick *et al.* (2003) not only found evidence of a beneficial impact of CF, but also undesirable consequences. Six clients, for example, described their experience of CF as saddening, upsetting or worrying. These feelings were reported to have occurred as a result of the perceptions of problems as complex and longstanding, or through having to face traumatic childhood memories that the clients had tried to forget. In CAT, Evans and Parry (1996) also reported that reading the 'reformulation letter' appeared to have a "considerable emotional impact" (p.112) on all four of their clients, with two using the word "overwhelming" and two the word "frightening" to describe the experience. Although such negative effects were potentially open to detection in this study through an increase in depression as scored by the BDI-II, or deterioration of well being as indicated by lower scores on the MHRM, it might be advisable for future research to use measures more sensitive to the potentially negative effects of a CF. This is also recommended by Chadwick *et al.* (2003).

Conclusion

Statistical analyses on the data collected using a number of valid and reliable measures of treatment and recovery outcomes suggest that the process of generating a CF led to a number of statistically significant therapeutic changes in the clients (N=16) in this study. The CF helped the clients learn about themselves and their difficulties leading to self-redefinition (p=.027; d=0.61) and helped them feel empowered (p=.050; d=0.53). In addition, the CF encouraged the clients to strive to reach new potentials (p=.015; d=0.69), and helped them feel more hopeful about their futures (p=.005; d=0.82) by helping them to see some of the pathways to achieving their future goals (p=.013; d=0.70). Furthermore, the CF led to a number of other therapeutic changes that had been found to be associated with the process of recovery for mental ill-health (p=.024; d=0.63).

There was also some evidence that the CF led to an increase in self-esteem and a reduction in the severity of depression on average by almost three BDI scale points, although both these changes were found not to be statistically significant (at p=.054 and .06 respectively). The findings also indicated that there was no therapeutic deterioration as a result of the CF. In terms of null findings, the evidence also suggests that the CF did not lead to statistically significant changes in the clients' levels of basic functioning or in their overall sense of well being (with p=.887 and .232 respectively).

In summary, contrary to the findings of previous quantitative research, the results of this study suggest that the development of a CF may have an impact on a range of treatment outcomes, when outcomes are conceptualised in terms of therapeutic changes beyond the narrow focus of relief from distressing symptoms. The findings also suggest that a CF may have an immediate and therapeutic impact on clients beyond the practical impact the literature reports it to have on treatment planning and intervention later on in the therapeutic process. This final conclusion may only be tentatively made, however, as it is based exclusively on the recovery processes of sixteen individuals and on analyses some of which did not reach statistical significance.

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Young, S.L., Ensing, D.S. & Bullock, W.A. (1999) *The Mental Health Recovery Measure*. Toledo, OH: Department of Psychology, University of Toledo.

CRITICAL APPRAISAL

Origins of the project

During my clinical training, the course staff and placement supervisors clearly emphasised the importance of case formulation. I responded to this by working hard to develop comprehensive and accurate formulations in my psychotherapeutic work with individuals, couples and families experiencing psychological difficulties. During my adult placement, I began to appreciate the importance of case formulation when I discovered my clients largely found their CFs enlightening and for some they were clearly therapeutic. Many of my clients were unable to make sense of the difficulties they were experiencing and the disruption this was causing in their lives. Developing a shared understanding of the difficulties gave some clients a sense of hope and reassurance in the knowledge that they had finally started to get to grips with their difficulties. Things that had been unexplainable, now had an explanation. On reading Bieling and Kuyken (2003), I was surprised therefore to learn that there was no compelling evidence linking CF to improved treatment outcomes in CBT. This led me look at the reasons why past research had failed to find such evidence, and devise a project that tapped a wider range of therapeutic outcome variables than had hitherto been measured in previous studies.

Timing and progress of the research

By and large, the research progressed at the rate that I had anticipated and planned for. I developed the protocol over a period of nine months and I received ethical approval within two months following my first submission of the application. Subsequently, I received clinical governance approval for five regions within South Yorkshire over a period of three months following ethical approval. This left the whole third year of training for me to recruit the participants of the study, collect and analyse the data and write up. Once recruitment of therapists began, however, a number of unexpected difficulties occurred which influenced the nature and progress of my work.

Barriers and facilitators of progress

It had been agreed in supervision that the exclusive use of qualified CBT therapists in this study would afford a measure of quality control as such therapists have proved competency in the use of CBT. Subsequently, I received both ethical and clinical governance approval for approaching CBT therapists who were members of the BABCP (British Association of Behavioural and Cognitive Psychotherapists). Many members of this organisation post their contact details on the BABCP website (at www.babcp.org.uk), which is accessible to the general public (in part to allow for contact regarding private work). Through this, I approached individual CBT therapists and invited them to take part on the condition that they met our inclusion criteria and gained permission from their line-managers to participate.

Unfortunately, the line-manager of a large number of therapists whom were approached felt that I should have sought his permission first to approach the therapists under his management. I accepted this view, and although I apologised sincerely for this oversight, I was denied access to a crucial number of eligible therapists whom had been invited to participate. I found this very upsetting and frustrating given that I had approached individual therapists in good faith and with the best of intentions. This barrier significantly reduced the number of eligible therapists in the region and, initially, led to a failure to recruit a sufficient number of therapists to make the study viable (N=4).

At first this problem provoked feelings of helplessness as I began to feel I was losing control of the research process. It also provoked intense feelings of failure in me. This was not altogether surprising. During the earlier part of my clinical training, I had learnt that during childhood I developed core beliefs and schemas related to 'defectiveness' (Young, Klosko & Weishaar, 2003). This made me sensitive to failure and vulnerable to perfectionist tendencies. The criticism by the line-manager followed by an initial failure to recruit sufficient therapists activated my defectiveness schema and made me feel a failure which, in turn, made me feel low and dejected.

In an attempt to subvert my feelings of failure, I desperately began to think of ways of resolving the problem (my usual pattern of coping). My supervisor, however, suggested abandoning the study for a new one. I found this suggestion devastating and it led to feelings of rejection and abandonment. It was as though so much of 'me' was invested in the study (my thoughts, my hopes, my future, my identity) that at a subconscious level I felt that to reject and abandon my study was to reject and abandon me. (Again, during an earlier part of my clinical training, the loss of a very close loved one had led me to become sensitive to abandonment). A desperate effort to subvert all these unpleasant feelings made me unable to hear the idea of developing a new project and I reacted to my supervisor's suggestion in a quick and defensive manner without thought. Not only did I want to make this project work, but I "had to"!! My defensive response I feel, on reflection, came across as negative, rejecting and disrespectful of my supervisor's ideas.

My efforts to resolve the recruitment problem prompted a change in the inclusion criteria for the recruitment of therapists. The criteria was widened to permit the enrolment of experienced Clinical Psychologists who regularly used, and who were qualified and confident in using, CBT in the normal course of their work. Approval from this amendment was received from the Chair of the ethics committee (See Appendix E; p.97)[13]. The letter that was used to request the appropriate amendments can be found in Appendix D (p.95). As a result of this change in the inclusion criteria, many more eligible therapists could be approached in a second attempt to recruit participants.

A second problem, however, occurred during the recruitment of therapists when it was explained that as part of quality control, all therapists would be required to audiotape their assessment and formulation sessions and submit the tapes to the researcher so their adherence to the protocol could be confirmed. Unfortunately, the majority of prospective therapists explained categorically that they would not participate in the study if they were required to

[13] Ethical approval for this research was received from the North Sheffield Ethics Committee on 17 January 2006. See Appendix C (p.87) for letter of approval.

audiotape their sessions and have them evaluated. Firstly, they felt that the practicalities of setting up an audio recorder each session would be unacceptably inconvenient. Secondly, and most importantly, prospective therapists expressed their discomfort at having their performance "evaluated" by an outside trainee or other psychologist. Mollon (1989) notes how such anxiety is not uncommon amongst clinical psychologists working in the UK. This is also perhaps not surprising given that self-doubt and feelings of uncertainty or inadequacy about one's capabilities and effectiveness have been found to be a significant source of stress for clinical psychologists working in the NHS (Cushway & Tyler, 1994; 1996).

At first this difficulty came as a surprise to me as my supervisor had predicted that the requirement of audiotaping and performance evaluation would not deter CBT therapists from participation as they were used to doing this as part of their CBT training. This was confirmed by a small number of CBT therapists in a discussion which took place during the development of the protocol. Unfortunately, this requirement did become a barrier to recruitment, and moreover it occurred at a very advanced stage of the research process (seven months before the deadline date for submission of the study). The original protocol for which ethical and clinical governance approval had been received was clearly not viable. This, again, led to a risk of failure and the fear and anxiety that such risks typically provoked in me.

The feasibility of the study hinged on whether concessions could be made to the quality control requirements that would be more acceptable to prospective therapists whilst maintaining scientific rigor. It was decided that participation would be less inconvenient to therapists if they were only required to audiotape two of their sessions (one assessment and one formulation), and that evaluation anxiety would be reduced if therapists were allowed to rate their own audiotapes using the Sheffield Psychotherapy Rating Scale (SPRS). It was felt that scientific rigor would still be maintained with these concessions given that the SPRS was designed for use by raters with minimal formal training. Besides, therapist competency had also been maximised by exclusively recruiting therapists with at least three years CBT experience.

A letter applying for ethical approval for these amendments was sent to the ethics committee (Appendix D; p.95) and approval for these amendments received (Appendix E: p.97). Furthermore, the Research Briefing Programme for Therapists (Appendix R; p.118) was amended to include training on how to apply the SPRS. Appendix S provides more information regarding this rating process (p.121). With these amendments to the protocol, in total, nine therapists agreed to participate in the study. This led to huge relief for me. With the recruitment of therapists completed, fortunately the remainder of the research went according to plan with little or no significant difficulties.

Lessons learnt from doing the research

The greatest difficulty faced in carrying out this research related to the recruitment of therapists. One of the valuable lessons I learnt was that recruitment of participants may not always be as easy as first predicted, and that the due respect must be given to all possible stakeholders and gatekeepers involved. In this study, a line-manager was overlooked with disastrous consequences. One needs to be sensitive to the power dynamics of teams and the roles and responsibilities of line-managers within those teams. On reflection, I would do a number of things differently, which may help in the recruitment of therapists.

Firstly, I would approach CBT therapists from regions outside the Strategic Health Authority of South Yorkshire, including North, East, and West Yorkshire. The drawback of this strategy, however, would be that I would have to make an application for Clinical Governance approval from numerous relevant Research and Development departments. Secondly, I would also be more mindful of the gatekeepers working with therapists, such as line-managers and I would make a great effort to seek their approval for approaching individual therapists under their management. Thirdly, I would post an advertisement on the BABCP website describing my research and inviting eligible therapists to contact me. Finally, I would attend regional BABCP meetings to give a presentation of my proposed research and at that presentation I would invite anyone who was eligible to speak with me afterwards.

Another valuable lesson I learnt from doing the research was that researchers' own childhood experiences and psychological vulnerabilities may shape and constrain the decisions they make during the research process. One should be mindful of these as they can lead to the closing of one's mind to new possibilities and directions. If I had my time again, I would discuss my feelings of rejection and abandonment in the meeting with my supervisor and explain why I might have appeared so defensive and disregarding of my supervisor's ideas. This would facilitate the supervision process and consolidate the supervisor-supervisee relationship.

I also learnt that sometimes an ideal research protocol may need to be substituted for a scientifically rigorous protocol that is more practical and amenable to the recruitment of participants. Devising an alternative protocol, however, that is sufficiently rigorous can be a demanding and difficult affair. Given the concessions that were made, if I had my time again, I would make attempts to check the test-retest and inter-rater reliability of the therapists in terms of their compliance with the rating manual.

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APPENDICES

The University Of Sheffield.

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Clinical supervision training and NHS research training & consultancy.

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Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie
Prof Nigel Beail

31 January 2006

Craig Hargate
Third year trainee
Clinical Psychology Unit
University of Sheffield

Dear Craig

I am writing to indicate our approval of the journal(s) you have nominated for publishing work contained in your research thesis.

Literature Review: Clinical Psychology Review

Research Report: Option A.

Please ensure that you bind this letter and copies of the relevant Instructions to Authors into an appendix in your thesis.

Yours sincerely

Andrew Thompson
Chair, Research Sub-Committee

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For Books: Hersen, M. (Ed.). (2005). Comprehensive handbook of behavioral assessment (2 Volumes). New York: Academic Press (Elsevier Scientific).

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Northern General Hospital
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S5 7AU

27 June 2005

Dr C M Hargate
148 Moor Lane South
Ravenfield
ROTHERHAM
S65 4QR

Dear Dr Hargate

Full title of study: **Therapeutic Impact of Case Formulation in Cognitive Behaviour Therapy for Depression**

REC reference number: **05/Q2308/91**

Thank you for your letter of 16 June 2005, responding to the Committee's request for further information on the above research [and submitting revised documentation].

The further information has been considered on behalf of the Committee by the Chairman.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation [as revised].

The Committee has designated this study as having "no local investigators". There is no requirement for [other] Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

In the information sheets, the paragraph "What do I do if I have a complaint?" the "on XXXXX" should be replaced by the appropriate telephone number or removed.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application (revised A 59)		17 May 2005
Investigator CV	Student	(None Specified)
Investigator CV	Supervisor	(None Specified)
Protocol	1	20 May 2005
Summary/Synopsis		17 May 2005
Letter from Sponsor		02 June 2005

Peer Review		17 May 2005
Copy of indemnity details		16 May 2005
Copy of Questionnaires (as protocol)		(None Specified)
Letters of Invitation to Participants (Therapist)	1	17 April 2005
Letters of Invitation to Participants (Client)	1	17 April 2005
Participant Information Sheet (Therapist)	2	16 June 2005
Participant Information Sheet (Client)	2	16 June 2005
Participant Consent Form (Therapist)	1	17 May 2005
Participant Consent Form (Client)	1	17 May 2005
Response to Request for Further Information		16 June 2005

Management approval

You should arrange for all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research must obtain management approval from the relevant care organisation before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on sheet enclosed with our letter dated 9th June 2005.

Notification of other bodies

The Committee Administrator will notify the research sponsor and the R&D Department for NHS care organisation that the study has a favourable ethical opinion.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

05/Q2308/91	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project,

Yours sincerely

Dr G P M Clark
CHAIRMAN – North Sheffield Research Ethics Committee

Email: april.dagnall@sth.nhs.uk

Copy to: Professor G Hardy (supervisor)

Enclosures: Standard approval conditions

APPENDIX D

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

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Course Administrator: Carole Gillespie

18 December 2005

Dear Dr Clark,

Full tile of study: Therapeutic Impact of Case Formulation in Cognitive Behaviour Therapy for Depression

REC ref number: 05/Q2308/91

Thank you for your letter dated 27 June 2005 confirming a favourable ethical opinion for the above named research. I am writing to you now to request two minor changes to the protocol: one regarding in the inclusion criteria for the recruitment of therapists and the other regarding the audiotaping of therapists' sessions.

Amendment to recruitment of therapists

One of the inclusion criteria for the participation of therapists requires therapists to have a post graduate qualification in CBT and be a member of the British Association of Behaviour and Cognitive Psychotherapists. This was one of a number of measures used to ensure quality control. We have experienced some difficulty recruiting sufficient therapists for the study that meet this criterion (having only recruited 6). However, we can meet our full quota of therapists necessary to make the study viable (N=9) if we open the inclusion to include Doctoral Trained Clinical Psychologists (which includes specialist training and supervision of work in CBT).

At least 3 clinical psychologists have confirmed their willingness to participate in the study: all are doctors of clinical psychology and all are both qualified and experienced in using CBT within the NHS for at least 5 years. My request is that ethical approval be given to change the protocol to include these potential participants thereby making the project viable.

Amendment to process for rating therapists

The research protocol also required therapists to audiotape their sessions so they could be checked by the researcher to confirm their adherence to the protocol prescriptions. The majority of therapists approached were unhappy about having their sessions evaluated by an outside researcher for reasons of confidentiality and, in particularly, anxiety about having their own performance evaluated. My request is that therapists themselves be allowed to rate their own audiotapes using our scales. The scales are taken from the Sheffield Psychotherapy Rating Scale (SPRS) and are very simple to use. Instructions on how to apply them will be included in the Research Briefing Programme for Therapists.

CHANGES MADE TO DOCUMENTS

I have made *provisional* amendments to the following documents to reflect the changes described above, should you approve them. Copies of these revised documents (with the new text highlighted) are attached. Please note: No changes to the 'Therapist Consent Form' are necessary.

Table of changes made (see highlighted text)

Documents	Inclusion criteria of therapists	Rating of audiotapes of therapists
Protocol (p. 9 and 38)	✓	✓
Therapists Invitation Letter	✓	Not applicable
Therapist Information Sheet (cover & p.1)	✓	Not required
Therapist Consent Form	Not required	Not required

Yours sincerely,

Dr Craig M. Hargate
Trainee Clinical Psychologist
University of Sheffield

SL32 Favourable opinion of amendment
Version 3, June 2005

North Sheffield Ethics Office
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Northern General Hospital
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17th January 2006

Dr C M Hargate
Trainee Clinical Psychologist
Clinical Psychology Unit
Department of Psychology
The University of Sheffield

Dear Dr Hargate

Study title: **Therapeutic Impact of Case Formulation in Cognitive Behaviour Therapy**
REC reference: **05/Q2308/91**

Amendment number: **1**
Amendment date: **18th December 2005**
The above amendment was reviewed at the meeting of the Sub-Committee of the Research Ethics Committee held on 16th January 2006.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

Approved documents

The documents reviewed and approved at the meeting were:

- Letter dated 18th December 2005.
- Page 9 and page 38 of protocol (Protocol should be amended to version 2).
- Therapist invitation letter dated 18th December 2005.
- Therapist information sheet version 3 dated 18th December 2005.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Research governance approval

All investigators and research collaborators in the NHS should notify the R&D Department for the relevant NHS care organisation of this amendment and check whether it affects research governance approval of the research.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Please note: Amendment requests should be submitted using the standard Amendment Request form. This is available on the COREC website at www.corec.org.uk.

05/Q2308/91	**Please quote this number on all correspondence**

Yours sincerely

Dr G P M Clark
CHAIRMAN – North Sheffield Research Ethics Committee

Copy to: *Professor G Hardy- Supervisor*
R & D Consortium

Enclosures *List of names and professions of members who were present at the meeting and those who submitted written comments*

BDI®-II

Date:

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness

0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism

0 I am not discouraged about my future.
1 I feel more discouraged about my future than I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and will only get worse.

3. Past Failure

0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person.

4. Loss of Pleasure

0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike

0 I feel the same about myself as ever.
1 I have lost confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticalness

0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all of my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying

0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

_____ Subtotal Page 1

Continued on Back

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11. Agitation

0 I am no more restless or wound up than usual.

1 I feel more restless or wound up than usual.

2 I am so restless or agitated that it's hard to stay still.

3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

0 I have not lost interest in other people or activities.

1 I am less interested in other people or things than before.

2 I have lost most of my interest in other people or things.

3 It's hard to get interested in anything.

13. Indecisiveness

0 I make decisions about as well as ever.

1 I find it more difficult to make decisions than usual.

2 I have much greater difficulty in making decisions than I used to.

3 I have trouble making any decisions.

14. Worthlessness

0 I do not feel I am worthless.

1 I don't consider myself as worthwhile and useful as I used to.

2 I feel more worthless as compared to other people.

3 I feel utterly worthless.

15. Loss of Energy

0 I have as much energy as ever.

1 I have less energy than I used to have.

2 I don't have enough energy to do very much.

3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

0 I have not experienced any change in my sleeping pattern.

1a I sleep somewhat more than usual.

1b I sleep somewhat less than usual.

2a I sleep a lot more than usual.

2b I sleep a lot less than usual.

3a I sleep most of the day.

3b I wake up 1–2 hours early and can't get back to sleep.

17. Irritability

0 I am no more irritable than usual.

1 I am more irritable than usual.

2 I am much more irritable than usual.

3 I am irritable all the time.

18. Changes in Appetite

0 I have not experienced any change in my appetite.

1a My appetite is somewhat less than usual.

1b My appetite is somewhat greater than usual.

2a My appetite is much less than before.

2b My appetite is much greater than usual.

3a I have no appetite at all.

3b I crave food all the time.

19. Concentration Difficulty

0 I can concentrate as well as ever.

1 I can't concentrate as well as usual.

2 It's hard to keep my mind on anything for very long.

3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

0 I am no more tired or fatigued than usual.

1 I get more tired or fatigued more easily than usual.

2 I am too tired or fatigued to do a lot of the things I used to do.

3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

0 I have not noticed any recent change in my interest in sex.

1 I am less interested in sex than I used to be.

2 I am much less interested in sex now.

3 I have lost interest in sex completely.

_____ Subtotal Page 2

_____ Subtotal Page 1

_____ Total Score

APPENDIX G

Mental Health Recovery Measure (MHRM)

(Young & Bullock, 2003)

Instructions: The goal of this questionnaire is to find out how you view your own current recovery process. The mental health recovery process is complex and is different for each individual. There are no right or wrong answers. Please read each statement carefully and indicate how much you agree or disagree with each item of circling the appropriate number.

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1. I work hard towards my mental health recovery.	0	1	2	3	4
2. Even though there are hard days, things are improving for me.	0	1	2	3	4
3. I ask for help when I am not feeling well.	0	1	2	3	4
4. I take risks to move forward with my recovery.	0	1	2	3	4
5. I believe in myself.	0	1	2	3	4
6. I have control over my mental health problems.	0	1	2	3	4
7. I am in control of my life.	0	1	2	3	4
8. I socialize and make friends.	0	1	2	3	4
9. Every day is a new opportunity for learning.	0	1	2	3	4
10. I grow and change in positive ways despite my mental health problems.	0	1	2	3	4
11. Even though I may still have problems, I value myself as a person of worth.	0	1	2	3	4
12. I understand myself and have a good sense of who I am.	0	1	2	3	4
13. I eat nutritious meals everyday.	0	1	2	3	4
14. I go out and participate in enjoyable activities every week.	0	1	2	3	4
15. I make the effort to get to know other people.	0	1	2	3	4

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
16. I am comfortable with my use of prescribed medications.	0	1	2	3	4
17. I feel good about myself.	0	1	2	3	4
18. The way I think about things helps me to achieve my goals.	0	1	2	3	4
19. My life is pretty normal.	0	1	2	3	4
20. I feel at peace with myself.	0	1	2	3	4
21. I maintain a positive attitude for weeks at a time.	0	1	2	3	4
22. My quality of life will get better in the future.	0	1	2	3	4
23. Every day that I get up, I do something productive.	0	1	2	3	4
24. I am making progress towards my goals.	0	1	2	3	4
25. When I am feeling low, my spirituality or religious faith helps me feel better.	0	1	2	3	4
26. My religious faith or spirituality supports my recovery.	0	1	2	3	4
27. I advocate for the rights of myself and others with mental health problems.	0	1	2	3	4
28. I engage in work or other activities that enrich myself and the world around me.	0	1	2	3	4
29. I cope effectively with stigma associated with having a mental health problem.	0	1	2	3	4
30. I have enough money to spend on extra things or activities that enrich my life.	0	1	2	3	4

The MHRM© was developed with the help of mental health consumers by researchers at the University of Toledo, Department of Psychology. This research was supported through a grant from the Ohio Department of Mental Health, Office of Program Evaluation and Research. For further information, please contact Wesley A. Bullock, Ph.D. at (419) 530-2721 or email: wesley.bullock@utoledo.edu.

APPENDIX H

Empowerment Scale (ES)

(Rogers, Chamberlin, Ellison & Crean, 1997)

Instructions: Below are several statements relating to one's perspective on life and with having to make decisions. Please circle the number at the side of the response that is closest to how you feel about the statement. Indicate how you feel now. First impressions are usually best. Do not spend a lot of time on any one question. Please be honest with yourself so your answers reflect your true feelings.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I can pretty much determine what will happen in my life.	1	2	3	4
2. People are only limited by what they think is possible.	1	2	3	4
3. People have more power if they join together as a group.	1	2	3	4
4. Getting angry about something never helps.	1	2	3	4
5. I have a positive attitude toward myself.	1	2	3	4
6. I am usually confident about the decisions I make.	1	2	3	4
7. People have no right to get angry just because they don't like something.	1	2	3	4
8. Most of the misfortunes in my life were due to bad luck.	1	2	3	4
9. I see myself as a capable person.	1	2	3	4
10. Making waves never gets you anywhere.	1	2	3	4
11. People working together can have an effect on their community.	1	2	3	4
12. I am often able to overcome barriers.	1	2	3	4
13. I am generally optimistic about the future.	1	2	3	4
14. When I make plans, I am almost certain to make them work.	1	2	3	4
15. Getting angry about something is often the first step toward changing it.	1	2	3	4
16. Usually I feel alone.	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
17. Experts are in the best position to decide what people should do or learn.	1	2	3	4
18. I am able to do things as well as most other people.	1	2	3	4
19. I generally accomplish what I set out to do.	1	2	3	4
20. People should try to live their lives the way they want to.	1	2	3	4
21. You can't fight local government.	1	2	3	4
22. I feel powerless most of the time.	1	2	3	4
23. When I am unsure about something, I usually go along with the rest of the group.	1	2	3	4
24. I feel I'm a person of worth, at least on an equal basis with others.	1	2	3	4
25. People have the right to make their own decisions, even if they are bad ones.	1	2	3	4
26. I feel I have a number of good qualities.	1	2	3	4
27. Very often a problem can be solved by taking action.	1	2	3	4
28. Working with others in my community can help to change things for the better.	1	2	3	4

APPENDIX I

Hope Scale (HS)

(Snyder, Harris, Anderson, *et al.*, 1991)

Instructions: Read each item carefully. Using the scale shown below, please circle the number at the side of the response that best describes you.

	Definitely False	Mostly False	Mostly True	Definitely True
1. I can think of many ways to get out of a jam.	1	2	3	4
2. I energetically pursue my goals.	1	2	3	4
3. I feel tired most of the time.	1	2	3	4
4. There are lots of ways round any problem.	1	2	3	4
5. I am easily downed in an argument.	1	2	3	4
6. I can think of many ways to get the things in life that are most important to me.	1	2	3	4
7. I worry about my health.	1	2	3	4
8. Even when others get discouraged, I know I can find a way to solve the problem.	1	2	3	4
9. My past experiences have prepared me well for my future.	1	2	3	4
10. I've been pretty successful in my life.	1	2	3	4
11. I usually find myself worrying about something.	1	2	3	4
12. I meet the goals that I set for myself.	1	2	3	4

APPENDIX J

Rosenberg Self-Esteem Scale (RSES)

(Rosenberg, 1965)

Instructions: Read each item carefully. Using the scale shown below, please circle the number at the side of the response that best describes you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself.	3	2	1	0
2. At times, I think I am no good at all.	0	1	2	3
3. I feel that I have a number of good qualities.	3	2	1	0
4. I am able to do things as well as most other people.	3	2	1	0
5. I feel I do not have much to be proud of.	0	1	2	3
6. I certainly feel useless at times.	0	1	2	3
7. I feel that I'm a person of worth, at least on an equal plane with others.	3	2	1	0
8. I wish I could have more respect for myself.	0	1	2	3
9. All in all, I am inclined to feel that I am a failure.	0	1	2	3
10. I take a positive attitude toward myself.	3	2	1	0

APPENDIX K

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

Clinical Psychology Unit
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Fax: 0114 2226610
Email: dclinpsy@sheffield.ac.uk

Unit Director: Prof Graham Turpin
Assistant Director: Prof Pauline Slade
Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie

18 December 2005

Dear Colleague,

I am conducting a study under the supervision of Dr Georgina Rowse and Professor Gillian Hardy at the University of Sheffield. The study is investigating the therapeutic impact of case formulation in cognitive behaviour therapy for depression. I wish to invite you to participate in this research provided you have post-graduate training in CBT that qualifies you to practice CBT in England and that you have at least three years experience of using CBT to treat psychological difficulties in adults (aged 18-65). The study has been reviewed by the North Sheffield Research Ethics Committee.

Information about the project can be found in the attached 'Therapist Information Sheet'. Please take time to read it before you decide whether or not to participate. Your participation in the study would be treated with the strictest confidence and nothing identifying you or your workplace would be divulged to anyone outside the research group. In addition, you should have no anxiety about any of your legal or employment rights being affected in any way by your participation.

If you wish to know more about the project before you decide, you may call Craig Hargate on 0114 222 6632, email him at pcp03cmh@shef.ac.uk, or write to him at the Clinical Psychology Unit, Department of Psychology, University of Sheffield, Western Bank, S10 2TP.

If you do decide to participate, please fill in the two attached forms and return them in the pre-paid envelope. Thank you for your time.

Yours faithfully,

Dr Craig M. Hargate
Trainee Clinical Psychologist
University of Sheffield

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

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Email: dclinpsy@sheffield.ac.uk

Unit Director:	Prof Graham Turpin	Clinical Practice Director:	Ms Joyce Scaife
Assistant Director :	Prof Pauline Slade	Course Administrator:	Carole Gillespie

THERAPIST INFORMATION SHEET

Version 3; 18 December 2005

UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

I am inviting you to take part in my research project. Before you to decide whether or not to participate, I want you to know why I am doing the research and what it would involve for you. Please take time to read the following information. Discuss it with others (e.g. your line manager or colleagues) if you wish. Please, ask me if you need clarification or if you would like more information.

Do take time to decide whether or not you wish to take part. However, it would be helpful to hear from you as soon as possible, if you do decide to participate.

Dr Craig M. Hargate
Trainee Clinical Psychologist
Phone: 0114 222 6632 *E-mail:* pcp03cmh@shef.ac.uk

What is the purpose of the study?
As you already know, depression is one of the most common psychological difficulties for which people seek help in the NHS, and cognitive-behavioural therapy (CBT) is currently one of the most effective ways of treating it. The purpose of this study is to examine the therapeutic impact of case formulation in CBT for depression. It is a project that is being conducted as part of a doctoral degree in clinical psychology.

Why have I been chosen?
We are approaching you because we understand you have professional post-graduate training in CBT that qualifies you to practice CBT in England. You have also been chosen because you work with clients aged 18 to 65 and because you use CBT to treat depression.

Do I have to take part?
It is up to you to decide whether or not you wish to take part. If you do, you will need to sign and return the attached consent and response forms. Also, if you decide to take part you are still free to withdraw at any time and without giving a reason.

Who is involved in the research?
Dr Craig Hargate (a trainee clinical psychologist) is carrying out the research under the supervision of Dr Georgina Rowse and Professor Gillian Hardy at the University of Sheffield.

Who has approved the study?
The study has been reviewed by the North Sheffield Research Ethics Committee.

What will be involved if I take part?
If you decide to take part in this research, you will be asked to attend a meeting with Craig Hargate (at a place of your choosing) to discuss the details of your involvement. This will firstly involve you explaining to your clients about the research and giving them a Participant Information Pack. During your assessment of a client's difficulties, you will be asked to collect specific items of information that are commonly collected in a cognitive-behavioural assessment. In addition, you will be asked not to challenge or test core beliefs, maladaptive assumptions or negative automatic thoughts underpinning the client's depressive difficulties, nor share a cognitive model of depression. You will also be asked to audiotape the sessions so you can conform your adherence to these prescriptions and you will be advised to take whatever number of sessions you need to collect the required information.

Following assessment, you will be asked to carry out 2 sessions of formulation devoted solely to exploring and refining an individualised case formulation with your client in the form of a developmental diagram. For quality control purposes, you will be asked to submit a copy of this diagram to confirm it contains the relevant items of information.

During the course of assessment and formulation, you will be asked to administer five questionnaires in the 30 minutes before each session to monitor recovery in your client. At the end of formulation the research process will end, though naturally the client's treatment will continue under your guidance and responsibility.

What support will I get if I participate?
Initially you will be visited by Craig Hargate who will explain what your participation will involve. You will then be visited once again after your first client has completed the research process to discuss your experience of the process and resolve any queries you have. If at any time you have a query about the research process, Craig will be available to speak with you about it either face-to-face or by phone.

Will my taking part be kept confidential?
The identities of all therapists that take part in this study will be kept strictly confidential and will only be seen by the researcher and two supervisors. Your consent form will be kept for 3 years following the termination of the study and then destroyed in a shredding machine. In addition, all the audiotapes of your assessment sessions will be kept confidential. They will only have a code number on them and they will be stored in a locked cabinet that is only accessible by key. All tapes will be kept for the duration of the study and then destroyed by incineration.

What will happen to the results of the study?
The results of the study will be written up as a DClinPsy thesis and hopefully published soon afterwards. They may also be presented at a relevant conference. In all instances of publication, you can be assured that nothing that reveals your participation in the study will be published.

What are the possible benefits of taking part?
The results of the study will lead to a better understanding of whether or not case formulation is an active ingredient the treatment of depression using CBT. We will send you a synopsis of these results once one becomes available.

What are the possible drawbacks of taking part?
The only drawback of taking part in this study lies in the effort required to administer the necessary measures during the first few weeks of your work with your clients that participate.

What happens if I want to withdraw?
If you decide you wish to withdraw from the study you will not be under any obligation to explain why. You also have the right to withdraw consent for the use of the information your clients have provided.

What do I do if I want more information?
If you require any further information you may call Craig Hargate on 0114 2226632, email him at pcp03cmh@sheffield.ac.uk, or write to him at the Clinical Psychology Unit, Department of Psychology, University of Sheffield, 302 Western Bank, S10 2TP.

What do I do if I have a complaint about this research?
If you are harmed in anyway by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it. Regardless of this, if you wish to complain or have any concerns about any aspect of the way you have been approached or treated during the course of this study, please contact Dr Georgina Rowse at the Clinical Psychology Unit on 0114 2226632. If you do not find this satisfactory the normal National Health Service complaints mechanisms are available to you.

What do I do now if I want to take part?
If you wish to take part as a therapist in this research, please fill in the two attached forms and return them in the pre-paid envelope. An earlier reply would be most helpful.

Thank you for taking time to read this information sheet.
You may wish to keep it for your reference.

APPENDIX M

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

Clinical Psychology Unit, Department of Psychology
University of Sheffield, Western Bank, Sheffield S10 2TP

Tel: 0114 2226570; Fax: 0114 2226610
Email: dclinpsy@sheffield.ac.uk

Unit Director: Prof Graham Turpin
Assistant Director: Prof Pauline Slade

Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie

Therapist Consent Form

Title of Study: Therapeutic Impact of Case Formulation in CBT for Depression
Researcher: Dr C M Hargate

		Please initial
1.	I confirm that I have read and understood the 'Therapist Information Sheet' for the above study (Version 3; dated 18 December 2005) and have had the opportunity to ask questions.	☐
2.	I can confirm I have successfully completed professional post-graduate training in either Clinical Psychology or cognitive-behaviour therapy and that I have at least two years experience of using CBT in the NHS in England.	☐
3.	I can confirm I work with clients aged 18 to 65 and that sometimes I use CBT to treat clients experiencing depression.	☐
4.	I agree to inform suitable individuals about this research and to give them a copy of the 'Client Information Pack'.	☐
5.	I have examined the 'Client Information Pack' and I approve of its content.	☐
6.	I am agreeable for the first few session of my therapy to be audio taped, which I understand is solely for quality control purposes	☐
7.	I understand that my participation is voluntary and that I am free to withdraw from this research at any time without giving any reason and without any of my rights being affected.	☐
8.	I agree to take part as a CBT therapist in the above study.	☐

.....	.....	.....
Name of Therapist	**Date**	**Signature**
.....	.....	.....
Dr C M Hargate	Date	Signature

1 copy for therapist; 1 for Dr Hargate

APPENDIX N

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

Clinical Psychology Unit, Department of Psychology
University of Sheffield, Western Bank, Sheffield S10 2TP
Tel: 0114 2226570: Fax: 0114 2226610
Email: dclinpsy@sheffield.ac.uk

Unit Director: Prof Graham Turpin
Assistant Director : Prof Pauline Slade
Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie

Therapist Response Form

Title of Study: Therapeutic Impact of Case Formulation in CBT for Depression
Researcher: Dr C M Hargate

Please can we have the following information for our records:

Therapist name: ..... Phone: .....

Contact Address:..... Email (optional): .....

.....

.....

Please answer the following questions by writing in the space provided or by ticking the appropriate box:

1. What is your sex? Female ☐ Male ☐

2. How many years experience do you have as a cognitive behavioural therapist? ..... years

3. What profession qualification/s do you have in CBT? .....

4. Would you like a synopsis of the results of this study once one is available? Yes ☐ No ☐

PLEASE RETURN THIS WITH YOUR CONSENT FORM IN THE PRE-PAID ENVELOPE PROVIDED. THANK YOU

APPENDIX O

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
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Department of Psychology
University of Sheffield
Western Bank, Sheffield S10 2TP

Telephone: 0114 2226570
Fax: 0114 2226610
Email: dclinpsy@sheffield.ac.uk

Unit Director: Prof Graham Turpin
Assistant Director: Prof Pauline Slade
Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie

20 September 2006

Dear Sir/Madam,

Thank you for indicating to your therapist that you would like to know more about my project. I am conducting the project under the supervision of Dr Georgina Rowse and Professor Gillian Hardy who are both Clinical Psychologists and lecturers at the University of Sheffield. The purpose of this study is to examine whether or not one particular aspect of cognitive-behaviour therapy is an active ingredient in the treatment of depression. I wish to invite you to participate in this research, which has been reviewed by the North Sheffield Research Ethics Committee.

Information about the project can be found in the attached 'Client Information Sheet'. Please take time to read it before you decide whether or not to participate. Your participation in the study would be treated with the strictest confidence and none of the information you provide would ever be divulged to anyone outside of the research group. In addition, you should have no anxiety about any of your legal rights or current health care being affected in any way by your participation.

If you wish to know more about the project before you decide, we would be more than happy to talk with you about it. You may call Craig Hargate on 0114 2226632, email him at pcp03cmh@sheffield.ac.uk, or write to him at the Clinical Psychology Unit, Department of Psychology, University of Sheffield, 302 Western Bank, S10 2TP.

If you do decide to participate, please fill in the attached consent form and be sure to return it to your therapist at your next therapy session. Thank you for your time.

Yours faithfully,

Dr Craig M. Hargate
Trainee Clinical Psychologist
University of Sheffield

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

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University of Sheffield, Western Bank, Sheffield S10 2TP

Tel: 0114 2226570; Fax: 0114 2226610
Email: dclinpsy@sheffield.ac.uk

Unit Director:	Prof Graham Turpin	Clinical Practice Director:	Ms Joyce Scaife
Assistant Director:	Prof Pauline Slade	Course Administrator:	Carole Gillespie

CLIENT INFORMATION SHEET

Version 2; 16 June 2005

UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

I am inviting you to take part in my research project. Before you to decide whether or not to participate, I want you to know why I am doing the research and what it would involve for you. Please take time to read the following information. Discuss it with others (e.g. friends, relatives, etc.) if you wish. Please, ask me if you need clarification or if you would like more information.

Do take time to decide whether or not you wish to take part. However, it would be helpful to hear from you as soon as possible, if you do decide to participate.

Dr Craig M. Hargate
Trainee Clinical Psychologist
Phone: 0114 222 6632 *E-mail:* pcp03cmh@shef.ac.uk

What is the purpose of the study?
You may already know that depression is one of the most common psychological difficulties for which people seek help in the NHS, and that cognitive-behavioural therapy (CBT) is one of the most effective ways of treating it. This study is to examine whether or not one particular aspect of CBT is an active ingredient in the treatment of depression. It is a project that is being conducted as part of a doctoral degree in Clinical Psychology.

Why have I been chosen?
We are approaching you in particular because you have been referred for cognitive-behavioural treatment for depression.

Do I have to take part?
It is up to you to decide whether or not you wish to take part. If you do, you will need to sign and return the consent form attached. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision not to take part in this study or to withdraw will not affect the standard of health care you receive.

Who is organising and funding the research?
Dr Craig Hargate (a trainee clinical psychologist) is carrying out the research under the supervision of Dr Georgina Rowse and Professor Gillian Hardy who are both Clinical Psychologists. The research is being funded by the NHS.

Who has reviewed the study?
The study has been reviewed by the North Sheffield Research Ethics Committee.

What will be involved if I take part?
If you decide to take part in this research, you will be asked to fill in some questionnaires in the 30 minutes before each session you have with your therapist as part of your NHS treatment. These will be used simply to monitor your recovery. Apart for this, you will not need to do anything more for this research.

Will my taking part in this study be kept confidential?
All the information we collect through the questionnaires will be kept strictly confidential and will only be seen by the researcher and two supervisors. We will store your data on a computer under a code number in a file that is only accessible by password. Once we have passed the information you give us from paper into electronic form, we will destroy all hard copies soon afterwards. In any computer analysis, your data will be related to your code number rather than your personal details. Your data (along with your consent form) will both be kept for 3 years following the termination of the study at which point your data will be deleted from our database and your consent form will be shredded.

You will be asked if we can record the first few of your therapy sessions purely for quality control purposes. In this exercise, tapes will be listened to by Dr Hargate and the focus will be solely on the therapeutic decisions taken by the therapist. Your tapes will only have a code number on and we will store them in a locked cabinet that is only accessible by key. In carrying out the quality control exercise, nothing you say will ever be transcribed or quoted in any shape or form. We will need to keep the tapes for the duration of the study and then we will destroy them by incineration.

What will happen to the results of the research study?
Your results will be written up as a doctoral research thesis in Clinical Psychology and hopefully published in an academic journal soon afterwards. They may also be presented at a relevant conference. In all instances of publication, you can be assured that no data identifying you or your private details will be published.

What are the possible benefits of taking part?
Whilst you may not directly benefit yourself from the results of this study, we expect they will help us understand more about the active ingredients in the treatment of depression using CBT. We will send you a synopsis of these results once one becomes available.

What are the possible drawbacks of taking part?
The only drawback of taking part in this study lies in the effort required to fill in the questionnaires.

What happens if I want to withdraw?
If you decide to withdraw from the study you will not be under any obligation to explain why and your treatment rights will not be affected. You also have the right to withdraw consent for the use of the information you have provided.

What do I do if I want more information?
If you require any further information you may call Craig Hargate on 0114 2226632 or write to him at the Clinical Psychology Unit, Department of Psychology, University of Sheffield, 302 Western Bank, S10 2TP.

What do I do if I have a complaint about this research?
If you are harmed in anyway by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it. Regardless of this, if you wish to complain or have any concerns about any aspect of the way you have been approached or treated during the course of this study, please contact Dr Georgina Rowse at the Clinical Psychology Unit on 0114 2226632. If you do not find this satisfactory, the normal National Health Service complaints mechanisms are available to you.

What do I do now if I want to take part?
If you wish to take part in this research, please fill in the consent form and be sure to take it with you to your next therapy session.

Thank you for taking time to read this information sheet.
You may wish to keep it for your reference.

APPENDIX Q

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
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Client Consent Form

Title of Study: Therapeutic Impact of Case Formulation in CBT for Depression
Researcher: Dr C M Hargate

Please initial

1. I confirm that I have read and understood the 'Client Information Sheet' for the above study (Version 2; dated 16 June 2005) and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without my health care or legal rights being affected. ☐
3. I agree to filling in some questionnaire to monitor the changes in my mental health as part of my treatment for depression and for the information they generate to be used in the above named research. ☐
4. I am agreeable for the first few sessions of my therapy to be audio taped, which I understand is solely for quality control purposes. ☐
5. I agree to take part in the above named research. ☐

.....	.....	.....
Name of Client	**Date**	**Signature**
.....	.....	.....
Dr Craig Hargate	Date	Signature

If you wish to receive a synopsis of the results of this study once one is available, please tick this box: ☐ [If you tick here, your synopsis will be sent to your therapist with the instruction to forward it on to you]

PLEASE RETURN THIS FORM TO YOUR THERAPIST AT YOUR NEXT SESSION. THANK YOU

1 copy for client; 1 for Dr Hargate

APPENDIX R

Research Briefing Programme for Therapists

Screening of clients

- Advised therapist to screen client for the research during the first assessment session that takes place as part of the normal NHS practice. This will include giving the client a BDI-II in the 20 minutes before the start of this first session.

- Informed therapist that eligible clients, in principle, are those who are 18 to 65 years of age and experiencing either moderate or severe depression as measured by the BDI-II. Clients with a *global* learning disability or difficulties understanding English are excluded from participation. Clients with depression comorbid with other difficulties (such as anxiety) are only eligible if depression is the main cause of complaint. Clients with depression comorbid with psychotic difficulties, or problems with alcohol or drugs, however, are excluded from participation.

- Explain that in cognitive therapy some commentators believe it may not always be desirable to explicitly share a case formulation with a client early on in therapy. (For example, because the amount of information might be overwhelming or its content too distressing to appreciate at the outset). Inform therapists that eligible clients are those who the therapist feels it would be appropriate to share a case formulation with the client.

- Informed therapist that judging the eligibility of clients will be at their discretion.

- Give therapists the following quick easy-to-use checklist to help judge the eligibility of clients:

Client Eligibility Checklist

	✓	✗
1. Is the client aged 18 to 65?	☐	☐
2. Is the client experiencing moderate to severe depression?	☐	☐
3. If the client is experiencing a number of psychological problems, is depression the main presenting difficulty?	☐	☐
4. Apart from depression, is the client free of psychotic difficulties and free of problems with alcohol or drugs?	☐	☐
5. Is the client free of a global learning disability and neuropsychological difficulties that impair their comprehension capabilities?	☐	☐
6. Is the client competent in communicating in English? (*Including*: Can the client read the items of the BDI-II, MHRM, MDES, HS, RSES)?	☐	☐
7. Would you consider it appropriate to share a case formulation with this particular client following assessment?	☐	☐

For a client to be eligible, the answer must be YES to *all* these questions ←

Approaching clients

- Advise therapist to briefly explain about the research to those clients they deem are eligible for the research.

- Stress to therapist that they are *not* expected to persuade their clients to take part (i.e. not expected "to sell" the research)

- Inform therapists to give a Client Information Pack to any eligible client that is provisionally interested in the research. Inform therapists that they should tell their clients that taking the information pack *in no way* obliges them to take part.

Enrolling clients

- Advise therapists to enrol clients on the research if they sign and return the Client Consent Form at the beginning of their second session with them. They do this by counter-signing the bottom of the client's consent form.

Assessment of clients

- Encourage therapist to collect the following information.

  - links between thoughts, feelings, behaviour and physical signs of depression
  - triggers to the current problem (either internal or external)
  - onset of the problem (critical incidents)
  - rules for living (dysfunctional assumptions and behaviour implications)
  - core beliefs (about the self, others, world and future)
  - key formative experiences

- Instruct therapist not to share a cognitive model of depression nor challenge or test core beliefs, maladaptive assumptions or negative automatic thoughts underpinning the client's depressive difficulties.

- Advise therapist to take whatever number of sessions you need to collect the required information.

Generating a case formulation

- Instruct therapist to devote x2 (1 hour) sessions solely to exploring and refining an individualised case formulation with his/her client in the form of a developmental diagram. In doing so, instruct the therapist to share a cognitive model of depression and draw implications for a treatment plan.

- Instruct therapist not to challenge or test core beliefs, maladaptive assumptions or negative automatic thoughts underpinning the client's depressive difficulties.

- Encourage therapist to ensure the client fully understands and concurs with the formulation (to optimise client engagement and provide them with a sense of ownership). Over complex formulations should be avoided as they may lead to some clients feeling overwhelmed or provoke a sense of hopelessness.

- Instruct therapist to send the case formulation home with the client at the close of the first formulation session and encourage the client to make changes to the diagram before the start of the first intervention session.

Quality control

- Ask therapists to audiotape all their assessment and formulation sessions and explain that they (themselves) will be asked to rate two of these (one assessment and one formulation session) on 12 scales. This will be to confirm the therapist did not (1) share a cognitive model of depression or formulation with the clients during assessment; (2) challenge or test the core beliefs, maladaptive assumptions or negative automatic thoughts underpinning the client's depressive difficulties during assessment or formulation.

- Provide the therapists with the 12 items taken from the Sheffield Psychotherapy Rating Scale (SPRS; Appendix S) and explain to them how to use each item. Then ask therapists to rate on these scales on each of two audiotapes: one assessment and one formulation session.

- Ask therapist to submit a copy of each case formulation (in the form of a developmental diagram) to the researcher at the end of the research process to confirm they have included all the necessary items of information.

Administration of measures

- Ask therapist to monitor the client's recovery over time using 5 validated psychometric measures.

- Instruct therapist to administer the psychometric measures in the 30 minutes before each session, which will involve asking the client to arrive 30 minutes before the start of each therapy session. [Show therapist these measures and familiarise the therapist with them].

- Instruct therapist that the last administration of these measures will take place 1 week *after* the formulation phase has ended (but before the start of intervention). Inform therapist that at this point the research process will end, though naturally they will continue treatment of their client.

- Instruct therapists to inform clients that if there are any responses to the measures that they wish their therapists to know about, they are to inform their therapist of this as their therapists will not have access to their completed measures.

Therapist support and debriefing

- Ask therapist to convene a 'debriefing meeting' with Craig Hargate after the first client has completed the research process to discuss the therapist's (and client's) experience of the research process. Inform therapist that if enough therapists are ready for debriefing around the same time, a group debriefing session may be arranged.

APPENDIX S

Checking Therapist Adherence to the Research Protocol

All therapists were required to audiotape one of their assessment and one of their formulation sessions to check they did not:

(1) Share a cognitive model of depression or engage in formulation processes with the client during assessment:

(2) Engage in intervention strategies during assessment or formulation (i.e. did not challenge or test the core beliefs, maladaptive assumptions or negative automatic thoughts underpinning the client's depressive difficulties).

Each tape was rated on 12 items taken from the Sheffield Psychotherapy Rating Scale (SPRS; Startup & Shapiro, 1993), which is designed for rating audiotapes of CBT for depression. This scale was used because it has been found to be valid and reliable and because it was designed for use by raters with a minimal amount of training (Startup and Shapiro, 1993). Each item in the SPRS rates an aspect of the therapist behaviour on a 7-point Likert scale.

Six of the items measure the extent to which the therapist employed in a number of *assessment* processes. Specifically, they rated the extent to which the therapist (1) explored the client's feelings; (2) encouraged the client to relate feelings to thoughts; (3) asked the client to report specific thoughts; (4) probed for core beliefs related to a thought; (5) helped the client identify cognitive errors; and (6) explored the assumptions underlying the client's negative thoughts and beliefs.

Three of the items measured the extent to which the therapist employed a number of *formulation* processes. Specifically, they rated the extent to which the therapist (1) provided an explanation of the cognitive model of depression; (2) explained to the client the reason for sharing this model with them and (3) summarised or encouraged the client to summarise key issues from the previous assessment sessions to construct a formulation.

Three of the items measured the extent to which the therapist employed a number of *intervention* strategies. Specifically, they rated the extent to which the therapist (1) tested the validity of the client's beliefs; (2) helped the client consider alternative explanations for events besides the client's initial explanations of those events and (3) supported the client in practising possible rational responses to negative thoughts or beliefs.

Cases were only be included if therapist employed the required assessment and formulation processes in the relevant periods. Cases were excluded from analysis if therapists found they had employed either formulation processes during assessment or intervention strategies during assessment or formulation.

APPENDIX T: Table 5 illustrating the raw data

BDI-II	*RSEsteemSc*	*MDES-Total*	*MDES-Mean*	*HS-Total*	*HS-Agency*	*HS-Pathway*	*MHR-OvStuk*	*MHR-Empow*	*MHR-Learn*	*MHR-BaFunc*	*MHR-WellBe*	*MHR-NewPo*	*MHR-Spiritua*	*MHR-Advoca*	*MHR-Total*
T1: Assessment 1															
38	10	69	2.4	17	7	10	8	8	15	3	3	3	2	2	44
20	12	71	2.5	18	8	10	10	8	10	13	5	6	0	10	62
29	5	68	2.4	10	4	6	7	5	6	3	4	6	2	4	37
35	17	58	2.0	20	9	11	11	13	7	6	8	7	2	7	61
35	16	61	2.1	12	5	7	10	14	7	10	2	8	5	8	64
20	14	75	2.6	16	8	8	8	13	6	9	8	11	4	10	69
20	22	65	2.2	24	12	12	10	12	12	12	11	6	0	12	75
26	9	74	2.6	14	8	6	11	10	9	8	7	11	0	11	67
23	12	79	2.7	20	11	9	9	11	9	4	5	8	0	9	55
26	11	62	2.1	19	11	8	9	12	6	9	10	5	2	8	61
21	16	86	3.0	16	10	6	8	7	7	8	7	8	3	11	59
32	14	65	2.2	21	11	10	7	12	6	7	6	10	0	4	52
23	10	85	3.0	18	8	10	6	8	9	8	6	9	4	8	58
23	9	82	2.8	19	10	9	10	9	7	9	7	10	0	8	60
30	6	92	3.2	12	7	5	10	8	9	8	5	4	0	10	54
36	12	78	2.7	14	8	6	7	6	9	2	2	7	3	4	40
T2: Assessment 2															
27	10	56	2.0	26	10	16	11	8	15	4	2	3	2	6	53
21	17	67	2.3	19	8	11	8	8	11	12	4	7	0	9	58
29	3	77	2.7	15	7	8	3	3	6	3	2	5	2	5	30
36	16	61	2.1	23	11	12	9	11	9	5	7	7	3	6	57
31	15	58	2.0	12	7	5	10	12	6	10	1	9	6	9	62
21	12	65	2.3	20	9	11	6	12	8	9	9	12	4	10	70
23	22	62	2.2	25	14	11	9	9	12	11	8	7	0	11	66
27	8	73	2.6	16	9	7	12	12	11	9	9	10	0	11	73
21	12	78	2.7	19	10	9	9	13	8	4	4	8	0	8	54
25	11	58	2.0	15	8	7	8	10	8	8	9	6	2	8	58
21	14	83	2.9	16	9	7	10	6	6	9	6	7	2	10	57
26	11	67	2.3	24	12	12	8	11	7	6	7	13	0	2	52
24	9	80	2.8	15	7	8	6	10	11	6	7	8	2	10	61
21	7	87	3.1	21	11	10	7	8	8	9	4	11	0	6	54
26	5	88	3.1	12	7	5	8	6	10	6	3	6	0	8	45
34	9	73	2.6	14	7	7	7	4	8	3	4	8	3	6	42
T3: Formulation 1															
46	14	61	2.1	21	8	13	11	5	10	1	0	4	4	6	41
13	15	64	2.2	23	11	12	8	7	9	11	6	6	0	8	55
32	12	76	2.7	14	6	8	5	4	2	3	2	6	0	4	26
32	14	56	2.0	26	12	14	7	12	8	4	1	5	2	7	46
32	15	56	2.0	15	8	7	11	14	9	4	6	8	4	10	66
10	13	62	2.2	17	7	10	8	12	8	11	12	9	2	8	70
20	20	62	2.2	20	11	9	7	11	12	9	11	9	0	12	71
31	9	70	2.5	17	9	8	11	10	10	6	5	7	0	11	60
20	15	79	2.8	32	14	18	8	18	13	10	7	9	0	8	73
26	11	59	2.1	16	8	8	9	12	10	7	6	9	1	8	62
16	13	83	2.9	17	10	7	9	6	8	8	10	10	2	9	62
29	12	66	2.3	23	12	11	10	12	6	7	5	9	0	3	52
19	8	82	2.9	16	7	9	7	11	7	9	8	8	1	11	62
21	6	85	3.0	19	9	10	10	8	12	9	7	10	0	7	63
28	6	83	2.9	14	8	6	11	6	10	3	4	7	0	5	46
32	9	74	2.6	16	8	8	6	4	9	3	2	6	3	7	40
T4: Formulation 2															
33	10	58	2.0	24	11	13	13	9	14	5	6	10	4	9	70
17	15	64	2.2	21	10	11	7	5	10	10	6	8	0	8	54
28	4	70	2.5	13	6	7	4	4	3	3	1	5	0	6	26
18	15	52	1.8	24	11	13	13	16	12	11	6	11	2	5	76
33	17	56	2.0	14	7	7	12	15	11	6	7	10	2	9	72
7	15	69	2.4	20	9	11	6	9	12	13	9	11	2	6	68
20	20	60	2.1	24	12	12	10	14	13	8	10	11	0	11	77
29	10	73	2.6	16	8	8	10	13	10	5	7	9	0	13	67
22	13	77	2.7	23	12	11	8	18	11	8	7	9	0	8	69
22	12	58	2.0	16	9	7	11	12	12	9	8	11	1	8	72
17	16	91	3.2	17	11	6	6	7	11	11	11	12	2	7	67
30	16	62	2.2	23	12	11	6	16	6	3	4	9	0	3	47
23	10	85	3.0	17	8	9	8	11	8	8	7	9	1	12	64
19	7	89	3.1	18	9	9	9	10	12	10	9	12	0	7	69
20	8	85	3.0	15	7	8	11	8	12	4	4	7	0	8	54
35	12	75	2.6	16	7	9	6	4	9	4	3	8	3	8	45

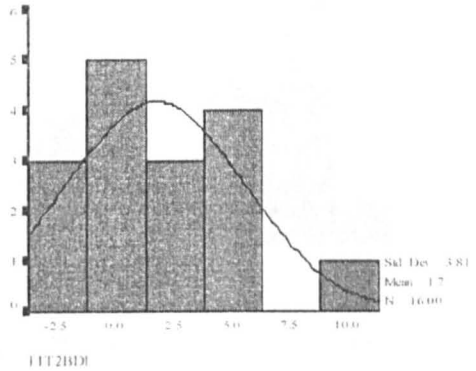
APPENDIX U
Raw data of means calculated during baselines

Table 6 illustrating the average assessment score on each measure for each client (i.e. average of T1 and T2)

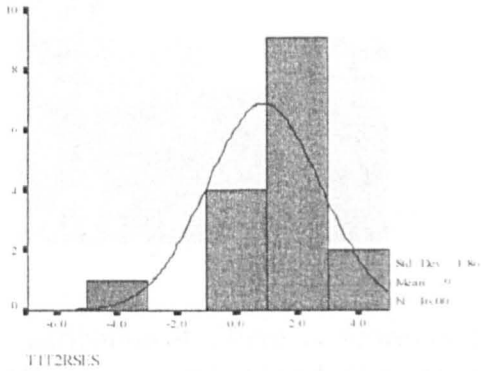
BDI-II	*RS Esteem Sc*	*MDES - Total*	*MDES - Mean*	*HS - Total*	*HS - Agency*	*HS - Pathway*	*MHR-Ov Stuk*	*MHR-Empow*	*MHR-Learn*	*MHR-Ba Func*	*MHR-Well Be*	*MHR-New Po*	*MHR-Spiritua*	*MHR-Advoca*	*MHR-Total*
32.50	10.00	62.50	2.23	21.50	8.50	13.00	9.50	8.00	15.00	3.50	2.50	3.00	2.00	4.00	47.50
20.50	14.50	69.00	2.46	18.50	8.00	10.50	9.00	8.00	10.50	12.50	4.50	6.50	.00	9.50	60.50
29.00	4.00	72.50	2.59	12.50	5.50	7.00	5.00	4.00	6.00	3.00	3.00	5.50	2.00	4.50	33.00
35.50	16.50	59.50	2.13	21.50	10.00	11.50	10.00	12.00	8.00	5.50	7.50	7.00	2.50	6.50	59.00
33.00	15.50	59.50	2.13	12.00	6.00	6.00	10.00	13.00	6.50	10.00	1.50	8.50	5.50	8.50	63.50
20.50	13.00	70.00	2.50	18.00	8.50	9.50	7.00	12.50	7.00	9.00	8.50	11.50	4.00	10.00	69.50
21.50	22.00	63.50	2.27	24.50	13.00	11.50	9.50	10.50	12.00	11.50	9.50	6.50	.00	11.50	71.00
26.50	8.50	73.50	2.63	15.00	8.50	6.50	11.50	11.00	10.00	8.50	8.00	10.50	.00	11.00	70.50
22.00	12.00	78.50	2.80	19.50	10.50	9.00	9.00	12.00	8.50	4.00	4.50	8.00	.00	8.50	54.50
25.50	11.00	60.00	2.14	17.00	9.50	7.50	8.50	11.00	7.00	8.50	9.50	5.50	2.00	8.00	60.00
20.00	15.00	84.50	3.02	16.00	9.50	6.50	9.00	6.50	7.50	8.50	6.50	7.50	2.50	10.50	58.50
29.00	12.50	66.00	2.36	22.50	11.50	11.00	7.50	11.50	6.50	6.50	6.50	11.50	.00	3.00	53.00
23.50	9.50	82.50	2.95	16.50	7.50	9.00	6.00	9.00	10.00	7.00	6.50	8.50	3.00	9.00	59.00
22.00	8.00	84.50	3.02	20.00	10.50	9.50	8.50	8.50	7.50	9.00	5.50	10.50	.00	7.00	56.50
28.00	5.50	90.00	3.21	12.00	7.00	5.00	9.00	7.00	9.50	7.00	4.00	5.00	.00	9.00	50.50
35.00	10.50	75.50	2.70	14.00	7.50	6.50	7.00	5.00	8.50	2.50	3.00	7.50	3.00	5.00	41.50

APPENDIX V

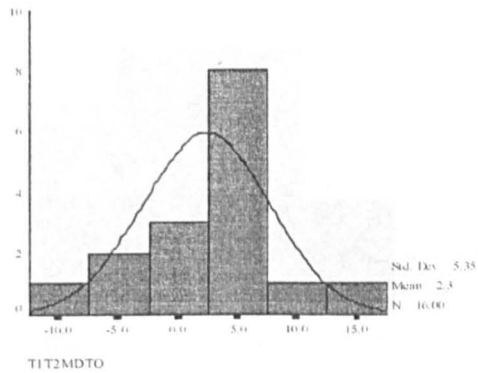
Histograms of Distributions of Difference Scores between T1 and T2 (of Assessment Phase)



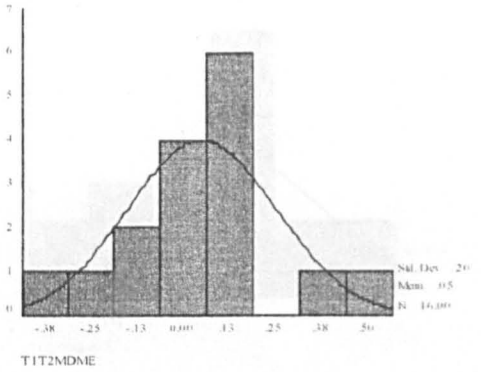
Distribution of difference scores on the BDI



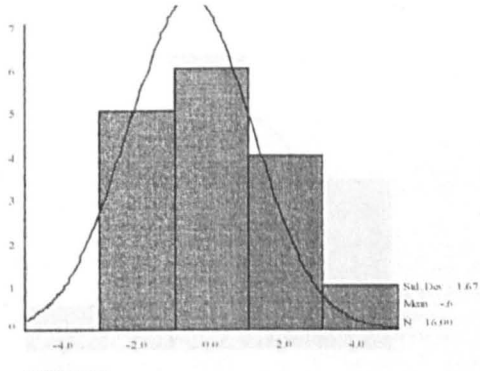
Distribution of difference scores on the RSES



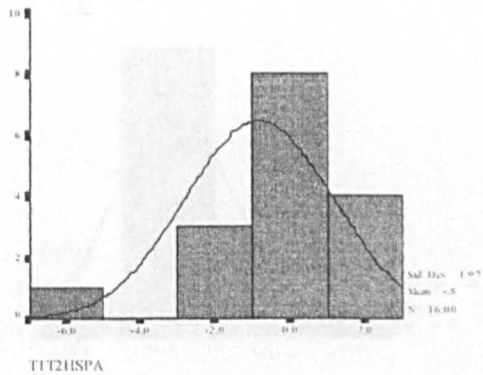
Distribution of difference scores on the MDES total



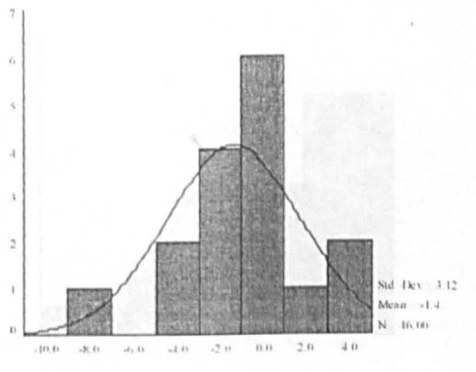
Distribution of difference scores on the MDES mean



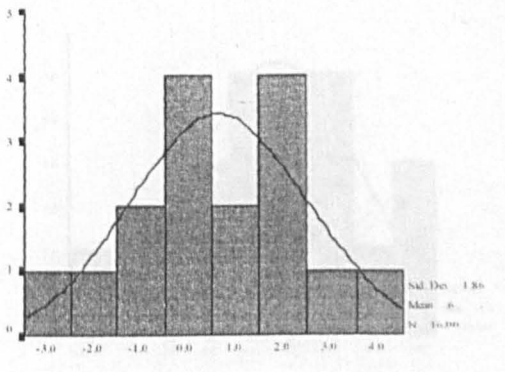
Distribution of difference scores on the HS Agency



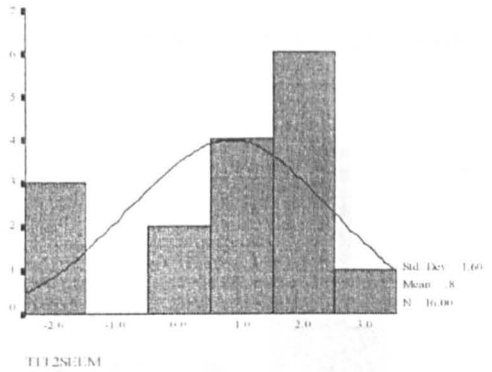
Distribution of difference scores on the HS Pathway



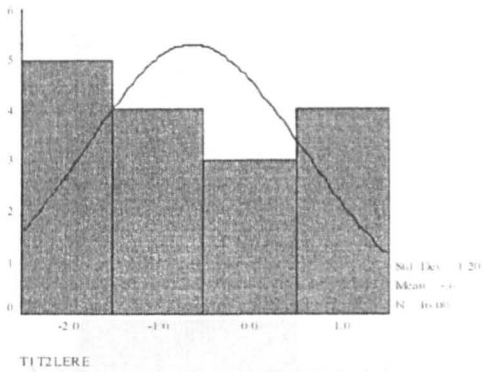
Distribution of difference scores on the HS Total



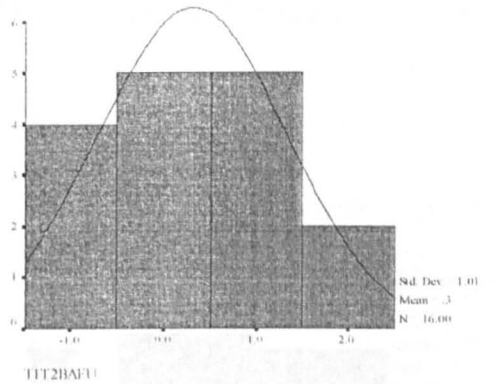
Distribution of difference scores on the MHRM - Overcoming Stuckness



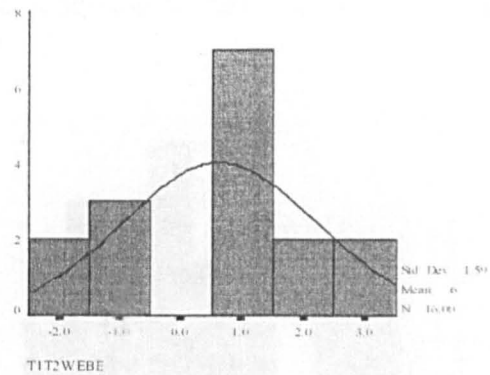
Distribution of difference scores on the MHRM – Self-empowerment



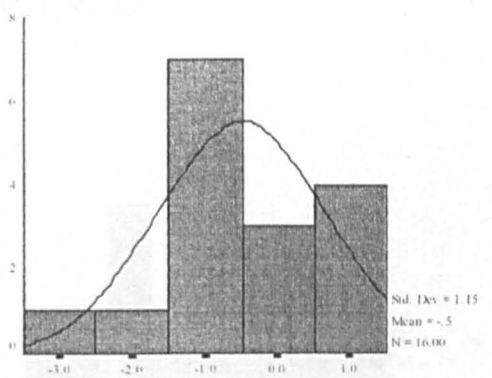
Distribution of difference scores on the MHRM – Learning and Self-redefinition



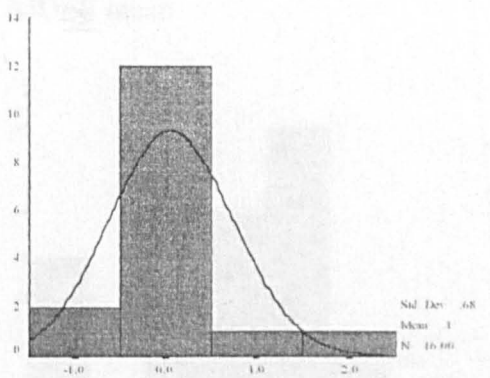
Distribution of difference scores on the MHRM – Basic Functioning



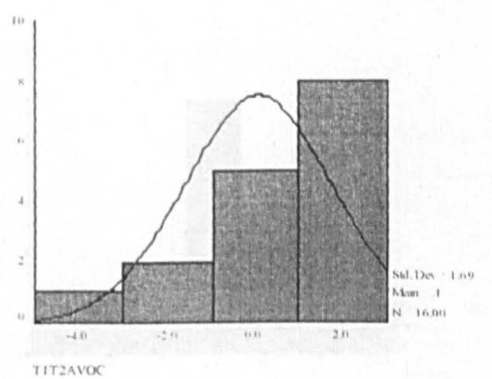
Distribution of difference scores on the MHRM – Well Being



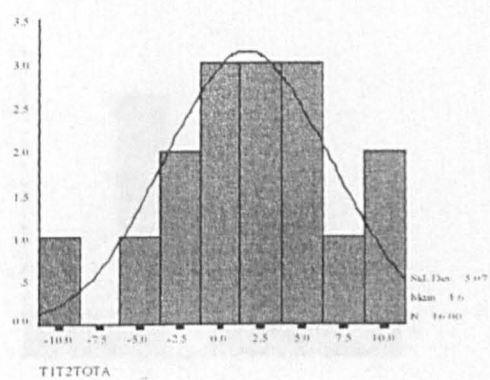
Distribution of difference scores on the MHRM – New Potential



Distribution of difference scores on the MHRM – Spirituality



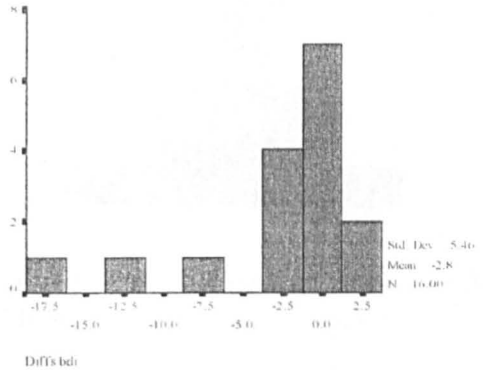
Distribution of difference scores on the MHRM – Advocacy and enrichment



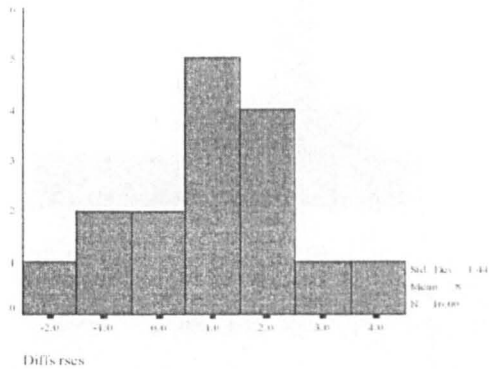
Distribution of difference scores on the MHRM – Total

APPENDIX W

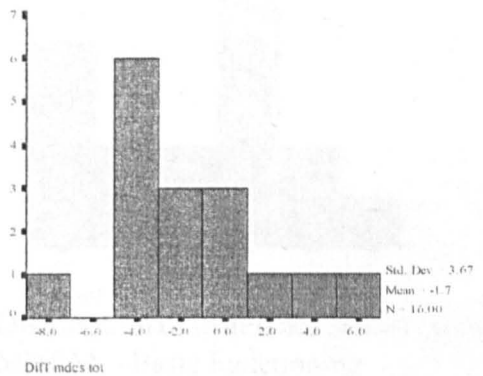
Histograms of Distributions of Difference Scores between Pre and Post-Formulation



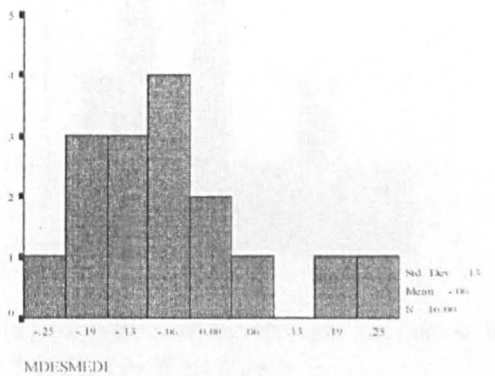
Distribution of difference scores on the BDI



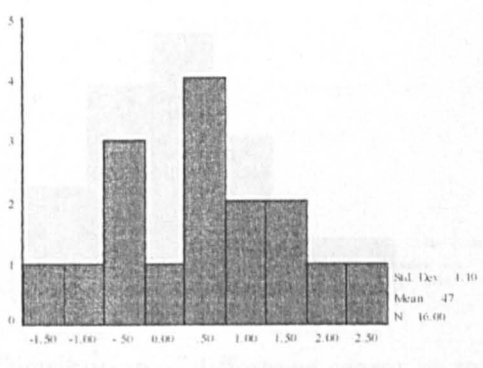
Distribution of difference scores on the RSES



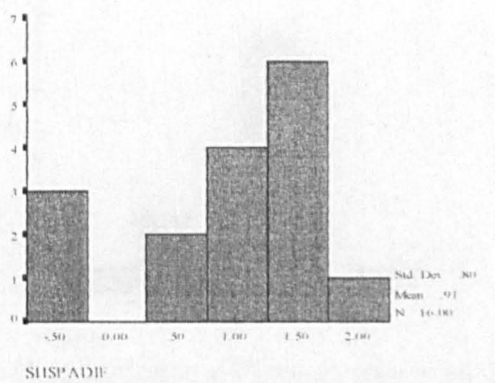
Distribution of difference scores on the MDES total



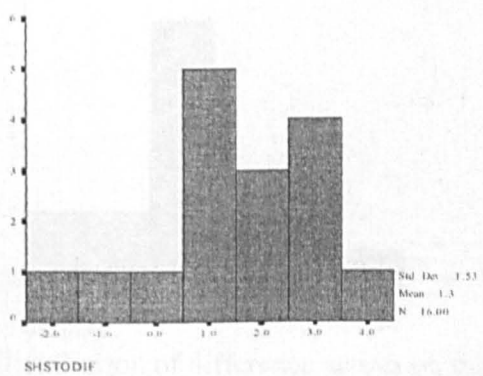
Distribution of difference scores on the MDES mean



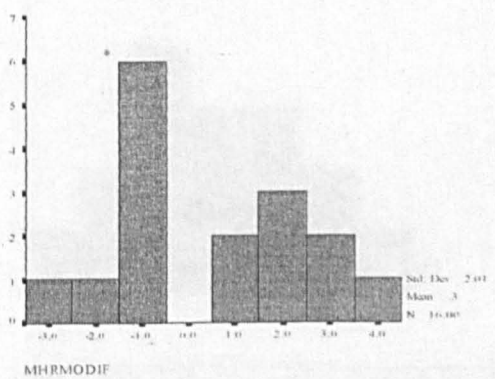
Distribution of difference scores on the HS Agency



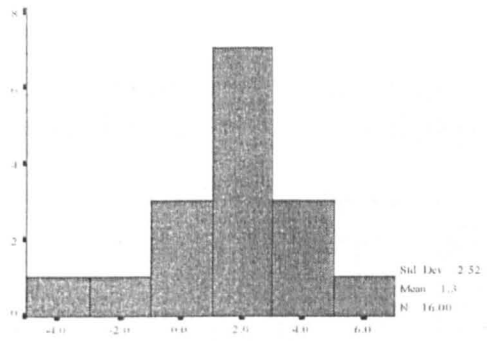
Distribution of difference scores on the HS Pathway



Distribution of difference scores on the HS Total

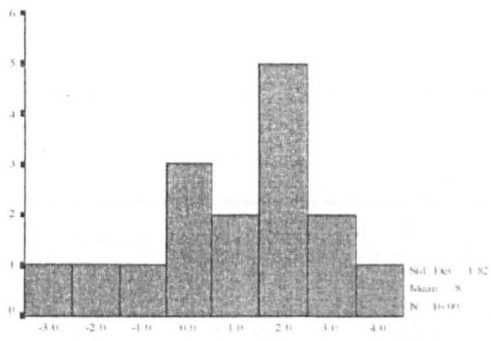


Distribution of difference scores on the MHRM - Overcoming Stuckness



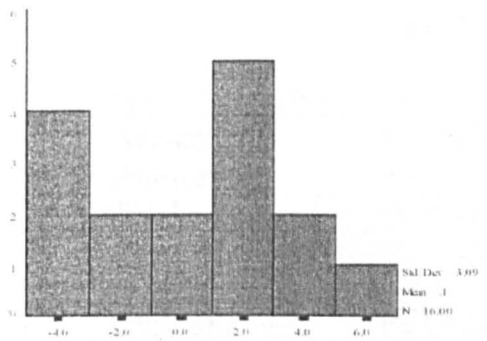
MHRMSDIF

Distribution of difference scores on the MHRM – Self-empowerment



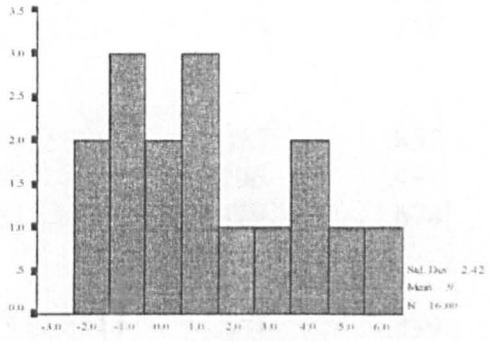
MHRMLDIF

Distribution of difference scores on the MHRM – Learning and Self-redefinition



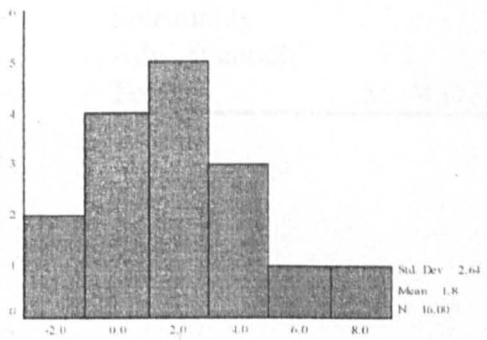
MHRBADIF

Distribution of difference scores on the MHRM – Basic Functioning



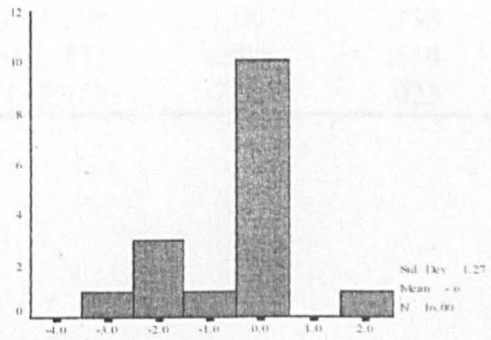
MHRWBDIF

Distribution of difference scores on the MHRM – Well Being



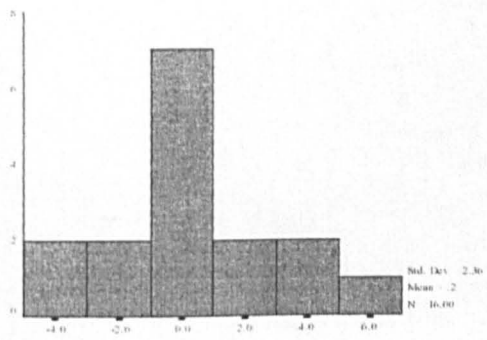
MHRNPDIF

Distribution of difference scores on the MHRM – New Potential



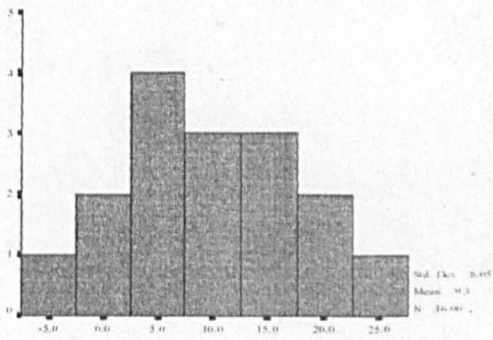
MHRSPDIF

Distribution of difference scores on the MHRM – Spirituality



MHRADDIF

Distribution of difference scores on the MHRM – Advocacy and enrichment



MHRTODIF

Distribution of difference scores on the MHRM – Total

APPENDIX X

Table 7 illustrating the mean scores and standard deviations (N=16) taken at the two time points during the formulation phase (B)

	Assessment/Baseline		*t(15)*	*p. (2 tailed)*
	T3	T4		
	Mean (SD)	*Mean (SD)*		
BDI-II (Total)	25.44 (9.12)	23.31 (7.49)	1.55	.143
RSES (Total)	12.00 (3.72)	12.50 (4.18)	-.669	.514
MDES				
Mean	2.50 (0.37)	2.51 (0.45)	-.403	.692
Total	69.88 (10.37)	70.25 (12.5)	-.378	.710
Hope Scale (HS)				
Agency	9.25 (2.21)	9.31 (2.02)	-.187	.855
Pathway	9.88 (3.12)	9.50 (2.25)	.706	.491
Total	19.13 (4.90)	18.81 (3.87)	.429	.674
MHMR				
Over' stuckness	8.63 (1.93)	8.75 (2.79)	-.207	.839
Self-empower'	9.50 (3.97)	10.69 (4.44)	-2.26	.039
Learn & redef'	8.94 (2.62)	10.38 (2.78)	-3.36	.004
Basic function'	6.56 (3.20)	7.38 (3.16)	-1.24	.233
Well being	5.75 (3.47)	6.56 (2.63)	-1.42	.176
New potential	7.63 (1.82)	9.50 (1.90)	-3.96	.001
Spirituality	1.19 (1.47)	1.06 (1.29)	1.00	.333
Adv' & enrich'	7.75 (2.52)	8.00 (2.53)	-.605	.554
Total	55.94 (13.12)	62.31 (13.69)	-2.54	.023

APPENDIX Y

Power Analyses

Power calculations were carried out using G-power for the *One-Factor, Within Subjects, ANOVA* design. For each calculation, two assumptions had to be made. The first concerning the predicted ANOVA effect size and the second concerning the correlation between the conditions. For all calculations, a medium ANOVA effect size (=0.25) was assumed. The power calculations assuming various values of correlation between conditions within each test are seen in table 8 below.

Table 8: Power calculations for One-Factor, Within Subjects, ANOVA (Four Conditions)

Correlation between conditions	*Number of clients*	*POWER*
0.4	15	55%
0.4	16	59%
0.4	17	62%
0.4	18	65%
0.6	15	75%
0.6	16	78%
0.6	17	81%
0.6	18	84%
0.7	15	88%
0.7	16	90%
0.7	17	92%
0.7	18	94%

Note: Values assume a medium ANOVA effect size (=0.25)

Assuming correlations of at least 0.6, Table 8 revealed that at least 16 participants were required for the study to have a power of around 80 percent or over. During the planning of this research, it was predicted that this would be sufficiently powerful for carrying out the statistical analysis of the data generated by the study.