



**SCHOOL OF PSYCHOLOGY**  
**DOCTORATE IN CLINICAL AND COMMUNITY PSYCHOLOGY**  
**MAJOR RESEARCH PROJECT**

<b>Title</b>	Therapist competence, case conceptualisation and therapy outcome in cognitive behavioural therapy.
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## Abstract

Clients rarely present with prototypical presentations for which an “off the shelf” cognitive-behavioural therapy (CBT) approach can be used, and the most frequently cited rationale for case conceptualisation is matching clients’ unique presentations and therapy goals with available theory and research. In this, it is argued that case conceptualisation guides therapy by ensuring that individual cognitive and behavioural processes are targeted, thereby maximising therapy efficacy. Therefore, therapists who are competent in case conceptualisation should achieve better outcomes. However, little is known about the relationship between competency in case conceptualisation and general CBT competence, or how competency in case conceptualisation is linked to therapy outcome. Forty audiotapes selected from an ongoing study (CoBaIT: Cognitive Behavioural Therapy as an adjunct to Pharmacotherapy for Treatment Resistant Depression in Primary Care: a randomised controlled trial) were rated for competency in case conceptualisation and competence in CBT using the Collaborative Case Conceptualisation – Rating Scale (CCC-RS) and Cognitive Therapy Scale – Revised (CTS-R) respectively. The assessment of competence was carried out by independent groups of researchers with expertise in these assessments, blind to treatment outcome. Therapy outcome was measured using The Beck Depression Inventory II (BDI-II). The results showed that 1) competence in case conceptualisation shared a strong and positive relationship with general CBT competence and, 2) that competence (in case conceptualisation and general CBT competence) was associated with better treatment outcome for depression. The results highlight competence in case conceptualisation as an important facet of therapist CBT competence, and indicate that investing in the training and selection of therapists competent in case conceptualisation as well as CBT competence has the potential to enhance treatment outcomes.

## Introduction

The construct of therapist competence is seen as centrally important in the interpretation of data from clinical trials as it allows researchers to disentangle therapy from therapist effects and reduces the misattribution of therapy effects that are actually due to therapist variables (Barber, Sharpless, Klostermann & McCarthy, 2007; Strunk, Brotman, DeRubeis & Hollon, 2010). It is also important in the dissemination of treatment from research settings (Roth & Pilling, 2007) where therapist variables are controlled (e.g. extensive and high quality training and supervision) to routine clinical settings where these controls are not as readily achievable. Understanding therapist competence also has important implications for the training and supervision of therapists to ensure the competent delivery of evidence-based therapies. Therapist competence can be defined as “the skilfulness of the therapist in providing a therapeutic milieu, in conceptualising the patient’s distress and problems within a specific framework, and in applying recognised techniques or methods consistent with the goals of treatment” (Shaw et al., 1999). The literature investigating therapist competence has shown support for the basic premise that more competent therapists do have better outcomes (Trepka, Rees, Shapiro, Hardy & Barkham, 2004; Brosan, Reynolds & Moore, 2006; Kuyken & Tsivrikos, 2009), however, the nature and extent of this relationship remains largely unclear.

One dimension of therapist competence that has been largely overlooked is that of competence in case conceptualisation. Despite being referred to as a principle underpinning cognitive therapy (Beck, 1995) and held as the heart of evidence-based practice (Bieling & Kuyken, 2009), little is known about its relationship to therapist competence and its impact on therapy outcome. This paper seeks to address this gap in the literature by investigating the relationship between case conceptualisation and therapist competence, and by investigating its relationship with, and impact on, therapy outcome.

## **The Therapist's Impact on Outcome in CBT**

The importance of investigating therapist variables is acknowledged in the literature, and the assessment of treatment fidelity is now a standard feature in the methodology of treatment outcome research. The impetus for this has come from the research of Crits-Cristoph & Mintz (1991) who assessed the design of studies investigating the effectiveness of psychotherapy over a 10-year period and found that many researchers were ignoring therapist effects and, as a result, were misattributing to treatment those effects that are actually due to therapists. In this study, the authors found therapist effects to account for an average of 8% of the variance in outcome. In a further study, a meta-analysis of 15 psychotherapy outcome studies, Crits-Cristoph et al. (1991) found support for this, with therapist effects accounting for 9% of the variance in outcome. This highlighted the need for greater consideration of therapist effects in psychotherapy research and emphasised the link between therapist competence and outcome.

Similar results have been found in several recent large-scale studies (Elkin, Falconnier, Martinovich & Mahoney, 2006; Okiishi, Lambert, Nielsen & Benjamin, 2003; Okiishi et al., 2006; Wampold & Brown, 2005). In the case of the Okiishi et al. (2006), the authors examined the data of 5000 patients seen by 71 therapists and found strong evidence to support the notion that some therapists' clients have much better outcomes than others. Okiishi et al. also found that differences in outcome were not due to level of training, type of training, theoretical orientation or gender and, importantly, that differences in outcome were not due to therapists' caseload. This again highlighted the impact of therapist factors on outcome, and that a significant amount of the variance in outcome is at the level of the therapist. Okiishi et al. also illustrated how little was known regarding which therapist variables were impacting upon therapy outcome. In a study that drew on the literature suggesting that those with co-morbid depression tended to have poorer outcomes in therapy (e.g. Gelhart & King, 2001), Kuyken & Tsivrikos (2009) predicted that therapy outcome would be moderated by client co-

morbidity. However, the authors found that greater therapist competence predicted outcome regardless of co-morbidity in addition to finding that a significant amount of the variance in outcome was attributable to therapist competence. That is to say, some therapists achieved better outcomes regardless of patient characteristics such as co-morbidity.

Several studies have investigated the construct of therapist competence, seeking to better understand the relationship between therapist characteristics (such as therapeutic alliance, level of training, type of training and theoretical orientation) and competence, and the impact of these characteristics on outcome. Although findings have been variable<sup>1</sup>, these studies have found additional support for the argument that therapist competence is associated with therapy outcome in addition to finding that more experienced therapists tend to be more competent, and that competence is a construct that varies over time (Brosan et al., 2006; James, Blackburn, Milne & Reichfelt, 2001; McManus, Westbrook, Vazquez-Montes, Fennell & Kennerley, 2010; Shaw et al., 1999; Simons et al., 2010; Trepka et al., 2004). These studies also highlight the Cognitive Therapy Scale (CTS; Young & Beck, 1980, 1988) and Cognitive Therapy Scale – Revised (CTS-R, Blackburn et al., 2000) as the most widely used tools in the measurement of therapist competence in CBT. Many using the CTS, or adaptations of it<sup>2</sup>, adopt a ‘cut-off’ score of 40 (a score identified by Young & Beck; cited in Shaw, 1984) to demonstrate acceptable competence as measured by the CTS. Interestingly, when allowed to vary, authors (e.g. Brosan et al., 2006) have found that many therapists reporting to carry out CBT will fall below this cut-off score.

In summary, the literature reviewed above has sought to understand the relationship between therapist competence and outcome alongside investigating specific dimensions of competence. The findings carry three important clinical implications: firstly, therapist effects

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<sup>1</sup> For further detail of those studies investigating specific dimensions of therapist competence and their impact on outcome, please see Appendix 1.0.

<sup>2</sup> The CTS has undergone several revisions in its development (for a review see Kazantzis, 2003). One a major revision relevant to this paper is that of the Cognitive Therapy Scale – Revised (CTS-R, Blackburn et al., 2000). For a detailed review of the CTS and CTS-R please see Appendix 1.1.

account for a significant amount of the variance in outcome; secondly, ignoring therapist effects increases the risk of concluding that treatment is effective when it is not and, lastly, that little is known regarding which therapist variables are impacting upon therapy outcome (e.g. Okiishi et al, 2003). How does one make sense of this?

### **Case Conceptualisation, Competence and Outcome**

One answer may lie in revisiting Shaw's definition of therapist competence i.e. competence is "the skillfulness of the therapist in providing a therapeutic milieu, in conceptualising the patient's distress and problems within a specific framework, and in applying recognized techniques or methods consistent with the goals of treatment" (Shaw et al., 1999; p.838). Shaw's definition highlights therapist competence as a broad and multi-dimensional construct that includes case conceptualisation as a key dimension. Therapist competence in case conceptualisation is a promising focus because several commentators argue that the primary purpose of case conceptualisation is to enhance therapy outcomes (Persons, 2005; Kuyken et al., 2009; Emmelkamp, Bouman, & Blaauw, 1994). Skilful conceptualisation forms the basis for other dimensions of therapist competence such as focusing on key cognitions and change, formulating a strategy for change, application of CBT techniques and setting homework (Young & Beck, 1980; Beck, 1995). As case conceptualisation is seen as a core psychotherapy skill (Eells, 1997) and held as "the heart of evidence-based practice" (Bieling & Kuyken, 2003; p. 53) we need to ask two key questions. First, what is the relationship between competency in case conceptualisation and general CBT competence? Second, as competence has been shown to be related to outcome, how is competency in case conceptualisation linked to therapy outcome?

Case conceptualisation allows therapists to synthesise relevant theory and research with specific client experiences. In this, therapists can normalise client problems using constructive language, aid engagement, make complex problems seem more manageable and develop a

platform from which effective interventions can be undertaken and reviewed (Kuyken, Padesky & Dudley, 2009). Relevant studies have found that expert therapists demonstrate an overall superiority of case conceptualisation compared to novice and experienced therapists (Eells & Lombart, 2003; Eells, Lombart, Kendjelic, Turner, & Lucas, 2005; Kuyken, Fothergill, Musa & Chadwick, 2005). However, the nature of the relationship between case conceptualisation and CBT competence remains largely unknown.

There is a paucity of research investigating the link between case conceptualisation and outcome. Some relevant information can be found in the behavioural literature; in the 1990's behavioral psychologists hypothesised that therapy informed by an individualized functional analysis (case conceptualization) would enhance treatment outcomes (Haynes & Williams, 2003). Across several studies either no or only partial evidence was found in support of this hypothesis (Schulte, Kunzel, Pepping, & Shulte-Bahrenberg, 1992; Emmelkamp et al., 1994; Jacobson et al., 1989). Post hoc explanations converged on the explanation that when therapists were allowed to individualize therapy, they did not necessarily target the key behavioral mechanisms or select the most potent interventions (Eifert, Schulte, Zvolensky, Lejuez, & Lau, 1997; Schulte et al., 1992; Schulte & Eifert, 2002).

No comparable CBT studies using an experimental design exist. However, in two linked studies describing a single case series of clients with psychosis, case conceptualization had no significant impact on strength of delusions or negative self-evaluations and clients reported a complex and mixed reaction to case conceptualization, including positive (e.g., increased hopefulness) and negative (e.g., difficult to process, worry) reactions (Chadwick, Williams, & Mackenzie, 2003; Pain, Chadwick, & Abba, 2008). However, the case conceptualization was presented as a diagram in a small number of sessions, the sample was restricted to patients with psychosis and research interviews with patients suggested that when conceptualization

are developed in this way patients can experience it as overwhelming and upsetting (Pain, Chadwick, & Abba, 2008; Evans & Parry, 1996).

Despite the paucity of research investigating the link between case conceptualisation and therapy outcome the literature does highlight the challenges faced when investigating the area of case conceptualisation. As with outcome<sup>3</sup> and competence, case conceptualisation is a construct that can be difficult to measure. Kuyken, et al. (2009) propose an approach to case conceptualization intended to enhance therapists' effectiveness. They propose that conceptualization is most likely to be acceptable to clients and contribute to effective therapy outcomes if it is dynamically and collaboratively co-created by the client and therapist, evolving over the course of therapy. They further argue that case conceptualization should focus not only on clients' presenting problems but also include clients' strengths and resilience. Based on this model, they developed a measure for rating therapists' competence in case conceptualization, the Collaborative Case Conceptualization Rating Scale (CCC-RS; Padesky, Kuyken, & Dudley, 2011).

### **Purpose**

In summary, therapist competence is a broad and multi-dimensional construct that includes case conceptualisation as a key dimension. However, despite this, two key questions remain unanswered in the literature. Firstly, what is the relationship between competency in case conceptualisation and therapist competence? Secondly, how is competency in case conceptualisation linked to therapy outcome?

To address this gap in the literature, the primary focus of the present study was to investigate the relationship between therapist competence in CBT and competency in case conceptualisation. It was expected that general CBT competence would share a significant and positive relationship with competence in case conceptualisation. The secondary focus of

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<sup>3</sup> For further information on the operationalisation of outcome, please see Appendix 1.2.



the present study was to investigate the relationship between therapist competence and therapy outcome. It was expected that higher levels of therapist competence (in terms of CBT competence and competence in case conceptualisation) would be associated with better client treatment outcome. Although the literature has failed to answer the questions highlighted above, it has highlighted that symptom change and therapist competence is something that changes over time. As such, it was felt important to utilise therapy data spanning the entire course of therapy in order to best assess therapist competence in case conceptualisation and CBT.

### **Method**

This study is embedded in a larger study; a three site (Universities of Bristol, Glasgow and Exeter) randomised control trial investigating the effectiveness of CBT for treatment resistant depression in addition to usual care compared with usual care alone at 6 and 12 month follow-up (CoBaIT: Cognitive Behavioural Therapy as an adjunct to Pharmacotherapy for Treatment Resistant Depression in Primary Care: a randomised controlled trial). A brief overview of the CoBaIT study is necessary to contextualise this study.

#### **CoBaIT Overview**

**Participants**<sup>4</sup>. Participants enrolled in the CoBaIT study met criteria for current major depression based on assessment using the Clinical Interview Schedule – Revised (CIS-R; Lewis, Pelosi, Araya & Dunn, 1992) and a score of 14 or more on the Beck Depression Inventory II (BDI-II; Beck, Steer & Brown, 1996) despite being on a therapeutic dose of antidepressant medication for at least six weeks prior to enrollment. Adequate dose was defined in line with guidance in the British National Formulary (2006). Following searches of GP practice databases, GPs excluded people who were diagnosable with bipolar disorder, psychosis or alcohol/substance abuse/dependence. Those who were not able to complete study

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<sup>4</sup> For ease and consistency, the term *participant* will be used to describe those entered into the treatment condition of the CoBaIT study, from which the audio-taped sessions are taken. The term *therapist* will be used to describe those working for the CoBaIT study as paid therapists.

questionnaires; were currently receiving CBT, psychotherapy or secondary care for depression; had received CBT in the past 3 years; or who would not be able to benefit from a talking therapy without an interpreter were also excluded from participation.

Participants enrolled in the CoBaIT study were randomised to 1) usual care, typically ongoing pharmacological treatment and clinical management, or 2) CBT in addition to usual care. Randomisation was completed by means of a computer-generated code, and stratified by centre; whether the referring GP practice had a counsellor; prior treatment with antidepressants (yes/no), and duration of current episode of depression (<1 year, 1-2 years,  $\geq$  2 years). Of the 470 participants randomised in the CoBaIT study, 234 were assigned to the CBT condition.

**Treatment.** Participants randomised to the treatment condition received a course of 12 CBT sessions, with (up to) a further 6 sessions available if deemed clinically appropriate by the therapist and participant (i.e. a minimum of 12 sessions, and a maximum of 18 sessions). Typically, later sessions were spaced further apart to enable participants to practice skills learned in therapy. Each session lasted approximately 50 minutes. All therapists followed procedures outlined in seminal cognitive therapy manuals designed for the treatment of depression (Beck, Rush, Shaw & Emery, 1979; Beck, 1995) and treatment resistant depression (Moore & Garland, 2003). All therapy sessions were recorded on digital recorders for which specific patient consent was given.

**Therapists.** Eleven therapists (10 female) served as therapists in the CoBaIT trial. Therapist age ranged from 27 to 58, with an average age of 39.2 ( $SD=8.1$ ). Of the eleven, four had a mental health nursing background, six were clinical psychologists and one had a vocational/academic background (MSc in psychological therapies). Experience as CBT therapists ranged from 0 years (newly qualified) to 30 years ( $M=9.7$ ;  $SD=8.1$ ). Ten were

accredited by the British Association for Behavioural and Cognitive Psychotherapies (BABCP), or eligible for accreditation.

The CoBaIT study obtained multi-centre research ethics approval in February 2008 in addition to receiving approval from local research governance (see Appendix 2.0). All participants gave written and informed consent prior to entering in the CoBaIT study.

### **The Present Study**

This process-outcome study embedded within the CoBaIT trial conceptualised competence in CBT and competence in case conceptualisation as the process variables and change in depressive symptoms as the outcome. The assessment of competence in CBT and conceptualisation was carried out by independent groups of researchers with expertise in these assessments, blind to treatment outcome.

**Audiotape selection.** Of the participants in the CoBaIT study, only those who 1) had attended at least 12 CBT sessions, 2) had given consent for his/her therapy data (i.e. BDI-II scores and audio-recordings of sessions) to be used for both research and teaching purposes and 3) had both audio recordings and session-by-session BDI-II scores available for every session were considered for selection into the present study<sup>5</sup>. These criteria were set to ensure data included in the present study was as complete as possible (i.e. participants had received an ‘adequate dose’ of CBT) in addition to remaining in-line with the conditions set out in the CoBaIT ethical approval.

From participants meeting the criteria a random selection of sessions was selected whilst controlling for an equal number of sessions across therapist and therapy. With regards to therapist, the data from all eleven CoBaIT therapists was selected in order to maximise the variance at the level at the therapist. However, given the three selection criteria highlighted

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<sup>5</sup> It is of note that the data from one participant (i.e. one pair of recordings from one participant) previously removed from the list of potential cases (due to missing audiotapes for two sessions) was selected due to a labelling error (therapist/participant label that did not match that on the voice recording). This pair was allowed to remain in the final dataset as all BDI-II scores were available for analysis, and as the data did not violate other selection criteria.

above, the participant data from two therapists were excluded due to incomplete data sets<sup>6</sup>. Of the nine remaining therapists, the average age was 37 years ( $SD=5.6$ ; range 27-44) and eight were female. Experience as CBT therapists ranged from 0 years (newly qualified) to 14 years ( $M=7.4$ ;  $SD=4.9$ ). Eight were accredited by the BABCP, or eligible for accreditation. With regards to course of therapy, one audio-taped session was taken from the beginning to mid-point of therapy (sessions 2-6) and one from the mid-point to end of therapy (sessions 7-12/17). The course of treatment was split in this way as, clinically, it represented a split between the early setting up of treatment and further progression / relapse prevention treatment. Splitting the sessions in this way also allowed a broad range of treatment (and therefore case conceptualisation) to be analysed. The first and last sessions were omitted as clinical activity in these sessions tends to be quite specific (assessment and review), and therefore would not typically provide a demonstration of competency in case conceptualisation or other dimensions of CBT competency. Selection was limited to 40 audio-taped sessions as this represented the maximum number that could be rated due to the financial costs of paying experienced therapists (independent of the CoBaIT study) to rate the audio-tapes.

Of the 40 audio-taped sessions included in the final selection, 16 sessions were taken from 4 therapists based in Bristol, 16 sessions were taken from 3 therapists based in Exeter, and 8 sessions were taken from 2 therapists based in Glasgow. Table 1 provides demographic characteristics for participants selected for inclusion in the present study in comparison to those in the CoBaIT CBT condition. As can be seen the sub-sample is broadly comparable to the larger sample receiving CBT within the CoBaIT trial.

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<sup>6</sup> Of the two therapists excluded, one therapist had missing BDI-II scores and audio-recordings for each participant seen and the other had not completed a minimum of 12 sessions with any participants due to being a new employee of the CoBaIT trial.

Table 1: Baseline Demographic and Psychiatric Characteristics of Participants in the CoBalT CBT Condition Compared to the Present Study.

Characteristic	Category	CoBalT CBT condition	Present Study
Age	Mean age [yrs(sd)]	49.1 (12)	49.9 (10.5)
Gender (%)	Male	31	40
	Female	69	60
Ethnicity (%)	White	98	100
Marital status (%)	Married/Living as	49	50
	Single/widowed	24	30
	Divorced/separated	26	20
Qualifications (%)	None	24	20
	GCSEs/A-Level	46	45
	Higher Diploma/Degree	29	35

## Measures

**Depression.** The Beck Depression Inventory II (BDI-II; Beck, Steer & Brown, 1996) is a 21-item self-report measure of depressive symptoms. The BDI-II was used to assess treatment-outcome from baseline to the end of therapy, and across each therapy session. Participants completed the BDI-II at the intake interview and just before each therapy session. Higher scores represent greater depression severity (range 0-63), and minimal (0-13), mild (14-19), moderate (20-28) and severe (29-63) symptom severity ranges have been specified. The BDI-II is used extensively in clinical trials of CBT. It has been shown to be reliable, valid and sensitive to change (Beck et al., 1996).

**Therapist competence.** Two measures of therapist competence were used; the first as a measure of overall competency in cognitive therapy, the Cognitive Therapy Scale – Revised (CTS-R), and the second as a measure of competency in case conceptualisation, the Collaborative Case Conceptualisation – Rating Scale (CCC-RS).

The CTS-R (Blackburn et al., 2000) is a 12-item observer-rater scale that is widely used in the measurement of therapist competence in cognitive therapy. The CTS-R was completed for each of the 40 audio-taped sessions. Items are rated on a 0 to 6 scale to give a total score,

with higher scores indicating higher levels of competence (range 0-72). A score of 40 and above (a score identified by Young & Beck; cited in Shaw, 1984) is considered to demonstrate acceptable competence. The CTS-R builds upon the original CTS (Young & Beck, 1980, 1988) and has demonstrated adequate reliability, high internal consistency, is sensitive to change and can detect varying levels of skill in therapists (Blackburn et al., 2001; McManus et al., 2010). Please see Appendix 3.0 for a copy of the CTS-R.

The CCC-RS (Padesky, Kuyken & Dudley, 2010) is a 14-item observer-rater scale which operationalises the model of case conceptualisation set out by Kuyken, Padesky and Dudley in their book *Collaborative Case Conceptualization* (2009). The CCC-RS was completed for each of the 40 audio-taped sessions in order to rate therapists' competence in each of the four domains of case conceptualisation: conceptualisations at the level appropriate to the client and stage of therapy, collaboration, empiricism, and strengths / resilience focus. Four items operationalise the first domain, Levels of Conceptualisation (range 0-12); three items operationalise the second domain, Collaboration (range 0-9); three items operationalise the third domain, Empiricism (range 0-9); and four items operationalise the fourth domain, Strengths and Resilience Focus (range 0-12). As such, the CCC-RS can be used to deliver an overall score (range 0-42; 0-13 representing incompetence, 14-27 representing novice and 28-42 representing competence to proficiency/expert) as well as individual sub-scale scores for each of the four domains. Each item is rated on a 0 to 3 scale (0 representing incompetence, 1 representing novice level, 2 representing competence and 3 representing expertise / proficiency). Raters are also asked to rate the overall (or global) competence with which each therapist used collaborative case conceptualisation using the same 0-3 scale.

The CCC-RS utilises a well validated approach to measuring competence based on prior research in case conceptualisation (e.g. the Conceptualization Rating Scale, Easden & Kazantzis, 2007; the Case Formulation Content Coding Method, Eells, Kendjelic & Lucas,

1998; the Quality of CBT Case Conceptualization Scale, Kuyken, Fothergill, Musa & Chadwick, 2005). In addition, the CCC-RS also underwent additional development prior to its use in the current study. This included i) incorporating input from experienced CBT practitioners with expertise in case conceptualisation on an early draft of the scale; ii) evaluation of face validity and usability of the proposed approach using sample session recordings, and iii) the establishment of reliability through further sample session recordings. With regards to the latter, sample sessions were rated independently with discrepancies in individual scores discussed and fed back to the scale descriptors so that the clarity of the CCC-RS manual could be enhanced. For further information on the domains, items and development of the CCC-RS, see Appendix 3.1.

### **Inter-rater Reliability**

**The CTS-R.** All raters (FM, JR & HK) were employees at The Oxford Cognitive Therapy Centre (OCTC) with extensive expertise in cognitive therapy and use of the CTS-R. Rater FM was a Consultant Clinical Psychologist and director of the University of Oxford's Diploma in Cognitive Therapy. FM had over 15 years experience of CBT practice and was a BABCP accredited therapist. Rater JR was a Clinical Nurse Specialist with 18 years experience of CBT and an accredited BABCP therapist. Rater HK was a Consultant Clinical Psychologist, co-founder of the OCTC and director of its course in Advanced Cognitive Therapy Studies. HK had over 25 years experience of CBT practice and was a BABCP accredited therapist, supervisor and trainer. The OCTC is an international centre of excellence in CBT training with established in-house inter-rater reliability checks using the CTS (see Mcmanus et al., 2010). The OCTC is in the process of moving to use of the CTS-R; although there are slight differences in content between the CTS and CTS-R, using both involves the same conceptual task i.e. rating of CBT using a structured 0-6 scale. As such, inter-rater

reliability is unlikely to be affected (F. McManus, personal communication, January 29, 2011).

**The CCC-RS.** Inter-rater reliability for the CCC-RS was established using a number of measures. Firstly, the first author (PG) attended a series of telephone meetings with the authors of the CCC-RS during its development. Secondly, the first author undertook 40 hours of training with Professor Willem Kuyken, author of the case conceptualisation model and scale, to ensure consistent rating was achieved. Inter-rater reliability for the CCC-RS was assessed in line with Brosan et al. (2006); six tapes, coded independently by WK and PG, were compared using interclass correlations.

### **Procedure**

Each audio-taped therapy session was rated by two teams. First, experienced CBT therapists (FM, JR and HK) at the Oxford Cognitive Therapy Centre (OCTC) rated all sessions for competence in CBT using the CTS-R. Second, the first author (PG) rated all sessions for competence in case conceptualisation using the CCC-RS. Both teams of raters were blind to therapy outcome and rated sessions blind to ratings completed by the other raters.

The present study used participant data in line with ethical approval already obtained by the CoBalT study. However, to further ensure the safeguard of participant data additional ethical approval was gained from the School of Psychology Ethics Committee, University of Exeter, in October 2010 (please see Appendix 2.1). All participant data was stored without subject name and address and kept strictly confidential. At no point did the first author know any participant identifiable information. Similarly, therapist confidentiality and anonymity was protected as far as possible in the analysis and absolutely in the write-up. In addition, all data was held on a password protected computer with access restricted to the first author and Professor Willem Kuyken.



## Results

Data were analysed using SPSS 16.0 for Mac OS X. Due to the method of data collection no data were missing and, therefore, all data from each of the 40 sessions were included in the analyses.

In order to answer research question 1, namely that therapist competence in CBT will share a significant and positive relationship with case conceptualisation competence, one-tailed Pearson's correlations were computed to investigate relationships between therapist competence in CBT and competency in case conceptualisation. To answer research question 2, namely that higher levels of therapist competence would be associated with better client outcome, a two-stage analysis was used. In the first, one-tailed Pearson's correlation coefficients were used to investigate the relationships between baseline to treatment-end change in BDI-II score and therapist competence. In the second stage, significant relationships were analysed further using partial correlation.

As the predictions being made in the present study were at the level of the therapist, correlations were based on BDI-II, CTS-R and CCC-RS scores aggregated across therapist. This allowed individual participant data to be used as multiple observations of therapist competence, thus, providing the most accurate reflection of therapist competence by accounting for the random variability (common in all data) not due to the therapist (e.g. individual treatability and / or individual interactions between therapist and participant). Aggregating scores across therapist also enabled one row of data to be analysed for each therapist and, therefore, conservative analysis of the data to be undertaken. This, therefore, also reduced the risk of erroneously inflating the power of the data (due to SPSS considering each row of data as a separate subject rather than a subset of a particular subject) and Type I error.

As client presentations varied from mild to severe depression at intake of treatment, change in BDI-II score (the difference between baseline and treatment end BDI-II scores) were used as this provided a more accurate measure of participant improvement compared to using end of treatment BDI-II score. No significant relationship was found between time (i.e. the number of sessions received by each participant) and change in BDI-II score from baseline to treatment end ( $r = -.177, p = 0.324$ ), thus ruling out time as a potential confounding variable of any significant relationships between CTS-R, CCC-RS and outcome.

### **Preliminary Analysis**

**Consistency and reliability.** The CTS-R showed high internal consistency: Cronbach's  $\alpha$  for the CTS-R was .97. Similarly, the CCC-RS also showed high reliability for the overall scale (Cronbach's  $\alpha = .94$ ) and each of the sub-scales; Cronbach's  $\alpha$  for the levels of conceptualisation, collaboration, empiricism and strengths / resilience focus subscales were .92, .89, .86, and .88 respectively. The CCC-RS also showed good construct validity, with the CCC-RS total score correlating significantly with 'conceptual integration' (Item 10) in the CTS-R ( $r = .44, p = 0.002$ ) and the CCC-RS collaboration sub-scale correlating significantly with 'collaboration' (Item 3) in the CTS-R ( $r = .44, p = 0.002$ ).

To establish the inter-rater reliability of the CCC-RS, intra-class correlations (ICC) were calculated for six tapes coded independently by the first author (PG) who conducted study ratings and WK, one of the authors of the CCC-RS. This was .82 and falls in the substantial range of agreement (0.81 – 1.0; Shrout, 1998). The reliability of the CCC-RS subscales all fell in the substantial agreement range, and were as follows: levels of conceptualisation ICC = .91,  $p = 0.01$ ; collaboration ICC = .91,  $p = 0.01$ ; empiricism ICC = .93,  $p = 0.006$ ; strengths and resilience Focus ICC = .92  $p = .009$ . Reliability of the global subscale also fell in the substantial range (ICC = .95,  $p = 0.003$ ). This demonstrates that after a substantial period of training, high levels of inter-rater agreement can be established on the CCC-RS.

**Characteristics of the predictor and outcome variables.** Means, standard deviations and sample sizes for each predictor (CTS-R and CCC-RS) and outcome variable (BDI-II) for the 40 audio-taped sessions are provided in Table 2. The overall average CTS-R score obtained by therapists ( $M = 42.83$ ,  $SD = 9.62$ ) fell above the cut-off or ‘redline’ value of 40 (noted earlier) used by many in the field to define competence when using the CTS<sup>7</sup>. Average CTS-R scores at first rated audio-tape (i.e. beginning-to-middle sessions) and second rated audiotape (i.e. middle-to-end sessions) also fell above the cut-off value. However, as demonstrated by the CTS-R standard deviation score, there was variation in the mean statistic among therapists with scores on the CTS-R ranging from 18 to 57.5. This variation corresponds to 16 of the 40 audiotapes (40%) rated by expert therapists for competence in CBT falling below the ‘red line’ value of 40, which occurred between and within participants seen by therapists. This finding is similar to that found in the literature (e.g. Trepka, 2004) and suggests a sufficient range of measured therapist competence to enable a meaningful test of its relationship with treatment outcome. Scores on the CCC-RS for individual audio-tapes ranged from 4 to 31 and, as with the CTS-R, suggests a sufficient range of competence in case conceptualisation to test its relation to treatment outcome. Overall score on the CCC-RS ( $M = 18.90$ ,  $SD = 7.84$ ) corresponds to an average item score of 1.4, or between the ‘beginner/novice’ and ‘competent’ level. Average scores within the levels of conceptualisation, collaboration, empiricism and strengths / resilience focus subscales indicate that therapists tended to focus session activity on client problems, vulnerabilities and history of adversity rather than working to identify client strengths in an effort to alleviate client distress and build client resilience during conceptualisation. This was also reflected in individual item scores; over the 40 sessions rated, none of the therapists received an ‘expert’

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<sup>7</sup> It is of note that this cut-off score of 40, although based on evaluation of the 11-item version of the CTS, has been adopted in studies using 12 and 13-item versions of the CTS (e.g. Brosan et al, 2006; Trepka et al., 2004, McManus et al., 2010). As is the case with such studies, its use in the present study corresponds to a slightly more lenient standard of competence compared to those using the 11 item CTS.

rating of 3 on any of the items in the strengths / resilience subscale. Similarly, descriptive statistics of the data also revealed that, over the 40 sessions rated, none of the therapists achieved a score of 3 on Item 8 ('the conceptualisation reflects the most appropriate evidence-based theories') or Item 6 ('relevant cultural aspects of client's experience are incorporated and/or conceptualisations use client's language, metaphor, and images'). With regards to Item 8, therapists tended to use and individualise generic models of CBT (e.g. the five-part model; Padesky & Mooney, 1990) in conceptualisation rather than explicitly use specific, evidence-based models that can receive a score of 3 on this item. With regards to Item 6, therapists tended to use client language effectively, but fall short of using culture as something of central importance to the conceptualisation which can obtain an expert rating of 3. Clients' presentations at intake ranged from 16-42 and spanned the full range of severity, from mild depression through to severe depression as measured by the BDI-II. Mean ( $M = 29.20$ ,  $SD = 7.22$ ) and median ( $Mdn = 30$ ) values fell just within the severe range at intake. Client presentations at end of treatment ranged from 0-36, with the mean ( $M = 12.45$ ,  $SD = 10.26$ ) falling just within the minimal range and median ( $Mdn = 9$ ) also falling in the minimal range.

Table 2: Descriptive Statistics for Predictor and Outcome Variables

	Variable	<i>M</i>	<i>SD</i>	<i>N</i>
CTS-R	Overall <sup>a</sup>	42.83	9.62	40
	At first rated session <sup>b</sup>	44.68	9.26	20
	At second rated session <sup>c</sup>	40.98	9.86	20
CCC-RS	Overall <sup>a</sup>	18.90	7.84	40
	Levels of Conceptualisation	7.25	2.98	40
	Collaboration	4.78	2.11	40
	Empiricism	4.38	1.82	40
	Strengths / Resilience Focus	2.47	2.31	40
	At first rated session <sup>b</sup>	19.05	7.80	20
	At second rated session <sup>c</sup>	18.75	8.09	20
BDI-II	Intake <sup>d</sup>	29.20	7.22	20
	End of therapy <sup>e</sup>	12.45	10.26	20

<sup>a</sup>Overall CTS-R or CCC-RS score over the 40 audio-taped sessions.

<sup>b</sup>CTS-R or CCC-RS score from audio-tapes rated at the beginning to mid-point of therapy (sessions 2-6).

<sup>c</sup>CTS-R or CCC-RS score from audio-tapes rated at the mid-point to end of therapy (sessions 7-12/17).

<sup>d</sup>Participant BDI-II score at beginning of therapy.

<sup>e</sup>Participant BDI-II score at end of therapy.

### **Hypothesis 1: The Relationship between Therapist Competence in CBT and Therapist Competence in Case Conceptualisation**

Table 3 shows the one-tailed Pearson's product correlations used to test the relationships between the CTS-R, CCC-RS and CCC-RS subscales. As predicted, there was a significant and positive relationship between therapists' overall CBT competence and overall competence in case conceptualisation. Significant and positive correlations were also found between the level of conceptualisation used by therapists during therapy and CBT competence; collaboration in conceptualisation and CBT competence; empiricism in conceptualisation and CBT competence; and between the therapists' focus on client's strengths/resilience and CBT competence. Overall (or global) CCC-RS competence, the extent to which therapists used collaborative case conceptualisation, also correlated significantly with CBT competence.

Table 3: Intercorrelations between CTS-R total scores, CCC-RS total scores, and CCC-RS sub-scale scores

	BDI-II Baseline to treatment end change <sup>a</sup>	CTS-R	CCC-RS Total score	CCC-RS Levels of Conceptualisation	CCC-RS Collaboration	CCC-RS Empiricism	CCC-RS Strengths / Resilience Focus	CCC-RS Global score
BDI-II Baseline to treatment end change <sup>a</sup>								
CTS-R Total score	.81**							
CCC-RS Total score	.72*	.83**						
CCC-RS Levels of Conceptualisation	.61*	.69*	.98**					
CCC-RS Collaboration	.62*	.82**	.85**	.78**				
CCC-RS Empiricism	.61*	.66*	.96**	.98**	.76**			
CCC-RS Strengths / Resilience Focus	.77**	.82**	.76**	.68*	.46	.64*		
CCC-RS Global score	.62*	.82**	.97**	.95**	.86**	.92**	.72*	

Note. N=9 in all analyses.

<sup>a</sup>Difference between baseline and treatment end BDI-II scores.

\*Correlation is significant at the 0.05 level, \*\*Correlation is significant at the 0.01 level.

## **Hypothesis 2: Therapist Competence and Treatment Outcome**

Table 3 shows the one-tailed Pearson's product correlations used to test the relationships between change in BDI-II, the CTS-R and CCC-RS. As predicted, there were significant and positive relationships between baseline to treatment end change in BDI-II score and CBT competence as well as competence in case conceptualisation. Significant correlations were also found between CCC-RS subscales (levels of conceptualisation, collaboration, empiricism, strengths / resilience focus) and baseline to treatment-end change in BDI-II score. This suggests that higher levels of competence in terms of CBT competence and case conceptualisation competence were associated with better client outcomes.

To investigate this further, first-order partial correlations were calculated for competence in case conceptualisation (the CCC-RS) and outcome (change in BDI-II score) whilst holding the effects of competence in CBT (the CTS-R) constant. When competence in CBT competence was not controlled, the competence in case conceptualisation shared 52.1% of the variation in outcome. This relationship diminished when controlling for the effects of CBT competence, with competence in case conceptualisation accounting for a non-significant ( $r = .16, p = 0.706$ ) 2.3% of the variance in outcome. That is, CCC-RS did not account for a significant amount of *unique* variance in therapy outcome. To explore this further, and investigate the relevant importance of the two process variables, a second partial correlation was calculated of competence in CBT (the CTS-R) and outcome (change in BDI-II score) whilst holding the effects of competence in case conceptualisation (the CCC-RS) constant. As with the CCC-RS in the first partial correlation, the CTS-R did not account for a significant amount of *unique* variance in therapy outcome ( $r = .53, p = 0.176$ ). That is, both variables shared a significant relationship with outcome but, when controlling for the effects of each variable, neither accounted for a significant amount of *unique* variance in therapy outcome.

## **Discussion**

This study investigated 1) the relationship between competence in case conceptualisation and general CBT competence and 2) the relationship between (CBT and case conceptualisation) competence and treatment outcome. The data suggest that competence in case conceptualisation shares a strong and positive relationship to general CBT competence. The data also suggest that competence in case conceptualisation was associated with better treatment outcome for depression. Consistent with previous research (e.g. Trepka et al., 2004), competence in CBT was also found to be associated with better treatment outcome for depression.

As the literature to date has demonstrated only weak relationships with various dimensions of therapist competence, the current study sought to better unpack the broad and multi-dimensional construct of therapist competence by examining competence in case conceptualisation as a key dimension of therapist competence. The findings of the present study highlights competence in case conceptualisation as an important facet of therapist CBT competence, and competence in case conceptualisation as noteworthy in definitions of therapist competence as defined by authors such as Shaw et al. (1999) i.e. competence is “the skilfulness of the therapist in providing a therapeutic milieu, in conceptualising the patient’s distress and problems within a specific framework, and in applying recognised techniques or methods consistent with the goals of treatment.” Competent CBT therapists were more likely to work with clients at the correct level of conceptualisation, linking presenting issues in a meaningful way that is pitched at a level that the client can understand. More competent CBT therapists were also better able to work collaboratively in developing case conceptualisations, utilising the client’s own expertise alongside their own in a way that uses client language and demonstrates a genuine interest in understanding experience from the client’s eyes. Similarly, more competent CBT therapists were better able to work empirically, using case conceptualisation as a way of matching client presentations with relevant CBT theory and



research. Interestingly however, empiricism shared the weakest relationship with CBT competence. This may reflect a tendency for therapists to use and individualise generic models of CBT in routine clinical practice rather than explicitly using evidence-based models. Alternatively, this finding may have been an artefact of the CoBaT study's focus on treatment for depression, where bio-psycho-social models (such as the five-part model; Padesky & Mooney, 1990) have an established evidence base (e.g. National Institute for Health and Clinical Excellence, 2010). If the focus of therapy had been the treatment of anxiety disorders, there may have been a greater number of specific evidence-based models observed. Further research is therefore needed to investigate this finding, and to better understand the types of case conceptualisation used by clinicians in routine practice and the potential impact this may have on treatment outcome. Lastly, the data suggests that competent CBT therapists were better able to move away from a purely problem-focussed approach to conceptualisation, incorporating client strengths in conceptualisations in a way which improves resilience. However, as noted by previous writers (e.g. Beck, 1993), the data indicates that therapists practicing CBT continue to focus on client problems and symptom reduction.

With regards to the relationship between therapist competence and outcome, the data adds further support to the literature suggesting that competence in CBT is associated with better outcome for depression (e.g. Trepka et al., 2004). In addition, the data also suggests that competence in conceptualisation is also associated with better treatment outcome. This adds weight to the literature arguing case conceptualisation to be principle underpinning cognitive therapy (Beck, 1995) and the "heart of evidence-based practice" (Bieling & Kuyken, 2009; p53). Interestingly, the strongest association between the principles of case conceptualisation and treatment outcome was that of incorporating client strengths into the conceptualisation. That is, despite none of the therapists in the current sample demonstrating proficiency in this

area, when used, incorporating and building upon client strengths in conceptualisations shared the strongest association with improved therapy outcome. Future research could investigate this further, using a larger sample to test therapists' use of client strengths as a specific aspect of therapist competence that may predict therapy outcome.

Although the data found that both measures of competence were associated with better treatment outcome, partial correlations found that neither accounted for a significant amount of *unique* variance in therapy outcome. This suggests that further research is needed. It is possible that the relatively small sample size resulted in the current study failing to detect the unique variance accounted for in each measure of therapist competence. Thus, a larger study may yield different results. Similarly, it may also have been the case that the generally high levels of CBT competence masked the 'additive value' of competence in case conceptualisation. That is, had there been more novice CBT therapists in the current sample who were competent in agenda setting, following structure and being collaborative in general (and therefore scoring well on the CTS-R) but less competent in case conceptualisation (and therefore scoring lower on the CCC-RS), the amount of unique variance accounted for by competence in case conceptualisation may have emerged as statistically significant. Further research is needed to clarify this. In addition, the data highlights the non-independence of the of the competence in case conceptualisation and competence in CBT and that further research and validation of the CTS-R and CCC-RS is also needed. For example, future research could utilise data reduction methods (i.e. factor analysis) to identify those items in the CTS-R and CCC-RS that are driven by the same underlying variable (or factor). This would enhance the CCC-RS and CTS-R's ability to measure discrete aspects of general CBT and case conceptualisation competence.

### **Clinical Implications**

Collaborative case conceptualization increases the likelihood that client and therapist agree on the presenting issues and goals, and share an understanding of what causes and maintains the presenting issues. It provides therapists with a guide for selecting, focussing and sequencing interventions. Incorporation of client strengths identifies pathways for change that rely on skills the client already possesses and can provide foundations on which to build client resilience.

This study suggests that investment in the training of therapist case conceptualization skills has the potential to further enhance treatment outcomes. In particular, the current findings highlight the importance of training therapists to use case conceptualization collaboratively, at a level well matched to the stage of therapy, in ways that synthesize relevant theory and research, and incorporate client strengths.

### **Limitations and Directions for Future Research**

The results of the present study should be viewed as preliminary due to the largely correlational design and limited sample size. Although effort was taken to rule out alternative explanations for the findings (e.g. number of sessions), it is possible that third, unidentified variables may account for the relationships found. Future research could replicate and extend the current study, and consider other therapist, client and process variables, necessarily with larger data sets of sessions nested within clients, nested within therapists.

Ratings of the CTS-R were also limited in terms of each audio-taped session being rated by only one of three potential raters. Ideally, a selection of the audiotapes rated using the CTS-R would have been re-rated using an expert therapist blind to the initial rating in order to test inter-rater reliability (as done with the CCC-RS). However, this went beyond the scope of this study. As such, despite established OCTC in-house inter-rater reliability (McManus et. al., 2010) it is possible that the individual ratings given by the OCTC may well have differed if additional ratings, by different raters, had been taken.

## **Conclusion**

This promising early study suggests that case conceptualization is an important facet of CBT therapist competence. Moreover, therapists who are more competent in case conceptualization also have better treatment outcomes. In general, there were better therapy outcomes when therapists developed conceptualizations collaboratively with clients, ensured conceptualization was empirically-based and constructed at a level appropriate to the client and stage of therapy, and incorporated client strengths. Of the four subscales, incorporation of client strengths was both the most highly correlated with treatment outcome and also had the lowest average therapist scores. It is recommended that therapists and training programs pay greater attention to improving case conceptualization skills, including incorporation of client strengths. Its findings also lend support to the argument that when CBT is guided by a case conceptualisation outcomes can be enhanced because therapists are able to select and sequence interventions in a bespoke way that targets key client beliefs and behaviours (Persons, 2005).

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## **Appendix 1: Extended Introduction**

### **1.0 Therapist Competence, Specific Dimensions of Competence and Outcome**

As noted in the manuscript, several studies have investigated the construct of therapist competence, seeking to better understand the relationship between therapist characteristics and the impact of these characteristics on outcome.

Shaw et al. (1999) investigated the relationship of therapist competence in the outcome of CBT in the National Institute of Mental Health Treatment of Depression Collaborative Research program (Elkin, 1994). The competence of eight CBT therapists who had undertaken a training program took part in the study. Nine videotaped sessions from each therapist were assessed for competence using the Cognitive Therapy Scale (CTS; Young & Beck 1980, 1988). The CTS is an 11-item scale designed to assess therapist competence in administering CBT and is a widely used scale in the measurement of CBT (Blackburn et al., 2001). Shaw employed a CTS 'cut-off' score of 40 (a score identified by Young and Beck; cited in Shaw 1984) to demonstrate acceptable competence as measured by the CTS. Three structuring items on the CTS (setting an agenda, pacing the session appropriately and setting homework) were found to predict outcome, but the remaining eight did not. Overall the findings of this study were weaker than expected. Shaw et al. concluded that further assessment of therapist competence was needed, and indicated that the original CTS was not comprehensive enough to assess the construct of cognitive therapy (see also Wiseman, 1993).

One of the areas of competence scrutinised in the CTS (interpersonal effectiveness) was investigated further by Trepka et al. (2004). Trepka et al. investigated the relationship of therapist competence and therapeutic alliance with client outcome in CBT for depression. Acknowledging the difficulties in disentangling therapies from therapists (see Elkin, 1999) Trepka et al. did not seek to control competence in therapists (i.e. a CTS cut off-score). The competence of 6 therapists was assessed using a 13-item version of the CTS. The findings of

the study supported the validity of the CTS and found that cognitive therapy competence was associated with outcome for depression. Interestingly, Trepka et al. found that this association was weaker than that of therapeutic alliance and outcome. Trepka et al. also found that these effects were largely independent of one another and largely attributable to the therapist rather than the client for those who complete therapy.

In 2006 Brosan et al. highlighted that little was known about the therapist characteristics associated with competence. In this study, Brosan et al. investigated the relationship between level of training, profession, experience, supervision and accreditation to competence. A single audiotaped session from 24 therapists was assessed for competence using an adapted version of the Cognitive Therapy Scale (13 item CTS; Feeeman, 1990). Like Shaw et al. (1999) a cut-off score of 39 on the CTS was used to demonstrate acceptable competence. The study found that those therapists who had a formal post qualification in CBT were more competent than those who did not. Brosan et al. also found that the majority of therapists claiming to carry out CBT (with no post qualification in CBT) scored below the cut-off score which indicated competence. The study found no relationship between frequency of supervision, accreditation and experience. However, the findings of this study should be interpreted with some caution due to its small sample size and the self-selection nature of the therapists included in the sample.

James et al. (2001) attempted to shed further light on the link between training and effectiveness and investigated the moderators of trainee competence in cognitive therapy. The competence of twenty postgraduate trainees (who had been assigned a client) was assessed by expert raters using the Cognitive Therapy Scale – Revised (CTS-R; Blackburn et al., 2001) at three time points over the first 12 sessions. Patient variables were measured using a suitability for cognitive therapy scale and Beck Depression Inventory (BDI; Beck et al., 1961). Three therapist factors were found to be associated with competency ratings: Time (trainee

therapists improved over time); previous experience with CBT (those with most experience measured by number of patients seen for CBT prior to study were most competent); and gender of therapist (males improving at a greater rate than females). However, a more recent study by McManus et al. (2010) found no relationship between gender and training outcome, but did find a relationship between age and training outcome (with older trainees performing worse than younger trainees). McManus et al. also found that professional background had an effect on training outcome (with clinical psychologists performing better than those from other professions). Although these studies illustrate the variability in findings apparent in the literature, they do illustrate that more experienced therapists are more competent and the importance of investigating competence as a construct that varies across time.

Kuyken and Tsivrikos (2009) linked the therapist competence literature with the literature suggesting that those with co-morbid depression tended to have poorer outcomes in therapy (e.g. Gelhart & King, 2001). They predicted that greater therapist competence would predict outcome, and that the impact of therapist competence on CBT outcomes would be moderated by client co-morbidity. That is to say, more competent therapists would achieve better outcomes with clients with more complex presentations. Unlike previous studies, a version of the CTS was not used to assess competence. Instead, competence was assessed using the Evaluation of Therapists Behavior Form (developed by the authors) and the patient's report of therapy form (an in-house measure routinely completed at the Centre for Cognitive Therapy, University of Pennsylvania). Change in patient functioning was measured by the Beck Depression Inventory. The study found a relationship between therapist competence and outcome, finding that 15% of variance in outcome was attributable to therapist competence. The study also found that that greater therapist competence predicted outcome, regardless of client co-morbidity which adds further weight to the argument of authors like Okiishi et al. who argue that therapist competence is independent of patient characteristics. That is to say,

some therapists achieve better outcomes regardless of patient characteristics such as co-morbidity. The authors concluded that further research, investigating specific aspects of therapist competence, was needed.

### **1.1 The Cognitive Therapy Scale: A Measures of Therapist Competence in CBT**

The Cognitive Therapy Scale (CTS; Young & Beck 1980, 1988) is a widely used tool in the measurement of therapist competence in delivering CBT (Blackburn, 2001). It has undergone several revisions, with the one revision, the Cognitive Therapy Scale – Revised (CTS-R, Blackburn et al., 2000) most relevant to the present study. The original CTS consists of 11 items, with each item rated on a 7-point (0-6) Likert scale. The CTS is divided into two areas: six items providing a measure of general interpersonal and relationship variables (e.g. understanding, interpersonal effectiveness), and five items providing a measure of specific cognitive techniques (e.g. setting an agenda, collaboration, homework). There were several conceptual and practical problems with the CTS, these included poor discrimination between different levels of competence (Blackburn et al. 2001) and varying levels of inference required from raters (Whisman, 1993). Shaw et al. (1999) also argued that important aspects of cognitive therapy were not captured by the CTS.

In its development, the CTS-R aimed to answer the criticisms of the CTS, with an underlying rationale that competence in CBT consists of adherence to cognitive behavioural models and pan-theoretical skills common to all therapies. The CTS-R uses the same 7-point Likert scale as the CTS and consists of the following items: agenda setting, feedback, collaboration, pacing and efficient use of time, interpersonal effectiveness, charisma/flair, facilitation of emotional expression, guided discovery, case conceptualisation, identifying key cognitions, application of cognitive change techniques, application of behavioural techniques, and use of homework. Blackburn et al. (2001) assessed the psychometric properties of the CTS-R and found it to have high internal consistency (Cronbach alphas between 0.92 – 0.95),



average inter-rater reliability (0.63, significant at  $p < .01$ ), good face validity (all of the expert raters using the CTS-R agreed that it was easier to use and more meaningful than the CTS), and discriminate validity (the CTS-R could detect change in competence over time).

Blackburn et al. concluded that further work needed to be done on the CTS-R, developing clearer definition of items and in discriminating between different points on the rating scale (i.e. a degree of inference was still required, albeit less so than required in the CTS).

Blackburn et al. also highlighted the importance of training in use of the scale in order to increase inter-rater reliability, a finding supported by Reichelt et al. (2002). In summary, the CTS-R can be seen as an improvement on the CTS in its conceptual rational and rating format, and it remains the most widely used tool in the assessment of therapist competence.

## **1.2 The Operationalisation of Outcome in Therapy**

The literature investigating competence and therapy outcome highlights a challenge for researchers, in that therapy outcome can be difficult to operationalise. Some researchers (e.g. Strunk et al., 2010) have focussed on treatment change at the early part of therapy, under the assumption that there is a large and sudden symptom improvement at this time (so called, “sudden gains”). Although there is some support for this in the literature (see Tang and DeRubeis, 1999; Tang et al., 2005 & Hardy et al., 2007), the percentage of clients experiencing a sudden gain has varied across studies, as does the timing at which sudden gains have occurred (e.g. in Tang & DeRubeis, 1999; the median 50% of sudden gains fell between the 4<sup>th</sup> and 10<sup>th</sup> session). These studies have also found that sudden gains reversal is common, with the client giving up 50% or more of the gain in at least one subsequent session. This literature is therefore inconclusive, but does suggest that it is important to assess outcomes across the whole course of therapy.

## Appendix 2: Ethical Documentation

### 2.0 National Research Ethics Approval for the CoBaIT study

07/H1208/60



#### **National Research Ethics Service** **West Midlands Research Ethics Committee**

Osprey House  
Albert Street  
Redditch  
Worcestershire, B97 4DE

Acting Chairman: Mr Paul Hamilton  
Co-ordinator: Mrs Anne McCullough

Telephone: 01527 587573  
Facsimile: 01527 587501

26 February 2008

Dr Nicola Wiles  
Senior Lecturer in Epidemiology  
University of Bristol  
Academic Unit of Psychiatry  
Department of Community Based Medicine  
Cotham House, Cotham Hill  
Bristol, BS6 6JL

Dear Dr Wiles

**Full title of study:** Cognitive behavioural therapy as an adjunct to  
pharmacotherapy for treatment resistant depression in  
primary care: a randomised controlled trial  
**REC reference number:** 07/H1208/60

Thank you for your letter of 11 January 2008, 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 Vice Chair.

#### **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.

#### **Ethical review of research sites**

The Committee has not yet been notified of the outcome of any site-specific assessment (SSA) for the research site(s) taking part in this study. The favourable opinion does not therefore apply to any site at present. We will write to you again as soon as one Research Ethics Committee has notified the outcome of a SSA. In the meantime no study procedures should be initiated at sites requiring SSA.

#### **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.

#### **Approved documents**

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

This Research Ethics Committee is an advisory committee to West Midlands Strategic Health Authority  
*The National Research Ethics Service (NRES) represents the NRES Directorate within  
the National Patient Safety Agency and Research Ethics Committees in England*

<i>Document</i>	<i>Version</i>	<i>Date</i>
Application		19 October 2007
Investigator CV		15 October 2007
Protocol	2	11 January 2008
Letter from Sponsor		09 August 2007
Statistician Comments	email	10 August 2007
Compensation Arrangements		09 August 2007
Questionnaire: Patient Health Questionnaire		
Questionnaire: Brief Patient Health Questionnaire - [PHQ-9] - Panic		
Questionnaire: Life Events Questionnaire		
Questionnaire: Personality Beliefs Questionnaire - Short Form		
Questionnaire: Exit Questionnaire	1	15 October 2007
Letter of invitation to participant	1	15 October 2007
Participant Information Sheet: QualInterviews	1	12 October 2007
Participant Consent Form: QualInterviews	1	15 October 2007
Participant Consent Form	2	11 January 2008
Response to Request for Further Information		11 January 2008
Patient Information Leaflet-GPInvite_PtInfoLeaflet	2	09 January 2008
Patient Information Leaflet-GPRecordsearch_PtInfoLeaflet)	2	09 January 2008
Patient Information Leaflet-Pt_TrialInfoLeaflet	2	11 January 2008
Index to documents		
GP Record Search for Patient Referrals	1	15 October 2007
GP Information Sheet	1	12 October 2007
GP Letter	1	12 October 2007
GP Patient Referral	1	15 October 2007
Reminder Invitation	1	12 October 2007
Initial Patient Questionnaire - Covering letter	1	12 October 2007
Permission for Release of Personal Details	1	12 October 2007
Initial Patient Questionnaire - Cover Letter	1	12 October 2007
Consent to Pass Information to GP	1	12 October 2007
GP Feedback from Postal Screening	1	12 October 2007
Consent to Pass information to GP - Computer Questionnaire	1	15 October 2007
Introduction to Cognitive Behavioural Therapy	1	18 October 2007
GP Feedback PTA	1	15 October 2007
Topic Guide for usual care	1	15 October 2007
Topic Guide for CBT arm	1	15 October 2007
Flowchart	1	15 October 2007
Letter re Funding		25 June 2007
Letter to confirmation appointment with researcher-Confirm_PTA	2	09 January 2008
COBALT suicide policy	1	15 October 2007
Example questions for Economic Evaluation - Use of health services		
Alcohol consumption and smoking		
EQ5D		
Clinical interview schedule - Revised Version [CIS-R]		
5-Item Mental Health Inventory		
Adherence Questions		
Beck Depression Inventory [BDI]		
Anxiety - GAD- 7		
SF-12 Your health and well-being		

**R&D approval**

All researchers and research collaborators who will be participating in the research at NHS sites should apply for R&D approval from the relevant care organisation, if they have not yet done so. R&D approval is required, whether or not the study is exempt from SSA. You should advise researchers and local collaborators accordingly.

Guidance on applying for R&D approval is available from <http://www.rdforum.nhs.uk/rdform.htm>.

**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.

**After ethical review**

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

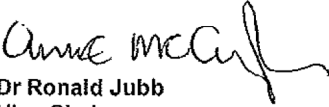
- a) Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.
- b) Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- c) Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- d) Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- e) End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nationalres.org.uk](mailto:referencegroup@nationalres.org.uk).

07/H1208/60	Please quote this number on all correspondence
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With the Committee's best wishes for the success of this project

Yours sincerely

  
 Dr Ronald Jubb  
 Vice Chair

Enclosures:                      *Standard approval conditions*

Copy to:                              Dr Birgit Whitman  
     Research & Enterprise Development (RED)  
     University of Bristol  
     Senate House  
     Tyndall Avenue  
     Bristol

## 2.1 University of Exeter Ethical Approval



SCHOOL of PSYCHOLOGY  
ETHICS COMMITTEE

Washington Singer Laboratories  
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Telephone +44 (0)1392 264626  
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**To: Philip Gower**  
**From: Louise Pendry**  
**CC: Willem Kuyken**  
**Re: Application 2009/174 Ethics Committee**  
**Date: November 3, 2011**

The School of Psychology Ethics Committee has now met and discussed your proposal, **2009/174 – *Therapist Competence, case conceptualization and therapy outcome in cognitive behavioural therapy***. The project has been approved in principle for the duration of your study.

The agreement of the Committee is subject to your compliance with the British Psychological Society Code of Conduct and the University of Exeter procedures for data protection (<http://www.ex.ac.uk/admin/academic/datapro/>). In any correspondence with the Ethics Committee about this application, please quote the reference number above.

I wish you every success with your research.

A handwritten signature in black ink that reads 'L. Pendry'. Below the signature is a horizontal line that tapers at both ends, resembling a stylized underline or a flourish.

Louise Pendry  
Chair of School Ethics Committee

## **Appendix 3: Extended Method**

### **3.0 The Cognitive Therapy Scale – Revised (removed for copyright reasons)**

### **3.1 The Collaborative Case Conceptualisation Rating Scale (removed for copyright reasons)**

## Appendix 4: Extended Results

### 4.0 Listening to 40 hours of Therapy: Clinical Reflections

Listening to therapists conceptualise the difficulties of those with a diagnosis of treatment resistant depression using CBT has not only been valuable experience in terms of research skill development, but also a journey of development as a clinician. What follows are some of the themes I observed when spending up to two hours coding each of the 40 audio-recordings of therapy sessions.

- How clinicians used conceptualisation seemed to vary hugely, ranging from the seemingly absent (with clinicians maybe holding CBT theory in their own mind during the session, but largely keeping it from the client), to using more prescriptive methods (e.g. diaries with step-by-step questions like ‘what were you thinking then?’ ‘how did it make you feel?’ and ‘how could you think differently?’) to working explicitly with clients in a flexible way, exploring the experience from the clients eyes. In the latter, clinicians would work ‘shoulder to shoulder’ with clients, mapping out difficulties in a way that was driven by the client but navigated by the therapist using a ‘CBT map.’ Here, clinicians also tended to use a multi-modal approach to new learning, using pens and paper, or even a white board. Do clinicians who adopt this approach have better outcomes than those who do not?
- Linked to the above, I was struck at just how differently CBT theory could be used in case conceptualisation. For example, a ‘physical’ working model vs. a more abstract conversation that linked the past with present thoughts, feelings and behaviour. Which is more effective?
- What’s the mechanism of change? Is it cognitive or behavioural? Focussing on one more than the other seemed common, and made for a very different sounding session. What impact does this have?



- Is a clinician working effectively at a complex level of conceptualisation (e.g. incorporating a client's past trauma into the conceptualisation) more competent at case conceptualisation than a therapist working effectively at a more 'basic level' (e.g. behavioural activation, and conceptualisation around the impact of low activity on mood)?
- Linked to this, do clinicians need to use the evidence-based models taught on many training courses to effect change? As evidenced in the data, none of the clinicians used model-specific, evidenced based case conceptualisations. Is it the case that clinicians are being informed by these models, but holding them 'in mind' and keeping the session material pitched at a level suitable for the client? Or, is it the case that clinicians are not aware of these specific models, and therefore sticking to what they know? Does either have an impact on outcome?

#### **4.1 Correlations: Am I at the Right Level?**

There are of course a number of justifiable ways to analyse data collected in research projects. Upon embarking on analyses of the data one issue posed an initially daunting question: the literature reviewed makes the assumption that the data collected by the BDI-II and questionnaires like the CTS-R and CCC-RS are at the interval level. However, is this correct? For data to be truly interval "we must be certain that the equal intervals on the scale represent equal differences in the property being measured" (Field, 2009). Field goes further and argues that in any situation where a measurement is made subjective, the data should probably be regarded as ordinal. It is of note however that Field also acknowledges that many researchers do not follow this. Given the assumption of interval data, the Pearson's correlations calculated to test the relationship between the CTS-R and CCC-RS were re-run using the non-parametric equivalent, the Spearman's rho.

**The relationship between the CTS-R and CCC-RS.** Findings were consistent with the parametric correlations. As predicted, there was a significant and positive relationship between therapists' overall CBT competence and overall competence in case conceptualisation ( $r = .82, p = 0.01$ ). Significant and positive correlations were also found between the level of conceptualisation used by therapists during therapy and CBT competence,  $r = .70, p = 0.36$ ; collaboration in conceptualisation and CBT competence,  $r = .75, p = 0.02$ ; empiricism in conceptualisation and CBT competence,  $r = .70, p = 0.04$ ; and between the therapists' focus on client's strengths/resilience and CBT competence,  $r = .77, p = 0.02$ . Therapists' global rating score also correlated significantly with CBT competence,  $r = .80, p = 0.01$ .

**Competence in CBT and treatment outcome.** The Pearson's correlations calculated to test the relationship between the competence in CBT and outcome, and competence in case conceptualisation and outcome were also re-run using the Spearman's rho. Findings were again consistent with the parametric correlations. As predicted, there were significant and positive relationships between baseline to treatment end change in BDI-II score and CBT competence ( $r = .82, p = 0.003$ ) as well as competence in case conceptualisation ( $r = .87, p = 0.001$ ). Significant correlations were also found between CCC-RS subscales and change in BDI-II score (baseline to treatment end) as follows; CCC-RS levels of conceptualisation ( $r = .74, p = 0.012$ ), CCC-RS collaboration ( $r = .65, p = 0.03$ ), CCC-RS empiricism ( $r = .81, p = 0.004$ ), CCC-RS strength focus ( $r = .75, p = 0.01$ ), and CCC-RS global score ( $r = .70, p = 0.017$ ). This indicates that higher levels of CBT competence and competence in case conceptualisation were associated with better treatment outcome.

#### **4.2 Do I have 9 Therapists, or 20 Participants?**

As with understanding the best statistical test to investigate relationships in the data, the question of what level I should base the analyses was also an important one. That is, should I

base my correlations and regressions at the level of  $N=9$  (i.e. the 9 therapists) or  $N=20$  (i.e. the 20 participants)? In light of the substantial literature finding a significant amount of the variance in outcome to be at the level of the therapist, the decision was taken to analyse the data at the level at which I was making my predictions, the therapist. However, careful consideration was given to the costs and benefits of analysing the data at the level of the participant. As noted in the literature (e.g. Elkin, 1999), it is difficult to disentangle therapist effects from client effects. Aggregating the data across therapist therefore allowed individual participant data to be used as multiple observations of therapist competence. This provided the most accurate reflection of therapist competence whilst accounting for the random variability in the data not due to the therapist. Put another way, the present study aimed to answer the question ‘do competent therapists have better outcomes?’ and not ‘do participants treated by competent therapists get better?’ This subtle distinction was an important one. Even if 100s of audiotapes were available for the nine therapists, when asking whether therapist competence impacts on outcome, any predictions would need to be aggregated down to the nine therapists as this is the level at which predictions were being made. Therefore, analysing the data at the level of the therapist was considered the more robust and defensible analytic strategy. This decision was taken after several statistics consultations with Professor Peter Thomas, Chair in Health Care Statistics & Epidemiology at Bournemouth University, and Dr Sarah Thomas, Senior Research Fellow at the Research Development Support Unit in Dorset, in addition to email correspondence with Professor Thomas (P. Thomas, personal communication, January 31, 2011).

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## Dissemination Statement

The findings of the present study will be disseminated in three ways. Firstly, the main findings will be disseminated by Christine Padesky in a number of workshops commencing the summer of 2011. This will coincide with the first author presenting the findings at the annual British Association for Behavioural and Cognitive Psychotherapies (BABCP) conference. It will form part of the BABCP *Case conceptualization and socialization to the model: Examining the role of key therapeutic components in the therapy process* symposium in running in June 2011. The BABCP is a lead organisation for Cognitive Behavioural Therapy in the UK. This will allow the findings of the present study to be disseminated to a large audience of clinicians and researchers in addition to allowing the present study to be discussed and developed with a view to future research.

Secondly, the study will be written up in the appropriate format (most likely a brief report) and submitted to the *Journal of Consulting and Clinical Psychology*. This particular publication welcomes articles that offer original contributions on the treatment of mental illness in addition to those that have implications for clinical research and practice. As such, this publication, with its focus on informing clinical practice and developing research in the area of case conceptualisation and outcome appears well suited to the *Journal of Consulting and Clinical Psychology* and its target audience. Lastly, the findings of the present study will be used to inform a future, larger scale study within the CoBalT study.