

**Cognitive Analytic Therapy (CAT) for Borderline Personality Disorder: Is CAT effective, and what influences the delivery of this therapy?**

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# Declaration

I declare that this work has not been submitted for any other degree at the University of Sheffield or any other institution.

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Including references 9387

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Including references and appendices 26757

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# Abstract

Cognitive Analytic Therapy (CAT) is a time-limited psychological therapy, integrating cognitive and psychodynamic ideas. The evidence base for CAT is developing, and CAT is recognised as a treatment for less severe presentations of borderline personality disorder (BPD) in the community. The project aimed to develop the evidence base by conducting: (i) a meta-analysis evaluating the effectiveness of psychodynamic informed treatments (including CAT) for the treatment of BPD; and (ii) an experimental project evaluating the factors that influence the delivery of CAT in routine clinical settings.

 The first part reports a meta-analytic review of 17 studies, employing various psychodynamic informed treatments for BPD. Results indicated that only Mentalisation Based Therapy (MBT) demonstrated superiority over other treatments (including treatment as usual) for symptoms of parasuicide/suicide and psychopathology. Recommendations for future research and clinical practice are provided. Limitations associated with heterogeneity are discussed.

The second part presents an experimental study of the factors influencing the delivery of CAT. Fifty-nine participants completed an online survey reflecting on their use of CAT in the treatment of BPD and depression. Findings indicated relatively high fidelity. However, there was variability in the use of core therapeutic techniques. It was concluded that clinician-specific factors are essential in understanding variability in the delivery of CAT.

The two studies contribute to the developing evidence base for CAT. Findings suggest that it is essential to consider adherence when building the evidence base, however how adherence is measured needs careful consideration to avoid potential negative consequences for client outcome.

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# Part one: Literature Review

A meta-analytic review of psychodynamic informed therapies for borderline personality disorder.

# Abstract

**Objective**: Borderline personality disorder (BPD) is associated with poor psychosocial functioning, high use of resources, and high morbidity. This meta-analysis evaluates the use of psychodynamic informed therapies in the treatment of BPD, with a focus on outcomes of suicide/parasuicide and psychopathology.

**Method**: A systematic search of three databases (PsycInfo, Web of Science and PubMed) was conducted. Studies were eligible for inclusion if they (i) reported on a psychodynamic informed treatment for BPD and (ii) reported an outcome of either parasuicide/suicide or psychopathology. However, if any exclusion criteria were met, they were excluded. Methodological quality was assessed using criteria developed specifically for the purposes of the review. The methodological assessment demonstrated good inter-rater reliability. A meta-analysis using a random effects model was conducted.

**Results**: 17 papers met eligibility criteria. Seven different psychodynamic informed therapies were represented in the review. A total of 953 participants were allocated to a psychodynamic informed treatment. Only Mentalisation Based Therapy (MBT) demonstrated favourable effects on outcomes of suicide/parasuicide and psychopathology over comparison treatments, including treatment as usual and active psychological therapies. Manualised therapies demonstrated greater effect over non-manualised therapies. However, studies incorporating adherence and competency checks demonstrated poorer effects when compared to studies that did not assess for competency and adherence. Overall effect sizes were not influenced by methodological factors, such as length of follow-up.

 **Conclusions**: MBT was the only psychodynamic informed treatment to evidence effectiveness for outcomes of suicide/parasuicide and psychopathology, although this is only modest. Further research is needed to develop a more robust evidence base.

**Practitioner points**

1. MBT appears to be the only psychodynamic informed treatment effective in the treatment of BPD for outcomes of suicide/parasuicide and psychopathology.

2. Outcomes for psychodynamic informed therapies are better for manualised treatments.

3. The application of quality measures for competence and adherence appears to be associated with poorer outcomes in psychodynamic informed treatments for BPD.

4. The significant levels of statistical heterogeneity limit the findings of the review.

5. The review is further limited by a lack of comparisons using active psychological treatments, such as Dialectical Behaviour Therapy.

# Introduction

Borderline Personality Disorder (BPD; American Psychiatric Association, 2013), also known as Emotionally Unstable Personality Disorder (EUPD; World Health Organisation, 1992) is a serious mental disorder, marked by impulsivity, instability of mood, interpersonal relationships, identity, and social and occupational functioning (American Psychiatric Association, 2013; Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004; Oldham, 2006; Skodol et al., 2002). The lifetime prevalence rate is estimated at approximately 1% (Lenzenweger, 2010), and it is associated with high use of mental health resources (Bender et al., 2001; Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach, 2008). Given the prevalence and associated costs, it is important to consider the impact of treatments for BPD.

**Evidence-based treatment**

National Institute for Health & Clinical Excellence (NICE) guidelines for BPD highlight the potential utility of psychological therapies. Dialectical Behaviour Therapy (DBT) is identified as a treatment for individuals with diagnoses of BPD who self-harm (National Collaborating Centre for Mental Health, 2009). However, meta-analytic review of randomised control trial (RCT) data for DBT suggests only small benefits for suicidality (Stoffers et al., 2012) when compared with other evidence-based management approaches, such as general management (McMain et al., 2009) or community treatment by experts (CTBE) (Linehan et al., 2006). Mentalisation Based Therapy (MBT) is a psychodynamic informed therapy and is the only other psychological therapy to be highlighted as an efficacious treatment for BPD in NICE guidelines (National Collaborating Centre for Mental Health, 2009).

**Psychodynamic informed treatments**

 The interest in psychodynamic informed treatments for BPD is developing and psychodynamic informed therapies, including but not limited to MBT, have been subject to systematic review (Calvert & Kellett, 2014; Gibbons, Crits-Christoph & Hearon, 2008; Fonagy, 2015; Fonagy, Roth, & Higgitt, 2005; Leichsenring, Klein & Salzer, 2013) and meta-analyses (de Maat et al., 2013; Leichsenring & Rabung, 2008; Smit et al., 2011), with findings suggesting the potential efficacy of psychodynamic therapies in the treatment of BPD. However, there are limitations. First, the treatment of BPD is often grouped under wider reviews of outcomes for ‘Cluster B’ or ‘personality disorder’ (Leichsenring & Rabung, 2008; Smit et al., 2011), despite evidence to suggest that BPD is a single and separate construct (Clifton & Pilkonis, 2007). It could be argued that combining personality disorders into clusters could dilute the apparent effect of treatment. Second, many meta-analytic and systematic reviews use only RCT data (Gibbons et al., 2008; Fonagy et al., 2005), potentially raising questions about the effectiveness of these treatments in clinical settings. There are additional limitations in drawing conclusions about effectiveness or efficacy due to the wide range of outcomes that are considered, including: symptomotology, service use, suicidality, parasuicide, functioning, anger, and anxiety. Finally, reviews have focused on areas of analytic treatment such as short versus long-term psychotherapy (de Maat et al., 2013), while treatment approaches such as Cognitive Analytic Therapy (CAT) have not been included for review.

In establishing the efficacy of a treatment, it is recognised that manualised treatment protocols and therapist training and monitoring are important aspects in determining the quality of the evidence base (Chambless & Hollon, 1998). Psychodynamic therapies have been critiqued for a lack of these elements in the extant research (Gibbons et al., 2008). However, there have been efforts to address this critique with the development of manualised treatments for psychodynamic therapies (Bateman & Fonagy, 2004; Clarkin, Yeoman, & Kernberg, 2006), and the systematic assessment of treatment adherence and therapist competence (Bennett & Parry, 2004; Karterud et al., 2013). However, the effect of these developments in psychodynamic informed treatments for BPD has not yet been explored by systematic or meta-analytic review.

Finally, it is noted that methodological differences, including methodological quality and length of follow-up, can result in variations in effect sizes (Lipsey, 1992; Ost, 2014; Sanchez-Meca & Marin-Martinez, 1998). As such, meta-analytic review should account for these potential moderating variables.

**Objective and aims**

The objective of this review is to conduct a meta-analytic review of the literature base for psychodynamic informed treatments for BPD, with a specific focus on outcomes of suicidality/parasuicide and psychopathology. The review aims to examine whether:

1. Psychodynamic informed therapies perform better than comparison interventions on outcomes relating to suicidality/parasuicide and psychopathology.
2. Any of the psychodynamic informed treatments demonstrate better outcomes.
3. There is a difference in outcomes when comparing those studies that use manualised treatment with those that do not.
4. There is a difference in the outcomes for studies that assess treatment adherence when compared to treatments that do not.
5. There is a difference in the outcomes for studies that assess therapist competence compared to those studies that do not assess competence.
6. There is a difference in the outcomes for studies that utilise supervision of therapy when compared to those studies that do not use supervision.
7. The overall effect size is moderated by study qualities, including methodological quality and follow-up.

# Method

**Search strategy**

A PRISMA diagram is presented in Figure 1 to illustrate the process of selecting papers for inclusion. The search strategy was applied on 04 to 14 October 2016. The search terms were:

efficacy or effectiveness

AND

psychodynamic or analytic or psychoana\*

AND

emotionally unstable personality disorder or borderline personality disorder

The terms were used to search the Web of Science, PsycINFO via Ovid and PubMed databases. No restrictions were applied in terms of date of publication. All literature published up to the date the search was conducted was considered for inclusion.

Recommended / Ancestry search

*n* = 10

Web of Science search on 04.10.16

*n* = 167

PsycInfo search on 12.10.16

*n* = 128

PubMed search on 14.10.16

*n =* 67

Total papers found through database searching

*n* = 362

Total papers excluded

n = 259

Based on:

*n* = 194 removed due to duplication.

*n =* 65 removed based on title

Selected on title and abstract

*n* = 103

Did not meet eligibility criteria

*n* = 96

*n* = 16 not English

*n* = 12 used duplicated data set (most recent paper selected)

*n* = 15 wider reviews

*n =* 19 not relevant

*n =* 24 discussion pieces

*n =* 1 not outcome of interest

*n =* 1no raw data

*n =* 4 not specifically BPD

*n =* 2 case study

*n =* 2 no standard deviations provided.

Checked against eligibility criteria

*n* = 113

For meta-analysis

*n* = 17

*Figure 1*: PRISMA diagram

 A total of 362 papers were retrieved from this search, but 194 were removed due to duplication. One hundred and sixty-eight papers were assessed for suitability based on title and abstract. Sixty-five papers were excluded. A further 10 papers were identified through recommendation or through ancestry searching. One hundred and thirteen papers were identified as appropriate, and the full texts were retrieved. The papers were assessed in relation to pre-defined eligibility criteria, as outlined below.

**Eligibility criteria**.Eligibility criteria were developed in line with the aims of the review and are detailed in Table 1. To meet eligibility, the study was required to meet all inclusion criteria however exclusion was permitted if one of the exclusion criteria were met. In referring to psychodynamic informed treatments, the author refers to ‘dynamic’ in a wide sense, capturing therapies informed by psychodynamic theory with a focus on: affect and the expression of emotion; exploration of attempts to avoid, distressing thoughts and feelings; identification of recurring themes and patterns; discussion of past experience; and a focus on interpersonal relationships and the therapeutic relationship (Blagys & Hilsenroth, 2000). A number of treatments fall under this definition. In this meta-analysis, the relevant therapies were: Mentalisation Based Therapy (MBT; Bateman & Fonagy, 2006), Transference Focused Psychotherapy (TFP; Clarkin, Yeoman, & Kernberg, 2006), Cognitive Analytic Therapy (CAT; Ryle & Kerr, 2002), Dynamic Deconstructive Psychotherapy (DDP; Gregory & Remen, 2008), Sequential Brief Adlerian Therapy (SB-APP; Fassino, Amianto & Fererro, 2008), Psychoanalytic Interactional Psychotherapy (PIT; Leichsenring, Masuhr, Jaegerm, Dally, & Streeck, 2010), and Psychic Representation Focused Psychotherapy (PRFP; Reneses et al., 2013).

Where studies reported the same participant data over multiple papers, only the most recent paper was included, if it provided all relevant information. Such removal reduced the potential for bias due to over-representation of particular sets of data. Ninety-six of the 113 papers were excluded based on these criteria (several papers failed on more than one criterion). A total of 17 papers were included in the review. Table 2 outlines the methodology of included papers and studies are presented alphabetically. Active psychodynamic informed treatments are identifiable by an asterisk(\*).

Table 1

*Eligibility Criteria*

|  |  |
| --- | --- |
| Inclusion Criteria | Exclusion Criteria |
| Any therapy informed by psychodynamic therapy | Studies that do not provide separate data for BPD (e.g., BPD data collapsed under Cluster B). |
| Any study using data from individuals with a diagnosis of, or symptoms of BPD or EUPD, regardless of participant gender, age or intellectual functioning.  | Studies that do not provide estimates of random variability (mean, standard deviation) |
| Studies providing data either for outcomes of suicidality / parasuicide or psychopathology | Not accessible via the University of Sheffield or the inter-library loans service  |
|  | Studies of group therapy only.  |
|  | Not available in English |
|  | Case studies, including single case research designs. |

Table 2

*Table outlining methodology*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper | Design | Treatment | Treatment Length | Sample | Primary Outcome measure |
| Amianto et al. (2011) | Randomised Cohort  | Sequential Brief Adlerian Therapy (SB-APP) \*Short-term management (STM) | 12 monthsFollow-up at 18 & 24 months | SB-APP (n =17)STM (n =18)  | Clinical Global Impression (CGI) – severity |
| Bales et al. (2015) | Matched Cohort  | Mentalisation Based Therapy (MBT)\*Other psychotherapeutic treatment (OPT) | 18 monthsFollow up at 30 & 36 months | MBT (n = 29)OPT (n = 29) | Brief Symptom Inventory (BSI) – Global Severity Index Score (GSI) |
| Bateman & Fonagy (2008) | RCT | MBT\*Treatment as usual (TAU) | 18 months. 5 year follow-up | MBT (n = 22)TAU (n = 19) | Number of suicide attempts |
| Bateman & Fonagy (2009) | RCT | MBT\*Structured Clinical Management (SCM) | 18 months | MBT (n = 71)SCM (n = 63) | Episodes of hospitalisation, suicidal or self-injurious behaviour |
| Chanen et al. (2009) | Quasi RCT | Cognitive Analytic Therapy (CAT)\*Good Clinical Care (GCC)Historical TAU (HTAU) | 24 weekly sessionsFollow-up 12, 18, 24 months) | CAT (n = 41)GCC (n = 37)HTAU (n = 32) | Structured Clinical Interview DSM Disorders 2nd Edition - BPD Total (SCID-II)  |
| Clarkin et al. (2001) | Cohort | Transference Focused Psychotherapy (TFP)\* | 12 months | n = 23 | Parasuidical History Interview - Number of Parasuicidal episodes  |

Table 2

*(continued)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper | Design | Treatment | Treatment Length | Sample | Primary Outcome measure |
| Doering et al. (2010) | RCT | TFP\*Psychotherapy | 12 months | TFP (n = 52)Psychotherapy (n =52) | Suicide Attempts  |
| Giesen-Bloo et al. (2006) | Cluster RCT | TFP\*Schema Focused Therapy (SFT) | 3 years | TFP (n = 42)SFT (n = 44) | DSM-IV BPD criteria–based semi-structured interview (BPDSI-IV) |
| Gregory, DeLucia-Deranja & Mogle (2010) | RCT | Dynamic Deconstructive Psychotherapy (DDP)\*Optimized Community Care (OCC) | 12 monthsFollow-up at 18 and 30 months | DDP (n = 11)OCC (n =13) | Borderline Evaluation of Severity Over Time (BEST) |
| Jørgensen et al. (2014) | Randomised cohort | MBT\*Supportive Group Treatment (SGT) | 24 months Follow up at 30 & 42 months | MBT (n = 58)SGT (n = 27) | Revised Symptom Check List 90 (SCL-90-R) |
| Kellett, Bennett, Ryle & Thake (2013) | Cohort | CAT\* | 24 sessions4 follow-up sessions | n = 19 | The Personality Structure Questionnaire (PSQ) |

Table 2

*(continued)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Paper | Design | Treatment | Treatment Length | Sample | Primary Outcome measure |
| Kvarstein et al. (2015) | Cohort | MBT \*Psychodynamic\* | 3 years MBT 4 years psychodynamic  | MBT (n = 64)Psychodynamic (n = 281) | BSI  |
| Laurenssen et al. (2014) | Cohort | MBT-A\* | 12 months | n =11 adolescents | BSI |
| Leichsenring, Masuhr, Jaeger, Dally & Streeck (2010) | Cohort | Psychoanalytic-Interactional psychotherapy\* | Average 87 days | n = 132 | SCL-90-R – GSI |
| Reseses et al. (2013) | RCT | Psychic Representation focused Psychotherapy (PRFP)\*TAU | 20 weeks | PRFP (n = 25)TAU (n = 28) | SCL-90-R  |
| Ryle & Golynkina (2000) | Cohort | CAT\* | 24 sessions plus 4 follow up | n = 27 | Beck Depression Inventory (BDI) |
| Salzer, Cropp, Streeck-Fisher (2014) | Cohort | Psychodynamic\* | 29.87 weeks average | n = 28 adolescents | SCL-90-R – GSI |

**Quality assurance**

Systematically assessing the methodological rigour of studies is advantageous in reducing author bias and providing clear and replicable statements about evidence quality (Downs & Black, 1998). However, it is noted that the use of specified criteria can underestimate the value of certain types of evidence (e.g., pre-post studies) and create an over-reliance on scoring criteria to evaluate quality (Gugiu & Gugiu, 2010). With the strengths and limitations in mind, the author designed criteria for review, which balanced the benefits associated with a systematic approach with the freedom to individualise criteria to explore the research questions of this review.

The criteria were a combination ofitems from an established quality assurance tool for randomised and non-randomised studies (Downs & Black, 1998) and items that were created specifically for this review (e.g., use of manuals, treatment adherence). An overall score was generated based on the mean of all criteria rated ‘yes’ divided by the number of items applicable to that paper. This score was calculated for later inferential analysis (hypothesis 7).

See appendix A for quality assessment scores. A higher score was indicative of greater quality, based on the criteria. To ensure that the meta-analysis reflected the breadth of the literature base, no papers were removed based on quality assessment score.

**Summary of quality appraisal.** An independent rater reviewed one third of the papers. Inter-rater reliability was rated as good, using a kappa coefficient (k = 0.765, SE Kappa, 0.078, 95% confidence interval 0.611 – 0.918). Overall, the quality of the pre-post methods was poorest overall. Cohort studies with a group comparison scored well against criteria, although there was a lack of blinding at any stage. Many studies failed to consider power, which might suggest an increased risk for Type II error. Many studies randomised participant allocation, which limited potential bias, and control interventions were generally appropriate and evidence based. Just under half of the studies included follow-up. Most studies accounted for participants lost to follow-up, often through the use of intent-to-treat analysis. Five studies did not consider loss to follow-up, which might indicate a potential attrition bias.

Overall, the methodological rigor of studies was variable and there were key methodological problems that will need consideration when interpreting the results.

**Sample**

The control groups for comparison include: pre-therapy data; Schema Focused Therapy (SFT); Optimized Clinical Care (OCC); Good Clinical Care (GCC); Short-term Management (STM); Treatment as Usual (TAU); and psychotherapy. Psychodynamic informed therapies in the review include: Mentalisation Based Therapy (MBT); Mentalisation Based Therapy for Adolescents (MBT-A); Transference Focused Psychotherapy (TFP); Cognitive Analytic Therapy (CAT); Sequential Brief Adlerian Psychotherapy (SB-APP); Psychic Representation Focused Psychotherapy (PRFP); Psychoanalytic-Interactional Psychotherapy; and Deconstructive Dynamic Psychotherapy (DDP).

**Outcomes**

All studies reported multiple outcomes, and many reported both psychopathology and suicide/parasuicide outcomes. For the purposes of this review, only one outcome was identified for inclusion from either the psychopathology or suicide/parasuicide categories. This was decided by which measure was identified as the primary outcome in the paper.

There was no common outcome measure used in the studies included in this review. However, BPD symptomatology and psychopathology were measured using: Clinical Global Impression (CGI) – severity, Brief Symptom Inventory (BSI) – Global Severity Index, DSM-IV BPD criteria–based semi-structured interview (BPDSI-IV), Borderline Evaluation of Severity Over Time (BEST), Revised Symptom Check List 90 (SCL-90-R), The Personality Structure Questionnaire (PSQ), Beck Depression Inventory – 2nd Edition (BDI-II) and Structured Clinical Interview DSM Disorders 2nd Edition (SCID-II). The most reported measure was the SCL-90-R, Global Severity Index. There is evidence of convergent validity of these measures, with strong correlations between: SCL-R-90, BDI and BSI scores (Steer, Ball, Ranieri, & Beck, 1997; Prinz et al., 2013); BSI and PSQ scores (Derogatis & Melisaratos, 1983); BDI and CGI scores (Beck & Steer, 1987); and SCL-90-R, SCID-II, BEST and BPDSI scores (Kroger et al., 2013; Pfohl et al., 2009). Evidence of moderate to high convergent validity informed the decision to collapse these measures into one category – ‘Psychopathology’. In all cases, higher scores were indicative of greater severity.

Episodes of suicide, self-harm and hospitalisation were reported in several studies. The outcomes were combined under the outcome ‘Suicide/Parasuicide’, as there was a relationship between these factors (Gunnell, Peters, Kammerling, & Brooks, 1995). Higher scores on the measures indicated higher rates of admission, suicidality and parasuicide.

**Data analysis**

Meta-analyses were conducted to explore aims 1 to 6. Correlation analyses were conducted for aim 7.

**Meta-analysis.** Meta-analysis is a statistical method for summarising an overall effect, by combining findings from a number of studies (Israel & Richter, 2011). Meta-analyses were conducted using Review Manager 5.3 (The Cochrane Collaboration, 2014). A random effects model was applied as it was considered that the overall effect sizes were not equivalent, due to variability in treatments, treatment length and establishing diagnosis (Borenstein, Hedges, Higgins, & Rothstein, 2009)

Effect sizes are given as mean difference (Hedge’s adjusted *g*), and interpretation of effect sizes was in line with the recommendations of Cohen (1988). For each meta-analysis, a forest plot diagram is presented. A forest plot graph provides a visual representation of the studies in a meta-analysis and it is considered a useful tool in highlighting heterogeneity (Verhagen & Ferreira, 2014). A funnel plot diagram is also presented. Funnel plots have been identified as a potential tool to identify publication bias (Bax et al., 2008). However, the interpretation of funnel plots can be variable (Lau, Ioannidis, Terrin, Schmid, & Olkin, 2006), as asymmetry can be accounted for by factors other than publication bias (Sterne, Gavaghan, & Egger, 2005).

Tests of heterogeneity are provided using chi-squared analysis. There are no guidelines to determine when meta-analyses should not be conducted due to heterogeneity and it is suggested that, due to clinician and methodological differences, heterogeneity is inevitable (Higgins, 2003). However, analysis of heterogeneity is helpful, as methodological flaws and small sample sizes can contribute to differences in variance (Israel & Richter, 2011). As such, the I2 statistic is also provided. This statistic provides an estimate of the impact of heterogeneity on the meta-analysis, and interpretation is informed by the suggestions from the Cochrane Handbook (Higgins & Green, 2011).

Correlation analyses were computed to test the effect of the continuous variables, follow-up length and quality rating, on the overall effect size. Despite correlational methods weighting all studies in a meta-analysis equally, regardless of quality or sample size, correlation analyses have demonstrated adequate control of Type 1 error when used to establish moderating effects (Sanchez-Meca & Marin-Martinez, 1998).

Analyses were based on either intention to treat or completer data, depending on what was provided. Where both were given, intention-to-treat data were used. The last follow-up data provided were used for comparison, as this was considered the best estimate of treatment efficacy or effectiveness. However, follow-up periods varied, with some studies providing only data at the end of treatment and others providing extensive follow-up periods. It can be hypothesised that those studies providing only end of therapy follow-up data might report more favourable outcomes than those with longer follow-up. For those studies with more than one comparison group (e.g., Chanen et al., 2009), the comparison groups were collapsed into one. The mean and standard deviation for the collapsed comparison group was generated by calculating the mean total of the comparison groups’ means and standard deviations. One paper compared MBT with psychodynamic therapy (Kvarstein et al., 2015), so pre/post data were presented separately for both MBT and psychodynamic treatment. Data from both repeated measure and independent groups designs were included, as suggested by Morris and DeShon (2002).

# Results

**Demographic data**

 In total, 953 participants were allocated to a psychodynamic informed treatment. However as some studies did not provide data for those lost-to follow-up or use an intent-to-treat analysis, statistical analysis was based on data of 926 participants who received a psychodynamic informed treatment and 934 participants allocated to a non-dynamic informed treatment (including pre-treatment scores of participants in pre/post, repeated measures designs). Most studies did not follow-up post intervention. However, a proportion (41%) reported a follow-up period, with a maximum reported follow-up period of five years post-intervention.

**How effective are psychodynamic informed therapies for BPD?**

The first aim of this review was to assess the effectiveness of psychodynamic informed therapies in terms of suicide/parasuicide and psychopathology outcomes.

A random-effects meta-analysis was conducted using Review Manager 5.3. The review is sectioned by outcome and a forest plot is given in Figure 2.

 

*Figure 2 –* Forest plot comparing BPD outcomes for psychodynamic informed treatment with other treatment.

The effect size is given as mean difference (Hedge’s adjusted *g)*.The overall effect of -0.07 (confidence interval 95%, -0.92 – 0.78) indicated no treatment effect (Cohen, 1988), suggesting that psychodynamic informed therapies did not perform better than no treatment (in the case of pre/post analyses) or other types of evidence-based intervention, including: Structured Clinical Management; Good Clinical Care and or treatment as usual. Chi-square analysis indicated heterogeneity of data (*χ*²(17)= 1350.36, *p* <0.001). Furthermore, the I2 statistic (I2= 99%) suggested considerable heterogeneity (Higgins & Green, 2011). Interpretation should be done with caution as an overall summary statistic in the form of an effect size might be misleading (Poole & Greenland, 1999).

A funnel plot diagram is given in Figure 3. The distribution is largely asymmetric and leaning towards studies favoring psychodynamic informed, particularly for psychopathology outcomes. This is largely due to two anomalous pre/post studies of CAT (Kellett et al., 2013; Ryle & Golynkina, 2000). This might indicate a publication bias (Bax et al., 2009) in favour of those studies showing a promising effect for psychodynamic informed treatments, particularly CAT.



*Figure 3* – Funnel plot outlining distribution of studies by outcome.

 Subgroup analyses for both the psychopathology (P = 0.90 and suicide/parasuicide outcomes (P = 0.16), indicated no significant difference between psychodynamic therapies and comparison interventions.

**Do any of the psychodynamic treatments perform better?**

To assess whether any psychodynamic treatment performed better than the others on outcomes of psychopathology and suicide/parasuicide, those treatments that had data from more than one study were included for analysis (CAT, TFP, MBT). A forest plot is given in Figure 4.



*Figure 4 –* Forest plot comparing outcomes by for different psychodynamic treatments.

Findings indicate a significant treatment effect in favour of MBT over comparison treatment (*p* < 0.05). An overall effect size of -0.55 (confidence interval 95%, -0.99 - -0.12) indicated a moderate treatment effect for MBT when compared with pre-therapy scores, Structured Clinical Management, Supportive Group Treatment and psychotherapy. There was evidence of substantial heterogeneity (*χ*² = 15.80, P <0.05, I2 = 75%).

There was no significant effect of CAT (*p* = 0.15) or TFP (*p* = 0.42) compared with comparison interventions. There was considerable variability in the outcomes reported for both CAT and TFP, while MBT had a more consistent pattern of modest outcomes.

**Do manualised treatments have a greater effect on outcome in BPD treatment than non-manualised treatments?**

To assess the impact of manualised treatment on outcomes of suicide/parasuicide and psychopathology, separate meta-analyses were conducted for studies using manualised treatments and for those that did not use a treatment manual. A forest plot is given in Figure 5.

****

*Figure 5 –* Forest plot comparing the effect of manualisation on treatment outcomes.

There was a significant effect when comparing manualised psychodynamic informed treatments with comparison treatments (*p* <0.01), with an overall effect for manualised treatments of -0.62 (confidence interval 95%, -0.89 - -0.35) indicating a moderate treatment effect in favour of psychodynamic informed therapies (MBT, MBT-A, CAT, DDP, TFP, PIP, PRFP) compared to no treatment or other types of evidence-based intervention, including: GCC, psychotherapy and OCC. Analyses suggested substantial heterogeneity of data (*χ*² = 41.08, df = 10, *p* <0.001, I2 = 76%). Interpretation of these finding should be done with caution.

For non-manualised treatment, there was no significant difference between non-manualised psychodynamic informed therapies and comparison treatment (*p* = 0.49).

**Does treatment adherence or fidelity affect the outcome of BPD treatment?**

The third aim of this review was to assess the impact of treatment fidelity or adherence on outcomes of suicide/parasuicide and psychopathology. The analysis is separated into studies considering treatment adherence and those studies that did not. A forest plot is given in Figure 6.

****

*Figure 6 –* Forest plot comparing whether assessing treatment adherence affects outcomes.

There was no significant difference between those studies that assessed treatment adherence with comparison interventions (p = 0.61). However, there was a significant moderate treatment effect for those studies not monitoring adherence to treatment -0.59 (*p* <0.05; confidence interval 95%, -1.02 - -0.15) when compared to no treatment, treatment as usual or psychotherapy. This latter finding indicates that those studies that did not monitor adherence performed considerably better than those studies that did monitor adherence, although there were concerns associated with considerable heterogeneity (*χ*²(3) = 19.28, *p* <0.001, I2 = 82%).

Overall those studies that did not assess therapist adherence appeared to perform better when compared to comparison interventions than those studies that assessed adherence to psychodynamic informed therapies.

**Does assessing for therapist competence have an effect on outcome in BPD treatment?**

The fourth aim of this review was to assess whether there was an impact on outcomes of suicide/parasuicide and psychopathology when therapist competence was assessed or not. The analysis is divided into studies attempting to monitor therapist competence and those studies that did not. A forest plot is given in Figure 7.

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*Figure 7 –* Forest plot assessing whether monitoring therapist competence affects outcomes

There was no significant difference in outcome between those studies that assessed therapist competency and those that did not (z = 0.03, *p* = 0.98). However, there was a significant moderate overall effect of -0.50 (z = 5.02, *p* <0.01) for those studies not assessing competency (confidence interval 95%, -0.69 - -0.30) when compared to no treatment, treatment as usual or evidence-based approaches such psychotherapy, good clinical management and structured clinical management. There were concerns with substantial heterogeneity (*χ*²(12) = 35.52, *p* <0.05, I2 = 66%).

Overall those studies that did not assess therapist competency appeared to perform better than those studies that attempted to assess competence in delivering psychodynamic informed therapies.

**Does therapist supervision have an effect on outcome in BPD treatment?**

The review aimed to assess the impact of supervision on outcomes. However, all but one of the 17 papers included for review reported the use of supervision. Therefore, it was not possible to conduct a meaningful comparison.

**Is the overall effect size moderated by study qualities?**

To assess whether quality was related to outcome (aim 7), a bivariate correlation analysis was conducted between quality score rating and overall effect size. Histograms indicated a normal distribution for both effect size and quality score and a Pearson’s correlation was computed. A two-tailed test indicated no significant association between quality score and overall effect size (*r* = 0.326, *p* = 0.186).

 A further bivariate correlation analysis was computed between follow-up time (months) and overall effect size. A histogram indicated a positive skew for follow-up time and a Spearman’s Rho correlation was computed. A two-tailed test indicated no significant association between follow-up time and overall effect size (*r* = 0.374, *p*  = 0.126).

# Discussion

**Summary of findings**

This systematic review and meta-analysis is the first review to incorporate a wide range of psychodynamic informed treatments. The review indicated that, overall, psychodynamic informed treatments for BPD are no more effective than comparison treatments when considering the clinical outcomes of suicidality/parasuicide and psychopathology. However, MBT did show favourable outcomes compared to non-dynamic therapies, with moderate effect sizes. The review also highlighted the value of manualised treatments in psychodynamic informed treatments for BPD. However, contrary to expectations, the use of competency and adherence measures was not associated with better outcomes, when psychodynamic informed treatments were compared with comparison conditions. However, *not* applying adherence or competency checks was associated with better outcomes for psychodynamic informed treatment, when compared to comparison conditions. Reassuringly, the methodological quality of the studies or the length of follow-up did not influence the findings.

**How do the findings relate to the wider literature base?**

 The findings from this meta-analysis are consistent with NICE guidelines, as NICE guidelines cite MBT as the only psychodynamic informed treatment with an established evidence base for a wide range of outcomes for BPD (National Collaborating Centre for Mental Health, 2009). The findings are also consistent with a recently published meta-analysis reviewing RCT data for the efficacy of psychological treatments for BPD (Cristea et al., 2017). Cristea et al. (2017) concluded that DBT and psychodynamic treatments demonstrate significant effects for a wide range of outcomes, including psychopathology and suicide/parasuicide, when compared to comparison treatments. However, a variety of psychodynamic treatments including MBT, DDP, TFP and SB-APP were collapsed under the umbrella term ‘psychodynamic’. Therefore, the current meta-analysis adds to this previous meta-analysis by refining which of the psychodynamic therapies are effective, specifically for outcomes of psychopathology and suicide/parasuicide. In the case of the current meta-analysis, MBT is the only psychodynamic informed treatment to evidence effectiveness.

Furthermore, the finding that use of treatment manuals is associated with improved outcomes is consistent with the literature base. The use of treatment manuals has been associated with improved outcomes in psychodynamic treatment (Town et al., 2012) and other psychological therapies, including cognitive-behavioural therapy (Crits-Cristoph et al., 1991). Nevertheless, despite consistent findings for the benefit of treatment manuals in therapy, the extant literature highlights that clinicians hold negative attitudes about the use of manuals (Addis & Krasnow, 2000). Clinicians have expressed that the use of manuals is overly simplistic, not individualised and void of clinical judgement (McCurran & Duggan, 2009).

In contrast to the literature on other therapies (e.g., CBT), the application of quality assurance measures (competency and adherence) measures did not result in improvement in outcomes relative to comparison therapies. Indeed, it appears that not using such measures might result in better outcomes for psychodynamic informed therapies. However it is unclear why this is the case. There are variable findings in the extant literature about the influence of adherence and competence on outcome. Therapist competence and adherence has been shown to have no effect on outcome (Webb, 2010), while others suggest competence but not adherence impacts on patient outcomes in psychodynamic therapies (Berglar et al., 2016). There are indications that for psychodynamic informed therapies, increased adherence can have unexpected therapeutic effects, including an increase in negative counter-transference (Henry, Strupp, Butler, Schacht, & Binder, 1993) and poorer interpersonal process (Henry, Schacht, Strupp, Butler & Binder, 1993). It could be hypothesised that poorer interpersonal processes and increased negative countertransference are associated with a poorer therapeutic alliance. The relationship between the therapeutic alliance and psychotherapy outcomes has been well researched (Ardito & Rabellino, 2011), and it might therefore be argued that adherence and competency measures negatively influence client outcome through threats to the therapeutic relationship from poorer interpersonal functioning and increased negative countertransference.

**Critique**

Meta-analysis has a number of inherent potential limitations. The ability to draw conclusions from this review is limited by the considerable heterogeneity, which is likely to be due to methodological flaws and small sample sizes in the studies considered (Israel & Richter, 2011). Statistical heterogeneity limits the confidence that the findings identified are associated solely with the effect of the treatment and are not due to unknown confounders.

This meta-analysis included studies with wide-ranging methodologies and follow-up periods. There are researchers who suggest that effect size estimates from repeated measures and independent designs can be meaningfully applied in meta-analysis, as long as the studies report on the same treatment effect and the effect size is measured using the same metric (Morris & DeShon, 2002). The current meta-analysis met these conditions and there were noted benefits of using a wide range of methodologies. For example, using a range of methodologies allowed for an overview of the many different types of research conducted in this area, including practise based and evidence based research. This strategy also means that there is a greater understanding not only of the efficacy of these treatments in highly controlled conditions, but also of the everyday effectiveness of these treatments when conducted in situations similar to those of routine clinical practise. Indeed, it is reported that clinicians often report that findings from highly controlled RCTs are not generalisable to their own practise (Shafran et al, 2009). Therefore, by combining the range of evidence, it is hoped that this meta-analysis could be viewed as credible by clinicians working in routine clinical practice.

 Nevertheless, using such a wide range of methodologies could be argued to limit the analysis. Indeed, while it can be agreed that all studies had the same population parameter (individuals with diagnoses of BPD), the different study designs could mean that each study has defined the population parameters differently. It is acknowledged that there were varying thresholds for classifying people as presenting with BPD, such that there might be different standard deviations and consequently different population metrics (Morris & Deshon, 2002). It is also noted that certain research designs, such as RCTs, are better at controlling for confounders and are therefore less likely to have an over inflated effect size. Therefore, it could be argued that treating all studies as equal, despite varying methodologies and control over confounders, is a weakness of this meta analysis and potentially results in an over inflation of the treatment effect. Indeed it might have been beneficial to weight studies based on their quality assessment scores, with higher quality scoring studies bearing more weight in the statistical calculations. However, while the study did not apply a weighting system, there were efforts to assess the impact of study quality on effect size and there was no evidence to suggest a relationship between the quality assurance score or follow-up time and the overall effects, strengthening the argument that the findings of this review are robust, and reflect genuine differences between the effectiveness of various psychodynamic informed treatments.

It might also be argued that heterogeneity was further increased by including a wide range of outcome measures under composite outcomes of suicide/parasuicide and psychopathology. However, there was evidence of convergent validity between measures, which limits the likelihood that the variance is explained by differing measures.

It is noted that a large number of studies (n = 10) were identified through ancestry searching or recommendation. This might indicate that the search strategy was not effective in capturing all relevant research. Of the studies found through ancestry and or recommendation, there are key features that could be used to inform the search strategy for future reviews. Indeed, studies using ‘mentalisation’ or ‘psychotherapy’ in the title, or acronyms such as ‘TFP’ were not identified through the original search terms. Furthermore, there is a complete absence of any representation of studies from Psychodynamic-Interpersonal Psychotherapy, otherwise known as the Conversational Model. While the original search strategy did identify key seminal work (Stevenson, Meares, & D’Angelo, 2005), other key papers were not identified (Korner, Gerull, Meares, & Stevenson, 2006).

It might be argued that CAT came close to showing a positive effect compared to other therapies, and that the considerable heterogeneity might have been the reason that this therapy did not demonstrate a significant effect. However, such a suggestion should be treated with caution. The funnel plot diagram (Figure 3) indicated potential publication bias, with two of the studies reporting anomalous effects being in favour of CAT (Kellett et al.,2013; Ryle & Golynkina, 2000). Therefore, there appears to be a particular bias for CAT research to report positive findings. However, it is acknowledged that there are limitations with interpreting funnel plots. The variation noted might be explained by other factors (Bax et al.,2008), and might mean that the treatment’s effects are accurately represented.

The review is further limited by the restriction to papers published in English. A total of 16 papers were not included as they were not published in English and it might be argued that the review is not as comprehensive without these papers. The review however is strengthened by the inclusion of a wide range of designs, methodologies and therapies informed by psychodynamic theory. This broad focus enhances the generalisability of the findings to routine clinical practice, rather than focusing solely on the efficacy of highly controlled studies. Another consideration is that the use of random-effects models, while more appropriate in this case, can bias effects. Such biases are particularly possible when there is evidence for publication bias or when smaller studies appear to show different results from larger studies (Poole & Greenland, 1999).

A final critique is associated with the inclusion of studies treating young people (those under eighteen years of age) with presentations categorised as borderline personality disorder or emerging borderline personality disorder. Diagnostic manuals permit the diagnosis of personality disorder in young people but it is highlighted that diagnosis is unlikely to be appropriate for those under 17 (National Collaborating Centre for Mental Health, 2009). The prevalence rates of BPD in young people is estimated between 0.9 – 3% in the community (Lewinsohn, Rohde, Seeley & Klein, 1997; Bernstein, Cohen, Velez & Schwab-Stone, 1993) and up to 22% in outpatient adolescent samples (Chanen et al., 2008). However the stability of the diagnosis is less clear with reports that retention of the diagnoses at follow-up is between 16 and 64% (National Collaborating Centre for Mental Health, 2009). The variability in the stability of diagnoses highlights the potential limitation that the meta-analysis could overestimate the effectiveness of psychodynamic treatments for BPD, as studies incorporating young people might be anticipated to show improvements over time (regardless of treatment), due to diagnostic inaccuracies. It is worth noting that two out of five MBT studies (Bateman & Fonagy, 2008; Laurenssen et al., 2014) included young people under 18 and one out of three CAT studies (Chanen et al., 2008) included young people.

The review was strengthened by the use of a quality appraisal tool that was adapted for the purpose of this review. While it is recognised that this is not a validated model, the criteria were informed by an existing tool and incorporated specific items that allowed the researcher to answer specific questions relating to competence and adherence. Furthermore, some quality appraisal tools have been critiqued based on estimates of interrater reliability (Jørgensen et al., 2016). The current meta-analysis accounted for potential discrepancy in assessor judgement, by employing a second independent quality assessor to score a random selection of studies against the predefined quality criteria. The kappa coefficient indicated good interrater reliability between assessors for the current meta-analysis, which enhances the confidence in the ratings and subsequent analyses.

Finally, the current meta-analysis was strengthened by the correlation analyses aiming to identify whether study design, study quality and length of follow-up was associated with better or worse outcomes. Ost (2014) demonstrated that study quality and outcome-effect size can be related, and it is therefore recommended that meta-analyses should examine for any association between study quality and outcome/effect size.

**Implications for clinical practice**

The findings from the meta-analysis suggest that, at this stage, clinicians choosing to work in a psychodynamic informed way should use MBT to improve psychopathology and suicide/parasuicide outcomes for clients with BPD. However, the effects appear modest at best. In delivering psychodynamic therapy, reference to the treatment manual is to be recommended, and MBT is one such example of a manualised treatment. However, focussing too heavily on adherence and competence can have negative outcomes for therapy. It is essential that clinicians remain attuned to the therapeutic alliance, to avoid a breakdown in interpersonal process and an increased vulnerability to negative countertransference.

The findings from the current review suggest that, at this stage, the evidence base for outcomes of suicide/parasicide and psychopathology does not support the application of psychodynamic informed therapies, other than MBT, over other active psychological treatments or usual clinical management approaches. However, these findings might guide clinicians in how to generate more effective psychodynamic therapies and prove their value.

**Further research**

For clinicians continuing to adopt psychodynamic informed treatments such as TFP and CAT for outcomes of suicide/parasuicide and psychopathology, it is essential that the approaches are evaluated through practice based research, including single case experimental designs and/or experimental and highly controlled methods, including RCT.

The meta-analysis also highlights that there is a need for further higher quality studies to develop the quality of the evidence base for psychodynamic informed therapies. Most notably, the current evidence base lacks studies where psychodynamic informed treatments are compared with active psychological treatments, particularly evidence-based therapies such as DBT. There is also a need for studies based on longer follow-up periods.

If the methods applied to assess quality assurance is potentially detrimental to client outcomes, it would be helpful to conduct research that helps to ascertain competency and adherence to psychodynamic informed therapies using alternative methods. This might be conducted retrospectively, using clinician accounts of their therapeutic practice. Furthermore, this study was unable to assess the impact of supervision and it would be useful for future research to compare the effect of supervision and no supervision on outcomes in psychodynamic informed therapies.

It is recognised that this review is limited by its focus on suicide/parasuicide and psychopathology outcomes. Future research might instead review the effect of psychodynamic informed therapies on other outcomes, including economic measures and quality of life.

It is noted that the review relied heavily on recommendation or ancestry searching to identify studies where titles either used the terms ‘mentalisation’ or ‘psychotherapy’ or used acronyms, such as TFP. Additionally there was an absence of representation from the Conversational Model. To improve future reviews, the search strategy would benefit from the inclusion of ‘psychotherap\* OR conversational OR mentalisation OR mentalization OR PI OR TFP’.

**Summary**

Overall, the meta-analysis suggests that as a whole, psychodynamic informed therapies do not perform better than comparison treatments (including TAU) for psychopathology and suicide/parasuicide outcomes, for clients with BPD. However, MBT as a treatment does appear to outperform comparison treatments. The use of manuals to guide and inform the delivery of psychodynamic therapies is also associated with better patient outcome. However, measuring adherence and competence does not improve outcomes and might instead be associated with poorer outcomes for psychodynamic informed therapies. At this stage, an understanding of why this is the case is purely hypothetical and requires further exploration. The meta-analysis highlights variation in the quality of studies. It suggests that further high quality studies with active and empirically supported comparison psychological treatments (such as CBT, DBT, etc.) are needed to develop the evidence base for psychodynamic informed therapies such as MBT and CAT.

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\* studies included for review.

# Appendix A: Quality Assessment

Key: Y (yes, meets criteria) N (No, not present)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Was the study clearly focussed? | Did recruitment allow for a representative participant sample? | Was there a separate comparison group i.e. not pre-post? | Was the treatment comparison appropriate/evidence-based? | Were the groups similar? | Was there post-intervention follow-up? | Were there efforts to systematise the exposure (i.e. treatment manuals) | Were there efforts to control the exposure (i.e. treatment adherence) | Were there efforts to measure therapist competence?  | Were therapists supervised? | Were confounders acknowledged and managed in the design or analysis? | Were there efforts to account for those lost to follow-up/drop-out? | Was power considered? | Was allocation randomised? | Attempts at blindi1ng? | Total (number of Y/number of items) |
| Amianto et al (2011) | Y | Y | Y | Y | Y | Y | N | N | N | Y | Y | Y | N | Y | Y | 0.73 |
| Bales et al (2015) | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | N | N | 0.73 |
| Bateman & Fonagy (2008) | Y | Y | Y | Y | Y | Y | N | Y | N | Y | Y | N | N | Y | Y | 0.73 |
| Bateman & Fonagy (2009) | Y | Y | Y | Y | Y | N | Y | N | N | Y | Y | Y | Y | Y | Y | 0.8 |
| Chanen et al (2009) | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | 0.93 |
| Clarkin et al (2001) | Y | Y | N |  | N | Y | Y | N | Y | Y | Y | N |  |  | 0.64 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Doering et al (2010) | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | 0.93 |
| Giesen-Bloo et al (2006) | Y | Y | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | N | 0.80 |
| Gregory et al (2010) | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | Y | 0.87 |
| Jørgensen et al (2014) | Y | Y | Y | Y | Y | Y | N | Y | N | Y | Y | N | N | Y | N | 0.73 |
| Kellett et al (2013) | Y | Y | N |  |  | Y | N | Y | Y | Y | N | N | N |  |  | 0.54 |
| Kvarstein et al (2015) | Y | Y | Y | Y | N | N | Y | Y | Y\* | Y | Y | Y | N | N | N | 0.67 |
| Laurenssen et al (2014) | Y | Y | N |  |  | N | Y | Y | N | Y | Y | N | N |  |  | 0.55 |
| Leichsenring et al (2010) | Y | Y | N |  |  | N | Y | Y | N | Y | Y | Y | N |  |  | 0.64 |
| Reneses et al (2013) | Y | Y | Y | Y | Y | N | Y | Y | N | Y | Y | N | N | Y | N | 0.67 |
| Ryle & Golynkina (2000) | Y | Y | N |  |  | Y | N | N | Y | Y | Y | N | N |  |  | 0.54 |
| Salzer et al (2014) | Y | Y | N |  |  | N | Y | N | N | N | Y | Y | N |  |  | 0.45 |

Note: Grey shading identifies criterion that are not applicable to pre/post studies. The asterisk (\*) highlights that that there were efforts to assess competency with MBT but not the psychodynamic treatment.

# Part two: Research report.

How is Cognitive Analytic Therapy delivered in routine practice, and what factors influence its delivery?

# Abstract

**Objective:** The study aimed to explore the application of Cognitive Analytic Therapy (CAT) in routine clinical practice and the factors that influence the delivery of this therapy.

**Method:** Fifty-nine clinicians self-reporting using CAT with clients with depression and borderline personality disorder (BPD) completed an online survey. Clinicians were asked to reflect on their use of specified CAT techniques with their last client with depression and BPD and their usual practice with clients with these diagnoses. Clinician anxiety and conscientiousness were also measured using validated psychometric measures.

**Results:** Participants self-reported high implementation of core CAT techniques. However, recognition work was the technique least implemented. Cluster analyses indicated varying technique use for both BPD and depression treatment. Diagnosis and clinician factors were not associated with varying levels of technique use, but client-specific factors were.

**Conclusions:** Specific client factors are associated with lower clinician use of core CAT techniques. However, this effect is associated with clinician beliefs and perceptions about the influence of these factors rather than direct evidence that such factors require core techniques to be omitted. Strengths and limitations of the study are discussed. Future research is needed to further understand factors influencing the delivery of CAT in routine clinical settings.

**Practitioner Points**
1. Core CAT techniques are well implemented in routine clinical practice.
2. Clinician beliefs and perceptions about a client can influence the delivery of CAT.

3. Clinicians should consider whether omitting elements of CAT is necessary and advantageous or whether it is based on their beliefs and perceptions.

4. The study is limited by the use of a survey methodology, as this introduces potential for socially desirable responding and a potential overestimation of fidelity.

5. The experimental methodology of the study introduces a level of artificiality and a more valid understanding of the application of CAT could be achieved through naturalistic observation.

#

# Introduction

This study explores the delivery of Cognitive Analytic Therapy (CAT) in routine clinical practice. A growing body of research highlights the role of therapist factors in influencing adherence to therapies, including Cognitive Behaviour Therapy (CBT; Stobie, Taylor, Quigley, Ewing, & Salkovskis, 2007) and Psychodynamic Therapy (PT; Owen & Hilsenroth, 2014). However, there is no understanding of the factors that influence the delivery of CAT in routine clinical practice.

This introductory section will: (i) provide an overview of CAT and why an understanding of its application in clinical practice is of interest; (ii) provide an outline of research into factors known to affect adherence or ‘drift’ from evidence based therapies; and (iii) discuss why factors known to influence adherence and drift might be applicable to CAT. The section concludes with an outline of the aims and hypotheses of the study.

**Cognitive Analytic Therapy**

Cognitive Analytic Therapy (CAT; Ryle & Kerr, 2002) is a time-limited integrative psychotherapy, usually between 16 sessions or 24 sessions for more complex presentations such as Borderline Personality Disorder (BPD). Fundamentally, CAT is a relational model and assumes that personality and thought are generated through interaction with others. Most notably, the experiences of the early caregiver/infant relationship shape our understanding of ourselves and others, and form the blueprint of how to relate to others. The caregiver/infant relationship is internalised into a Reciprocal Role. An example of a Reciprocal Role might be *caring* to *cared for.* The infant has learned through the experience of being cared for, how to be cared for, how to care for others and how to care for themselves. Within CAT, the enactment of Reciprocal Roles that are unhelpful, for example an *abusing* to *abused* Reciprocal Role, is considered to be the basis of human distress and mental health difficulties.

CAT has been described as having a “clear form and rhythm” (Ryle, 1990 p.11). It is a therapy that utilises common therapeutic techniques, such as developing a strong working alliance and CAT specific techniques, such as reformulation. The process of CAT is thought to fall into three distinct stages of Reformulation, Revision and Recognition. The following description of the three stages is based on Ryle (1990).

The Reformulation stage usually occurs during the first four sessions and is concerned with developing the therapeutic alliance and a joint understanding or *reformulation* of the client’s current problems and their procedures. The term reformulation reflects that clients will already bring with them an understanding or formulation of their difficulties and that the reformulation is a process of joint collaboration between client and therapist. Assessment of the current problems and procedures is achieved through within-session discussion, between-session homework tasks and completion of the Psychotherapy File. The Psychotherapy File is a structured questionnaire outlining common patterns or procedures, moods and states that maintain a client’s difficulties.

The Recognition stage reflects a move from understanding, to recognising the enactment of problematic procedures. One goal of the recognition stage is for therapist and client to recognise the pull to collude with procedures within therapy Recognition in daily life is achieved through client self-monitoring of the enactment of problematic procedures.

The Revision stage moves towards new ways of relating or ‘exits’ from repeating problematic cycles. Exits are idiosyncratic and can draw on other therapies. Termination is a key task during the revision phase, and client and therapist are encouraged to share goodbye letters to signify the end of therapy.

While CAT was initially developed for common mental health problems such as depression and anxiety (Ryle, 1990), it has gained popularity as a model for working with complexity, due to its focus on interpersonal difficulties (National Collaborating Centre for Mental Health, 2009) and the Multiple Self States Model (MSSM) of BPD (Ryle, 1997) outlines a clear model and method to approach the treatment of BPD. National Institute for Health and Care Excellence (NICE) guidelines identify CAT as a potential treatment option for less severe presentations of BPD. However, they note a need for greater evidence to determine its efficacy (National Collaborating Centre for Mental Health, 2009).

There is a growing evidence base for CAT. Controlled efficacy trials have demonstrated favourable outcomes for personality disorders (e.g., Clarke, Thomas, & James, 2013). Evidence from routine clinical practice reports favourable findings for BPD (Kellett, Bennett, Ryle, & Thake, 2013; Ryle & Golynkina, 2000; Wildgoose, Clarke & Waller, 2001) and depression (Bennett, 1994; Dunn, Golynkina, Ryle, & Watson, 1997). A meta-analytic review of twelve studies identified CAT as an effective treatment for a range of presentations and outcomes of psychopathology (Ryle, Kellett, Hepple, & Calvert, 2014). However, the authors concluded that the evidence was largely for CAT with complex presentations such as personality disorder, rather than common mental health difficulties (Ryle et al., 2014).

CAT is developing a promising evidence base as a suitable therapy for application across a wide range of presentations, including BPD and depression. However, we know that the delivery of evidence-based therapies is often suboptimal (Shafran et al., 2009). Without specific knowledge about the delivery of CAT in routine clinical settings, we might assume that findings from other evidence-based therapies highlighting non-adherence are generalisable to CAT.

**Factors affecting the delivery of therapy.**

Within the extant literature base, client and therapist factors have been identified as affecting the delivery of therapy. Therapist ‘drift’ (Waller, 2009) has been defined as the therapists’ departure from evidence-based therapy. Research into therapist adherence and patient outcome has produced mixed findings (Perepletchikova & Kazdin, 2005). However, there is a demonstrable link between a failure to apply evidence based ‘active ingredients’ of a therapy (e.g., exposure with response prevention for specific phobia) and poor client outcome (Meyer et al., 2014). There are conditions when adapting an evidence-based protocol is necessary and indeed beneficial for a client’s outcomes (Berglar et al., 2016; Owen & Hilsenroth, 2014). However, it has been argued that these conditions are rare in psychological therapies (Meehl, 1973), although clinicians are reportedly opposed to this suggestion that such cases are rare (Salzinger, 2005). It might be argued that unfounded judgements about the applicability of the evidence base mean that therapy is inappropriately adapted at the expense of the client.

There is a growing appreciation that therapists are not a homogenous group (Berglar et al., 2016). Individual therapist characteristics are associated with drift (Waller & Turner, 2016). Identified therapist factors include:

**Therapist attitudes and perceptions.** Therapist drift has been associated with therapist’ attitudes and beliefs (Waller & Turner, 2016), particularly attitudes to manual based treatment. The negative attitudes towards manuals contrast with the evidence that the delivery of manualised treatment in routine clinical settings is associated with better outcomes (Cukrowicz, Timmons, & Sawyer, 2011), with outcomes similar to those reported in efficacy trials (Addis & Waltz, 2002). Meehl (1973) suggested that therapists fail to apply evidence-based protocols due to their own doubts about prescribing group-level predictions to individuals, even if the result is that fewer people benefit overall. A subsequent meta-analysis confirmed the limitations of clinical judgement over mechanical (e.g. statistical and actuarial) judgements (Grove, Zald, Lebow, Snitz, & Nelson, 2000).

The therapist’s perception of a client also influences the delivery of therapy. For example, therapists report they are likely to exclude clients they consider emotionally fragile from exposure-based therapy, despite no evidence that emotional fragility is associated with poor outcomes (Meyer et al., 2014). One might assume that clients with diagnoses of BPD and depression are likely to be perceived by therapists to be emotionally fragile however the impact of these diagnoses on the delivery of treatment is of interest. However, it has been noted that in dialectical behaviour therapy (DBT) therapists are less likely to drift from protocol if working with BPD (the disorder for which DBT was developed) or with depression than if working with anxiety (DiGiorgio, Glass, & Arnkoff, 2010). This finding might suggest that therapists are less likely to drift if they work within a model that is suited to the client’s presentation.

There is also suggestion that the perceived risk a client poses (to themselves and others) could influence the delivery of time-limited therapies, as there might be an excessive focus on reducing risk, to the exclusion of attending to other therapeutic needs (Saxon & Barkham, 2012).

**Therapist emotions and personality.** Therapist emotions including shame and anxiety, have been proposed as potential factors affecting the delivery of therapy (Waller, 2009). Therapist anxiety, for example, might motivate therapists to avoid uncomfortable situations. Indeed, therapist anxiety has been associated with a reduced expectation for clients presenting with anxiety to engage in exposure-based therapy (Levita, Salas Dune, Girling & Waller, 2016; Meyer, Farrell, Kemp, Blakey, & Deacon, 2014).

To date, there has been limited research into the effect of therapist personality on drift. However, therapists’ openness to experience has been associated with greater fidelity (Peters-Scheffer, Didden, Korzilius, & Sturmey, 2013). It might be expected that those therapists scoring high on the trait of conscientiousness might demonstrate better adherence, as this trait is associated with a desire to execute a task well in an efficient and organised manner (DeYoung, Quilty, & Peterson, 2007).

**Therapist experience**. Experienced therapists have reported lower adherence to therapy when faced with clients considered more a severe presentation. Instead, they place a greater focus on developing the therapeutic relationship (Tschuschke et al., 2015). However, it should be noted that more experienced therapists are also marked by poorer outcomes (Shapiro & Shapiro, 1982), so it is not clear that such change in practice is effective or an example of drift reducing therapy outcomes.

**Summary**

Overall, there is a developing evidence base demonstrating the influence of therapist emotions, beliefs, experience, personality and the perceptions of their clients’ risk/fragility on the delivery of therapy in routine clinical practice. However, there is a paucity of research exploring the routine application of CAT in practice, and it is unknown whether the patterns of variability seen in the delivery of other therapies is applicable to CAT. Therefore, this study aims primarily to assess whether there is any evidence of variability in the application of CAT techniques in routine clinical practice. Furthermore, based on the current evidence base for delivery of other psychological therapies, we might expect to see a relationship between variability in technique use and therapist characteristics (perceptions, mood, personality) and client factors (diagnosis, perceived emotional fragility and risk). The overall aims for the study are to:

* determine whether there is proof of concept that the patterns of variability in technique use observed in other therapies is applicable to CAT.
* determine the relationship between client diagnosis and clinicians’ use of core therapeutic techniques in CAT.
* determine the relationships between therapist characteristics (demographics; anxiety; conscientiousness) and their use of core therapeutic techniques in CAT.
* determine whether there are naturally occurring clusters of techniques in CAT for BPD and depression.

**Hypotheses**

1. There will be variability in the application of CAT techniques. CAT practitioners will report using core CAT techniques more frequently when working with BPD than depression.
2. There will be a difference in the use of core therapeutic techniques associated with therapists’ perceptions of clients’ risk to self and others, severity and complexity.
3. Higher levels of therapist anxiety will be associated with lower use of core therapeutic techniques*.*
4. Higher levels of therapist conscientiousness will be associated with higher use of core therapeutic techniques.
5. The extent of therapists’ use of core therapeutic techniques will be related to therapist demographic characteristics (therapist age, gender, years post-qualification, profession, accreditation).
6. There will be naturally occurring clusters of techniques in CAT treatment for BPD, such that some clinicians will report being adherent to CAT, while others will report excluding key elements.
7. There will be naturally occurring clusters of techniques in CAT treatment for depression, such that some clinicians will report being adherent to CAT, while others will report excluding key techniques.

#

# Method

**Design**

 The study was quantitative, and employed an experimental repeated measures design. Participant data were collected using an online survey.

**Ethical considerations**

Ethical approval was granted by the University of Sheffield’s Department of Psychology Research Ethics Committee. See appendix A for supporting documentation.

**Participants**

 **Sample size.** Calculation of the appropriate sample size was conducted using G\*Power, with hypothesis 1 as the central hypothesis (Appendix B). Based on a paired samples *t*-test and the assumption of a moderate effect size (d = 0.5) and a one-tailed *α* value of 0.05 this study required a total sample size of 21 to achieve a power of 80%. Hypotheses 3 and 4 were tested using correlation analyses. Based on the assumption of a moderate effect size (*t* = 0.35) and a one-tailed *α* value of 0.05 (*p* ≤ 0.05), this study required a total sample size of 46 to achieve a power of 80%. A total of 59 participants were recruited, ensuring that all statistical tests were adequately powered.

 **Recruitment**. Recruitment was based on an opportunistic sampling method. Accredited cognitive analytic therapists were sourced through the Association of Cognitive Analytic Therapists (ACAT) website. A total of n = 182 therapists were approached through this method. Further recruitment was conducted at an ACAT conference, where non-accredited CAT therapists were also invited to participate. A total of n = 32 therapists were approached through this method. All clinicians recruited in this way were invited to participate via an email, which included a hyperlink to the online survey (Appendix C). Additional recruitment was facilitated through the use of snowball sampling.

 To ensure informed consent, participants were provided with an Information Sheet that outlined information about the study, its purpose, what the study would involve, any potential limitations or negative consequences of participating, and processes for registering a complaint (Appendix D). To proceed with the survey items, participants were asked whether they had read and understood the information sheet, and consented to completing the survey (Appendix E). Individuals who did not provide informed consent were directed to the end of the survey.

 **Inclusion/exclusion criteria.** Participants were eligible for participation if they reported using CAT in the treatment of both BPD and depression in their clinical practice in the past year. To enhance the representativeness of the sample, there were no specifications about: accreditation status, area of work, or client population.

**Measures**

 An online survey was developed using Qualtrics software (Appendix F).

**Independent variables.**

***Participant and client information.*** The first items of the survey asked participants to provide information about their accreditation status, gender, profession, years since qualifying, their use of manuals, and the percentage of clients with depression and BPD on their caseload (Appendix G). Participants were also required to provide information about the clients from their case examples including; diagnosis, gender, age and whether the client had an intellectual disability, and estimates of complexity, severity and risk to self, others. (Appendix H).

 ***Therapist anxiety.*** Intolerance of uncertainty is suggested to be a transdiagnostic feature across anxiety disorders (Carleton et al., 2012). Therapist anxiety was measured using the Intolerance of Uncertainty Scale - 12 (IUS-12; Carleton, Norton & Asmundson, 2007) (Appendix I), a twelve item self-report questionnaire that is commonly used to measure the cognitive element of anxiety. Items are rated on a 5-point Likert scale. The IUS-12 correlates well with measures of anxiety and worry and produces a two-factor model of prospective anxiety and inhibitory anxiety (Carleton et al., 2007). Prospective anxiety has been identified as the anticipation of uncertainty, and has been associated with Generalised Anxiety Disorder and Obsessive Compulsive Disorder (McEvoy & Mahoney, 2011). Inhibitory anxiety described inaction in the face of uncertainty and has been linked with social phobia and panic disorder (McEvoy & Mahoney, 2011). The measure has demonstrated excellent internal consistency (α = .91) (Khawaja & Yu, 2010) and good test–retest reliability over a five-week period (Buhr & Dugas, 2002).

 ***Therapist conscientiousness****.*Therapist conscientiousness was measured using the Ten Item Personality Inventory (TIPI; Gosling, Rentfrew, & Swann, 2003) (Appendix J). The TIPI is a brief measure of the big five personality traits (openness, agreeableness, conscientiousness, extraversion and neuroticism). As a consequence of the brevity of this measure, there are noted limitations with the internal consistency of scales. The internal consistency of the Conscientiousness scale of the TIPI (α = .50) is considered poor, though it could be argued that there is no a meaningful way to statistically analyse a two-item scale such as this one. However, the TIPI as a whole correlates well with longer measures of the Big Five personality characteristics, demonstrating adequate convergent and discriminant validity, test–retest reliability and patterns of external correlates and is considered a useful tool for (Gosling et al., 2003).

**Dependent variable.**

***Measures of Drift*.** Therapist drift has been identified as a common phenomenon in CBT (Waller, 2009). To measure drift in CAT, participants were asked to reflect on their use of specified CAT techniques, based on: the last client they treated with depression; the last client they treated with BPD; their usual practice when treating a client with depression; and their usual practice when treating a client with BPD (Appendix K). This method was informed by a study exploring therapist adherence to Dialectical Behaviour Therapy (DBT; DiGiorgio et al., 2010).

The specific therapeutic techniques that were used in this study were based on the measure of Cognitive Analytic Therapy Competency (CCAT, Bennett & Parry, 2004), consultation with an ACAT accredited supervisor, and the extant literature base (Ryle & Kerr, 2002). Other generic therapeutic competencies including risk assessment and the therapeutic relationship were included.

 ‘Case example’ responses were limited to a dichotomous yes/no answer, while ‘usual practice’ responses were based on a 5-point Likert scale (1 = always, 2 = often, 3 = sometimes, 4 = rarely, 5 = never). The measure produced four dependent variables; BPD Case Drift, Depression Case Drift, BPD Usual Practice Drift, and Depression Usual Practice Drift. Case Drift scores were the sum of the ‘no’ responses, when participants were asked to reflect on their last case of BPD or depression. The Usual Practice Drift Score was the sum of the Likert items. The Usual Practice Drift scores were calculated on a 0 – 4 scoring template. A score of ‘0’ was given for always’, ‘1’ for ‘often’, ‘2’ for ‘sometimes, ‘3’ for ‘rarely’ and a ‘4’ for ‘never’. For both Case Drift and Usual Practice Drift, a higher score reflected an overall lower use of core therapeutic techniques.

 To assess the suitability of the items in measuring CAT practice and to ensure that responding did not evidence a floor or ceiling effect, the items were piloted on six trainee Clinical Psychologists, who self-reported using CAT with both depression and BPD during their training. The pilot demonstrated the appropriateness of the measure, showing variability in the responses to items.

**Procedure**

 Participants were directed to the online survey through a hyperlink and were first required to read through the information sheet and provide consent to participate. Once consent was obtained, participants proceeded to the online survey, where they were asked to complete questionnaires about participant demographics, use of core CAT techniques, anxiety and conscientiousness. Participants were required to reflect on their use of CAT techniques when working with their last client with depression, their last client with BPD, their usual approach to working with BPD and their usual approach to depression. The presentation of questions for BPD or depression was counterbalanced by Qualtrics, to limit any order effects. Data were collected anonymously. Participants generated a unique code to identify data. Participants were required to answer all questions. Data were subsequently downloaded from Qualtrics into an Excel spreadsheet. This was subsequently transferred to SPSS for data analysis.

**Data analysis**

Data were analysed using IBM SPSS, Version 23. A minimum significance level of P < .05 was used in the interpretation of all analyses. Bonferroni corrections were applied following ANOVAs, to reduce the likelihood of incorrectly rejecting the null hypothesis.

To assess the distribution of data, histograms were generated and the Shapiro Wilks test statistic was computed. However, it is argued that with sample sizes larger than 40, violation of the normality assumption does not create major difficulties (Jekel, Katz & Elmore 2001; Pallant, 2007). As such, parametric tests were employed for both parametric and non-parametric data.

**Descriptive analysis.** Descriptive statistics were calculated for: participant data; BPD client data; depression client data; technique use for case examples; and technique use in usual practice. Means and standard deviations were provided for continuous data, while percentages were generated for categorical data. For descriptive data relating to technique use for case examples, the *N* and % reflect the number and percentage of participants who reported using the technique.

 Descriptive analyses of technique use in usual practice were based on data from 58 participants. One participant’s data for this section was removed as the participants informed the researcher that they did not use CAT in their usual practice but had used CAT in the treatment of both a client with depression and a client with BPD. As it was not possible to skip this section or answer ‘not applicable’, they answered ‘never’ to all questions. All other descriptive analyses were based on the data from 59 participants.

 **Inferential analysis.** To test hypothesis 1, paired samples t-test were conducted. First, BPD Case Drift Scores and Depression Case Drift Scores were compared. Secondly, BPD Usual Practice Drift Scores and Depression Usual Practice Drift Scores were compared. Correlation analyses were subsequently conducted to assess the relationship between all drift scores.

 Hypothesis 2 was tested using multiple statistical analyses. As client data were available only for case examples, the following analyses used the BPD Case Drift scores as the dependent variable (DV). The independent variables (IVs) of client risk (to self and others) had three levels (low, moderate and high). One-way ANOVAs were computed comparing BPD Case Drift Scores across the three levels (high, medium and low) for risk to self, risk to others and severity. For client complexity, an independent samples *t*-test was computed to compare the BPD Case Drift Scores across medium and high complexity, as not enough clients with diagnoses of BPD were rated as ‘low complexity’. Additional independent samples *t*-tests were computed to compare BPD Case Drift Scores across the different levels of the independent variable of client intellectual functioning (intellectual disability or no intellectual disability) and gender (male or female). A correlation analysis was computed to assess the relationship between client age and BPD Case Drift Score. The analyses were conducted again, with Depression Case Drift Scores as the DV. However, the IV of Complexity was analysed using a one-way ANOVA, as there was a sufficient *N* for the three levels.

 Hypotheses 3 and 4 were tested using bivariate correlation analyses. Pearson’s *r* was computed to assess the relationship of the IVs of Prospective Anxiety, Inhibitory Anxiety, Conscientiousness, Openness, Agreeableness, Extraversion and Neuroticism with the four drift scores.

 For Hypothesis 5, an independent samples t-test was computed to compare accredited and non-accredited therapists’ drift scores. A further independent samples t-test was computed to compare male and female therapists’ drift scores. Correlations were computed to assess the relationship between the four measures of drift and the continuous therapist factors (e.g., age, years post qualification, use of manuals, percentage of caseload with depression).

Hypotheses 6 and 7 were each tested using non-hierarchical, two-step cluster analysis. Cluster analysis is a multivariate method that organises individuals into meaningful categories. Unlike other cluster analyses (K-means cluster analysis and hierarchical cluster analysis) two-step cluster analysis automatically selects the optimal number of clusters. Cluster analysis was used to identify naturally occurring patterns of technique use across individuals, to determine whether different clinicians offered different types of CAT intervention to clients with either BPD or depression. Cluster analyses were computed for both BPD Case Drift and Depression Case Drift scores (Case Drift scores were used, as they are less likely to be influenced by socially desirable responding). Where different clusters of CAT technique use were identified, attempts were made to validate the clusters relative to other variables that were not used to carry out the clustering.

# Results

**Characteristics of the sample**

**Therapist characteristics**. A total of 59 CAT therapists were recruited. See figure 1 for a visual representation of participant recruitment.

N = 59 participants recruited

182 ACAT accredited clinicians invited to participate via email

32 clinicians approached at an ACAT conference, invited to participate via email

Snowball sampling – unknown how many people were invited to participate.

215 invited to participate, did not complete the online survey.

59 participants completed data for both the BPD and Depression Case Example questionnaires

58 participants completed data BPD and Depression Usual Practice Example questionnaires

1 participant’s usual practice data was removed as they emailed to advise that they did not use CAT in their usual practice but they were unable to skip this section due to forced responding

*Figure 1:* Flow chart outlining participant recruitment

One opted not to disclose their gender. Of the remainder, 46 were female (79.3%) and 12 male (20.7%). Fifty-four therapists were ACAT accredited (91.5%), with five therapists either non-accredited or working towards accreditation (8.5%). The majority of the sample was clinical psychologists (n = 33, 55.9%), while others described themselves as therapists (n = 19, 32.3%), psychiatrists (n =3, 5.1%), nurses (n = 2, 3.4%), an art therapist (n =1, 1.7%), and a mental health worker (n = 1, 1.7%). Participants reported working in a range of areas, including general adult mental health and specialist services (e.g., secure care, eating disorders, health). The mean age of participants was 48.8 years (SD = 10.9), and their mean length of post-qualification experience was 15.2 years (SD = 9.5). Participants reported that a mean of 36.3% of clients on their caseload had a diagnosis of BPD and 21.2% had a diagnosis of depression. Participants recorded using manuals in their general therapeutic practice 17.9% (SD = 26.4) of the time, with a range from 0% to 100%.

The participants’ mean score on the IUS-12 Inhibitory Anxiety scale was 7.46 (SD = 2.45), and their mean Prospective Anxiety score was 14.3 (SD = 4.55). Both mean scores for Inhibitory Anxiety and Prospective Anxiety were slightly below the mean for a non-clinical sample (Carleton, Norton, & Admunson, 2007).

 Therapists’ mean scores on the five scales of the TIPI were consistent with mean scores for a non-clinical sample (Gosling, Rentfrow, & Swann, 2013). Their Conscientiousness score was 5.98 (SD = 1.07), Extraversion score was 4.34 (SD = 1.35), Agreeableness score was 5.59 (SD = 0.92), Emotional stability mean score was 5.21 (SD = 1.18), and Openness score was 6.68 (SD = 0.95).

**Characteristics of the patients reported on by therapists**

**Characteristics of the patients with BPD.** The majority of clients were female (n = 52, 89.1%) and had a formal diagnosis of BPD (n = 40, 67.8%). Fifty-four (91.5%) clients did not have an intellectual disability. Therapists rated the majority of clients as presenting with high (n = 31, 52.5%) to moderate (n = 27, 45.8%) complexity, and a high (n = 26, 44.1%) to moderate (n = 26, 44.1%) risk of harm to themselves. Most clients were perceived to present a low (n = 43, 72.9%) to moderate (n = 12, 20.3%) risk of harm to others. The severity of the client’s presentation was rated as moderate (n = 32, 54.2%) to high (n = 24, 40.7%). The mean age of clients was 34.6 years (SD = 11.6; range = 16-70).

**Characteristics of the patients with depression.** Thirty were female (50.8%) and 28 male (47.5%). The gender of one client was not disclosed. The majority had formal diagnoses of depression (n = 47, 79.7%). Fifty-five (93.2%) clients did not have an intellectual disability. Therapists rated the majority of clients as presenting with high (n = 35, 54.2%) to moderate (n = 22, 42.4%) complexity, and a low (n = 23, 39%) to moderate (n = 20, 33.9%) risk of harm to themselves. Most clients (n = 52, 88.1%) were perceived to present a low risk of harm to others. The severity of the client’s presentation was rated as moderate (n = 31, 57.6%) to high (n = 21, 35.6%). The mean age of clients was 38.9 years (SD = 14.8; range = 15-69).

**Distribution of data**

Histograms were generated for drift scores (BPD Case Drift Scores, Depression Case Drift Scores, BPD Usual Practice Drift Scores and Depression Usual Practice Drift Scores), IUS-12 Scales (Prospective and Inhibitory Anxiety) and Conscientiousness scores. All data were non-normally distributed (p ≤0.001). Drift Scores and IUS-12 Scores displayed a significant positive skew, while a significantly negative skew was observed for Conscientiousness.

**Hypothesis 1: There will be variability in the application of CAT techniques. CAT practitioners will report using core CAT techniques more frequently when working with BPD than depression.**

**Implementation of CAT techniques in clinicians’ case examples.** Table 1 outlines the implementation rates for therapists on each technique for the BPD and Depression Case Examples. All statistics were calculated on 59 therapists’ data.

Table 1

*Table outlining implementation rates for BPD and Depression case examples.*

|  |  |  |
| --- | --- | --- |
|  | BPD case example | Depression case example |
| **Technique** | N | % | N | % |
| Target problem | 56 | 94.9 | 53 | 89.8 |
| Target Problem Procedures  | 52 | 88.1 | 56 | 94.9 |
| Sequential Diagrammatic Reformulation | 59 | 100  | 58 | 98.3 |
| Exits from TPPs | 54 | 91.5 | 56 | 94.9 |
| Reformulation letter  | 53 | 89.8 | 52 | 91.5 |
| Focus on Endings | 52 | 88.1 | 54 | 88.1 |
| Set Therapeutic Goals  | 52 | 88.1 | 55 | 93.2 |
| Collaborative approach | 59 | 100 | 59 | 100 |
| Assess risk of harm to self | 58 | 98.3 | 58 | 98.3 |
| Assess risk of harm to others | 49 | 83.1 | 44 | 74.6 |
| Set between session work | 45 | 76.3 | 52 | 88.1 |
| Contract time-limited therapy | 54 | 91.5 | 51 | 86.4 |
| Recognition work | 43 | 72.9 | 42 | 71.2 |
| Develop strong alliance | 56 | 94.9 | 59 | 100 |

The table highlights generally positive implementation rates compared to some other therapies (e.g., Waller, Stringer & Meyer, 2012). For example, 100% of therapists created a sequential diagrammatic reformulation and employed a collaborative approach in BPD treatment. The lowest compliance rates in BPD treatment were for recognition work and setting between-session work (72.9% and 76.3%, respectively). For depression treatment, 100% of therapists employed a collaborative approach and developed a strong working alliance, but were less likely to use recognition work and assess risk of harm to others (71.2% and 74.6%, respectively).

To test hypothesis 1 directly, a paired samples t-test was used to compare the BPD Case Drift Score with the Depression Case Drift Score. There was no significant difference between the case drift scores for depression (mean = 1.31, SD = 1.73) and BPD (mean = 1.34, SD = 1.95), *t*(58)= 0.16, *p* = 0.874. These findings do not support hypothesis 1, as there was no significant difference between BPD Case Drift Score and Depression Drift Score.

**Implementation of CAT techniques in clinicians’ ‘usual practice’ reports.** One therapist had not used CAT in ‘usual practice’, and so did not provide data for this section. Therefore, 58 therapists’ data were analysed. Table 2 below outlines data for therapist use for each individual technique in their usual practice.

Table 2

*Mean scores for implementation of core therapeutic techniques, for usual BPD and depression treatment.*

|  |  |  |
| --- | --- | --- |
|  | BPD usual practice  | Depression usual practice |
| **Technique** | Mean | SD | Range | Mean | SD | Range |
| Target problem | 1.40 | 0.620 | 1 – 3 | 1.36 | 0.520 | 1 - 3 |
| Target Problem Procedures  | 1.52 | 0.682 | 1 – 3 | 1.45  | 0.705 | 1 - 4 |
| Sequential Diagrammatic Reformulation | 1.21 | 0.554 | 1 – 4 | 1.22 | 0.622 | 1 - 4 |
| Exits from TPPs | 1.47 | 0.681 | 1 – 4 | 1.40  | 0.674 | 1 - 4 |
| Reformulation letter  | 1.60 | 0.897 | 1 – 5 | 1.60 | 0.877 | 1 - 5 |
| Focus on Endings | 1.33 | 0.685 | 1 – 4 | 1.34 | 0.690 | 1 - 4 |
| Set Therapeutic Goals  | 1.41 | 0.650 | 1 – 4 | 1.38 | 0.587 | 1 - 3 |
| Collaborative approach | 1.12 | 0.329 | 1 – 2 | 1.09 | 0.283 | 1 - 2 |
| Assess risk of harm to self | 1.14 | 0.348 | 1 – 2 | 1.21 | 0.487 | 1 - 3 |
| Assess risk of harm to others | 1.43 | 0.678 | 1 – 3 | 1.55 | 0.841 | 1 - 4 |
| Set between-session work | 2.02 | 0.888 | 1 – 5 | 1.93 | 0.971 | 1 - 5 |
| Contract time-limited therapy | 1.50 | 0.843 | 1 – 5 | 1.50 | 0.778 | 1 - 4 |
| Recognition work | 2.14 | 1.067 | 1 – 5 | 2.05 | 1.050 | 1 - 5 |
| Develop strong alliance | 1.10 | 0.1360 | 1 – 3 | 1.03 | 0.184 | 1 - 2 |

The table demonstrates generally high implementation rates. However, the range of scores indicates variation in the implementation of certain techniques, with some therapists reporting ‘never’ setting between-session work, sharing a reformulation letter or using recognition work in usual CAT practice with BPD or depression. The highest BPD Usual Practice Drift score was 33, and 35 for the Depression Usual Practice Drift score (out of a total of 56, in each case).

A paired samples t-test was used to compare the BPD Usual Practice Drift Score and Depression Usual Practice Drift Score. There was no significant difference between the scores for depression (mean = 6.17, SD = 5.86) and BPD (mean = 6.38, SD = 5.86), *t*(57) = 0.633, *p* = 0.529), indicating no difference in therapist drift between the diagnoses. Thus, the findings do not support hypothesis 1.

**Associations between different indices of adherence to CAT protocols.** Correlational analyses (Pearson’s r) were used to determine whether these indices of drift (Depression Usual Practice Drift, BPD Usual Practice Drift, BPD Case Drift, Depression Case Drift) were associated with each other (indicating a tendency in the clinician to adhere or drift), or whether they were unassociated (potentially indicating diagnosis-specific patterns of adherence or drift). All scores were positively correlated (*r* =0.396 to 0.908, *p* ≤ .002) suggesting that therapist drift in CAT is an intra-clinician trait, consistent across cases and diagnoses.

There was a wide range in the strength of the correlations. The strongest associations were between the Depression and BPD Usual Practice scores (*r* = 0.908, *p* < 0.001) and the Depression and BPD Case Drift score (*r* = 0.614, *p* <0.001). The Depression Case Drift Scores and Depression Usual Drift Scores demonstrated a weaker association (*r* = 0.501, *p* < 0.001) as did the BPD Case Drift Scores and BPD Usual Drift Scores (*r* = 0.447, *p* <0.001). The results suggest that there is a difference between what clinicians report they usually do in their practice, and what clinicians report about their last case.

**Summary of findings for hypothesis 1**

There was evidence to suggest that there is an observable variability in the application of core CAT techniques in routine clinical practice. However, there was no evidence to support the hypothesis that therapists implement fewer core techniques when treating depression compared with BPD, regardless of whether they reflect on their usual practice or their last case. Furthermore, the different indices of drift were strongly correlated with each other. Therefore, it appears that the implementation (or otherwise) of core techniques in CAT is a product of intra-clinician traits, rather than being situation- or diagnosis-specific.

**Hypotheses 2: There will be differences in the use of core therapeutic techniques according to client characteristics**

**The impact of client risk, complexity and severity on BPD treatment.** To assess whether these client factors were associated with therapist implementation of core therapeutic techniques, a one-way ANOVA was computed for each independent variable (client severity, risk to self, and risk to others). Each independent variable had three levels; low, medium and high. Table 3 reports the mean BPD Case Drift Scores compared across those three levels. It demonstrates that there were no significant differences between patients rated at different levels of risk and severity, showing that higher levels of client severity and risk are not associated with a reduced use of core therapeutic techniques in BPD treatment.

Table 3

*ANOVA table comparing BPD Case Drift scores for clinician ratings of client risk and severity*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Clinician Rating  | ANOVA*F* | *p* |
| Client Factors | High | Medium | Low |
| Mean | SD | Mean | SD | Mean | SD |
| Severity | 1.79 2.23 | 1.06 1.78 | 0.67 0.58 | 1.149 | 0.324 |
| Risk to self | 1.85 2.26 | 1.04 1.71 | 0.57 1.13 | 1.771 | 0.180 |
| Risk to others | 1.75 2.20 | 2.17 2.29 | 1.07 1.81 | 1.608 | 0.209 |

Client complexity could not be analysed using a one-way ANOVA as the ‘low’ category contained too few individuals. Therefore, an independent samples t-test was conducted to compare BPD Case Drift Scores between high and medium complexity clients. There was a significant difference in BPD Case Drift score when comparing clients rated as high complexity (mean = 1.97, SD = 2.3) and those rated as medium complexity (mean = 0.67, SD = 1.18), *t*(45.9) = 2.78, *p* = 0.008. Therefore, greater client complexity is associated with a reduced use of core CAT therapeutic techniques when working with BPD.

**The impact of client gender on BPD treatment.** To assess whether client gender impacted on therapist implementation of core therapeutic techniques, an independent samples t-test was computed to compare BPD Case Drift Scores for male and female clients. There was no significant difference in BPD Case Drift Scores between male clients (mean = 0.86, SD = 1.86) and female clients (mean = 1.40, SD = 1.97), *t*(57) = 0.692, *p* = 0.492. Therefore, client gender is not associated with implementation of core CAT techniques in BPD treatment.

**The impact of client intellectual disability on BPD treatment.** To assess whether client intellectual disability impacted on therapist implementation of core therapeutic techniques, an independent samples t-test was computed to compare BPD Case Drift Scores between clients with an intellectual disability and those without. There was no significant difference in BPD Case Drift Scores between clients with an intellectual disability (mean = 2.20, SD = 1.86) and clients without an intellectual disability (mean = 1.26, SD = 1.96), *t*(57) = 1.031, *p* = 0.307. Therefore, the intellectual functioning of a client is not associated with therapist use of core CAT techniques in BPD treatment.

**The impact of client age on BPD treatment.** To assess whether client age impacted on therapist implementation of core therapeutic techniques, a bivariate correlation analysis (Pearson’s r) was computed. There was no significant association between client age and BPD Case Drift Score (*r* = -.0129, *p* = 0.330). Therefore, client age is not associated with therapist implementation of core CAT therapeutic techniques in BPD treatment.

**The impact of client risk, complexity and severity on depression treatment.** To assess whether client risk, complexity and severity of presentation were associated with therapist implementation of core therapeutic techniques in depression treatment, one-way ANOVAs were computed for clinician ratings of client severity, risk to self and complexity (each rated as low, medium or high). The dependent variable was Depression Case Drift Score. Table 4 reports the mean Depression Case Drift Scores, and the results of the ANOVAs. None showed a significant difference.

A one-way ANOVA could not be computed for client risk to others, as the ‘high’ category had too few data. An independent samples t-test was computed to compare Depression Case Drift scores for clients rated as medium (mean = 1.00, SD = 1.10) and low (mean = 1.35, SD = 1.80) risk to others. There was no significant difference, *t*(56)= 0.458, *p* = 0.648). To summarise, client factors were not associated with use of core therapeutic techniques in depression treatment.

Table 4

*ANOVA table comparing Depression Case Drift scores across clinician ratings of client risk, severity and complexity.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Clinician Rating  | ANOVAF | *p* |
| Client Factors | High | Medium | Low |
| Mean | SD | Mean | SD | Mean | SD |
| Severity | 1.24 1.64 | 1.35 1.81 | 1.25 1.89 | 0.030 | 0.971 |
| Risk to self | 1.38 1.46 | 1.40 1.85 | 1.17 1.85 | 0.107 | 0.899 |
| Complexity | 1.28 1.61 | 1.32 1.91 | 1. 50 2.12 | 0.016 | 0.984 |

**The impact of client gender on depression treatment.** To assess whether client gender impacted on therapist implementation of core therapeutic techniques, an independent samples t-test was computed to compare Depression Case Drift Scores across client genders. There was a significant difference in Depression Case Drift Scores for male clients (mean = 0.75 SD = 1.18) versus female clients (mean = 1.83 SD = 2.02), *t*(47.187) = 2.518, *p* < 0.05). Therefore, therapists reported using fewer core therapeutic techniques when using CAT to treat a depressed female client than when treating a depressed male client.

**The impact of client intellectual disability on depression treatment.** An independent samples t-test was computed to compare Depression Case Drift Scores between clients with an intellectual disability and those without. There was no significant difference between clients with an intellectual disability (mean = 1.00, SD = 1.414) and clients without an intellectual disability (mean = 1.33, SD = 1.754), *t*(57)= 0.364, *p* = 0.717).

**The impact of client age on depression treatment.** To assess whether client age impacted on therapist implementation of core therapeutic techniques, a bivariate correlation analysis (Pearson’s r) was computed. Correlation analysis indicated a significant negative association between client age and Depression Case Drift Score (*r* = -0.442, *p* = 0.001). Therefore, CAT therapists use fewer core therapeutic techniques when treating younger clients with depression, even though there was no such relationship when treating BPD.

**Summary of the impact of client factors on CAT treatment**

There is some evidence to support hypothesis 2. A number of client factors are related to lower use of core therapeutic techniques in depression and BPD treatment. Specifically, higher client complexity was associated with lower use of core CAT techniques in treating BPD, while female gender and younger client age were associated with lower use of core CAT techniques in treating depression.

**Hypothesis 3: Higher levels of therapist anxiety will be associated with lower use of core therapeutic techniques**

Bivariate correlation analyses (Pearson’s *r*) were performed to assess the relationship between anxiety (IUS scale scores), case drift and usual practice drift scores in depression and BPD treatment. Table 5 outlines the results from these analyses. There were no significant associations between either IUS anxiety scale score and any of the four measures of technique use. Therefore, Hypothesis 3 was not supported in the use of CAT for treating either depression or BPD.

Table 5

*Correlations (Pearson’s r) between therapist anxiety (IUS scales) and Case Drift and Usual Practice Drift Scores for BPD and depression treatment.*

|  |  |  |
| --- | --- | --- |
|  | IUS Prospective anxiety | IUS Inhibitory anxiety |
|  | *r* | *p* | *r* | *p* |
| BPD Case Drift Score | -0.004 | NS | -0.019 | NS[[1]](#footnote-1) |
| BPD Usual Practice Drift Score | 0.076 | NS | -0005 | NS |
| Depression Case Drift Score | -0.070 | NS | 0.047 | NS |
| Depression Usual Practice Drift Score | -0.043 | NS | 0.102 | NS |

**Hypothesis 4 - Higher levels of therapist conscientiousness will be associated with higher use of core therapeutic techniques.**

Bivariate correlation analyses were performed to assess the relationship between therapist personality scores (TIPI subscales), Case Drift and Usual Practice Drift scores in depression and BPD treatment. Table 6 outlines the results from these analyses.

Table 6

*Correlations (Pearson’s r) between therapist personality (TIPI scales) and Case Drift and Usual Practice Drift Scores for BPD and depression treatment.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Conscientiousness | Agreeableness | Extraversion | Emotional Stability | Openness |
|  | *r* | *p* | *r* | *p* | *r* | *p* | *r* | *p* | *r* | *p* |
| BPD Case Drift Score | -0.140 | *NS* | 0.131 | *NS* | 0.129 | *NS* | -0.186 | *NS* | 0.083 | *NS* |
| BPD Usual Practice Drift Score | 0.064 | *NS* | -0.241 | *NS* | 0.079 | *NS* | -0.066 | *NS* | 0.139 | *NS* |
| Depression Case Drift Score | -0.028 | *NS* | -0.207 | *NS* | 0.077 | *NS* | -0.241 | *NS* | 0.056 | *NS* |
| Depression Usual Practice Drift Score | -0.007 | *NS* | -0.189 | *NS* | 0.031 | *NS* | -0.182 | *NS* | 0.061 | *NS* |

Results indicate no significant association between conscientiousness and the application of core therapeutic techniques in BPD and depression treatment. Nor were any of the other TIPI subscales associated with these CAT practice variables. Therefore, hypothesis 4 is unsupported.

**Hypothesis 5: Lower use of key CAT techniques will be related to therapist demographic characteristics (e.g., therapist age, gender, years post-qualification, profession and accreditation)**

**The impact of therapist gender on use of core CAT techniques in BPD and depression treatment.** To assess whether therapist gender was associated with a reduced use of core therapeutic techniques in BPD and depression treatment, independent samples t-tests were conducted to compare male and female therapists’ scores on Case Drift and Usual Practice Drift. Table 7 outlines the results.

Table 7

*Table outlining independent samples t-tests comparing the effect of therapist gender and on usual practice and case drift scores.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Score | Therapist gender | Mean | SD | *t* | df | sig |
| BPD Case Drift score | Male  | 0.42 | 0.69 | 3.072 | 53.797 | <0.05 |
| Female | 1.54 | 2.116 |
|  |  |  |  |  |  |  |
| BPD Usual Practice Drift Score | Male  | 7.42 | 9.922 | 0.452 | 12.184 | 0.659 |
| Female | 6.09 | 4.415 |
|  |  |  |  |  |  |  |
| Depression Case Drift score | Male  | 0.75 | 0.866 | 1.892 | 39.973 | 0.066 |
| Female | 1.46 | 1.882 |
|  |  |  |  |  |  |  |
| Depression Case Drift score | Male  | 7.92 | 8.878 | 1.236 | 55 | 0.222 |
| Female | 5.62 | 4.594 |

There was a significant difference between male and female therapists’ BPD Case Drift Score, with female therapists showing a reduced use of core therapeutic techniques. The gender difference in response to a depressed client was in the same direction, though it did not achieve significance. However, therapist gender did not impact usual practice. Thus, it appears that therapist gender influences the reported use of CAT techniques relating to specific cases, even though therapists do not see this as typical of their practice.

**The impact of therapist accreditation on use of core CAT techniques in BPD and depression treatment.** To assess whether therapist accreditation was associated with use of core therapeutic techniques in BPD and depression treatment, independent samples t-tests were conducted to compare accredited and non-accredited therapists’ scores on Case Drift and Usual Practice Drift. Table 8 outlines the results.

Table 8

*Table outlining independent samples t-tests comparing the effect of therapist accreditation on usual practice and case drift scores.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Score | Accreditation Status | Mean | SD | *t* | df | sig |
| BPD Case Drift score | Accredited | 1.24 | 1.883 | 1.277 | 57 | 0.207 |
| Non-accredited | 2.40 | 2.608 |
|  |  |  |  |  |  |  |
| BPD Usual Practice Drift Score | Accredited | 6.31 | 5.898 | 1.062 | 4.051 | 0.347 |
| Non-accredited | 17.00 | 22.428 |
|  |  |  |  |  |  |  |
| Depression Case Drift score | Accredited | 1.31 | 1.746 | 0.141 | 57 | 0.888 |
| Non-accredited | 1.20 | 1.643 |
|  |  |  |  |  |  |  |
| Depression Case Drift score | Accredited | 6.28 | 5.813 | 0.335 | 57 | 0.739 |
| Non-accredited | 7.20 | 6.723 |

There was no significant difference between accredited and non-accredited therapists’ Case and Usual Practice Drift Scores, suggesting that accreditation status is not associated with use of core therapeutic techniques in the treatment of depression and BPD.

**The impact of other therapist factors on implementation of core CAT techniques.** To assess whether therapist age, length of post-qualification experience, use of therapeutic manuals and experience of working with clients with BPD and depression impacted on use of core therapeutic techniques, bivariate correlation analyses (Pearson’s *r*) were computed. Table 9 outlines these findings.

Table 9

*Table outlining correlation analyses for therapist continuous variables and Case and Usual Practice Drift Scores*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Therapist Age | Years Post-Qualification | % Use of Manuals in everyday practice | % clients on caseload with diagnosis of depression | % clients on caseload with diagnosis of BPD  |
|  | *r* | sig | *r* | sig | *r* | sig | *r* | Sig | *r* | sig |
| BPD Case Drift Score | 0.25 | NS | 0.124 | NS | 0.92 | NS | 0.120 | NS | 0.23 | NS |
| BPD Usual Practice Drift Score | 0.179 | NS | 0.102 | NS | 0.026 | NS | 0.141 | NS | 0.192 | NS |
| Depression Case Drift Score | 0.073 | NS | 0.044 | NS | 0.071 | NS | 0.047 | NS | 0.020 | NS |
| Depression Usual Practice Drift Score | 0.017 | NS | 0.007 | NS | 0.112 | NS | 0.0183 | NS | 0.065 | NS |

The results above indicate no significant association between therapist temporal and clinical characteristics and CAT treatment for depression and BPD.

**Summary of the effect of therapist factors on core use of CAT techniques**

The findings indicate that there is some evidence to support hypothesis 5, but only in terms of therapist gender. Considering their most recent completed cases, female therapists reported lower use of core CAT techniques in the treatment of BPD than male therapists, and there was a similar trend in treatment of depression. However, this was not supported for usual practice - a disparity that might indicate clinicians experiencing recall or accessibility biases when not considering specific examples.

**Hypothesis 6: There will be naturally occurring clusters of techniques in CAT treatment for BPD**

A two-step cluster analysis was performed to identify any natural groupings of therapeutic techniques in CAT treatment for BPD. This grouping was based on BPD Case Drift scores relating to the use of individual CAT techniques. Analysis indicated two separate groups, with good cluster quality (mean silhouette score = 0.6). Cluster 1 included 81.4% of the therapists (n = 48), and cluster 2 consisted of only 18.6% of therapists (n = 11). Table 10 outlines the techniques that differed most in frequency across the two clusters. Total numbers (n) have been rounded to the nearest whole number.

Table 10

*Table outlining clusters, based on most disparate CAT technique use in BPD treatment.*

|  |  |  |
| --- | --- | --- |
|  | Cluster 1 (CAT) | Cluster 2 (CAT-lite) |
| n | % | n | % |
| Recognition Work  | 43 | 89.6% | 0 | 0% |
| Exits from TPPs | 48 | 100% | 6 | 54.5% |
| Identify TPPs | 47 | 97.9% | 6 | 54.5% |
| Set therapeutic goals  | 47 | 97.9% | 6 | 54.5% |
| Set between session work | 42 | 87.5% | 8 | 72.7% |
| Develop a strong alliance | 48 | 100% | 8 | 72.7% |
| Identify target problems | 48 | 100% | 8 | 72.7% |

Cluster 1 represents a pattern of technique use that is broadly consistent with the extant literature base for CAT treatment. Therefore, this larger cluster was labelled ‘CAT clinicians’. In contrast, cluster 2 represents a lower use of core techniques, and was labelled ‘CAT lite clinicians’ (18.6% of therapists).

**Validation of clusters**

To validate the clinical meaningfulness of the clusters, each cluster type will be compared in terms of therapist gender and client complexity (no other associations were found to be significant).

**Association between clusters and levels of client complexity**.Table 11 shows the association of cluster type and client complexity. To assess whether cluster type was associated with client complexity, a Fisher’s exact test was performed.

Table 11

*Fisher’s exact-test, outlining client complexity and cluster type.*

|  |  |
| --- | --- |
|  | BPD CAT Treatment |
| CAT  | CAT ‘lite’ |
| Client complexity  | High | 21 | 10 |
| Medium | 26 | 1 |
| Low | 1 | 0 |

There was a significant association of therapist cluster with client complexity (*χ*² (2)= 7.990, *p* <0.05), with greater client complexity associated with the use of CAT ‘lite’. This suggests that therapists are more likely to use fewer core therapeutic techniques when they are working with a client with BPD who they perceive to be highly complex.

**Association of clusters with therapist gender.** Table 12 shows that female therapists were less likely to use core therapeutic techniques than males, when reflecting on their last case of BPD treatment, but this difference was not significant (Fisher’s exact test; *p* = 0.059). No male therapists fell into the CAT ‘lite’ cluster, but there was a trend to suggest that female therapists were more likely to use CAT ‘lite’ for treatment of BPD.

Table 12

*Frequency table, demonstrating the spread of gender among BPD clusters.*

|  |  |
| --- | --- |
|  | Therapist gender |
| Male | Female |
| BPD CAT treatment | CAT | 12 | 35 |
| CAT ‘lite’ | 0 | 11 |

**Summary**

These findings support hypothesis 6, as there are clusters of clinicians, using different patterns of therapeutic techniques in the treatment of BPD. Membership of these clusters was related to the perceived complexity of clients’ presentation and (non-significantly) to the gender of the therapist.

**Hypothesis 7: There will be naturally occurring clusters of techniques in CAT treatment for depression**

A two-step cluster analysis was performed to assess natural groupings of therapists, distinguished by their use of therapeutic techniques in CAT treatment for depression (based on Depression Case Drift data for each technique). Three separate groups emerged, with good cluster quality (mean silhouette score = 0.6). Cluster 1 was the largest, consisting of 45.8% of therapists (n = 27). Cluster 2 included 33.9% of therapists (n = 20), and cluster 3 included 20.3% (n = 12). Table 13 outlines the techniques that differed most substantially across clusters.

Cluster 1 (labelled ‘CAT’) represents clinicians who were more likely to use techniques in a way that is consistent with the extant literature base for CAT treatment. Cluster 2 (‘CAT Reduced Boundaries’) consists of clinicians who are less likely to use a specific set of core techniques from the extant literature base for CAT treatment – particularly boundary setting. Cluster 3 (‘CAT Process’) consists of clinicians who focus on a different set of CAT techniques - primarily those relating to the relational and process-focused elements of CAT.

Table 13

*Table outlining technique clusters in depression treatment.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Cluster 1 (CAT) | Cluster 2 (CAT reduced boundaries) | Cluster 3 (CAT process) |
|  | n | % | n | % | n | % |
| Assess risk of harm to others | 27 | 100% | 17 | 85% | 0 | 0% |
| Recognition work | 27 | 100% | 10 | 50% | 5 | 41.7% |
| Contract for time-limited | 27 | 100% | 12 | 60% | 11 | 100% |
| Reformulation letter  | 27 | 100% | 12 | 60% | 11 | 100% |
| Identify exits | 27 | 100% | 20 | 100% | 8 | 75% |
| Focus on endings | 27 | 100% | 15 | 75% | 11 | 100% |
| Identify Target Problems | 27 | 100% | 18 | 90% | 7 | 66.7% |

**Cluster Validation**

Clusters were validated relative to client gender and age (no other associations approached significance).

**Association of therapist cluster with client gender.** Table 14 shows the association of client gender with cluster type. There was no significant difference between cluster type and client gender (*χ*² (2)= 2.667, *p* = 0.264), although female clients tended to be more likely to receive CAT Reduced boundaries and CAT Process than male clients.

Table 14

*Association of client gender and therapist cluster*

|  |  |
| --- | --- |
|  | Client gender |
| Male | Female |
| Depression CAT treatment | CAT | 16 | 11 |
| CAT Reduced Boundaries | 8 | 11 |
| CAT Process | 4 | 8 |

**Association of therapist cluster with client age.** A one-way ANOVA was computed to compare client age across the therapist cluster types. There was a significant difference between mean age and cluster type (*F(*2)= 9.070, p<0.001). Bonferroni post-hoc tests indicated a significant difference between CAT (mean = 46.69, SD = 13.08) compared with CAT Reduced Boundaries (mean = 30.72, SD = 13.83) (*p* ≤ 0.001) and CAT Process (mean = 33.82, SD = 11.23) (*p* <0.05). There was also a significant difference between CAT Process and and CAT Reduced Boundaries (*p* <0.05). This suggests that older clients with depression receive CAT consistent with the extant literature base. However, therapists treating younger clients with depression are more likely to use techniques in CAT that are process and relational focused (e.g., the reformulation letter), rather than the more procedural techniques (e.g., recognition work and risk assessment).

**Summary**

The findings from this section support hypothesis 7, as there were naturally occurring clusters of clinicians, defined by their different use of therapeutic techniques in the treatment of depression. These clusters are related to the client’s age, suggesting that therapists drift more from protocol when working with younger clients.

# Discussion

The study marks a first attempt to understand the real-life application of CAT and factors affecting its delivery. Clinicians using CAT in the treatment of BPD and depression completed an online survey, reflecting on their use of CAT in routine clinical practice.

The discussion will provide: (i) an overview of the main findings, (ii) an overview of how the findings relate to the current literature base, (iii) a critical review of the strengths and limitations of the study, (iv) a discussion of the research and theoretical implications, and (v) finally, the implications for clinical practice.

**Summary of main findings**

Clinician self-report indicated overall positive implementation of the core therapeutic techniques. The most commonly reported technique was the use of a collaborative approach. However, almost a third of clinicians reported that that they did not use any methods to enhance recognition. The variability in technique use however was not related to client diagnosis, contrary to hypothesis 1.

There was partial support for hypothesis 2, as younger clients and female clients with depression were more likely to receive a therapy reporting less core therapeutic techniques. Similarly for clients with a diagnosis of BPD, clients considered to present with high levels of complexity received a treatment with less core techniques.

That finding that technique use in one condition was associated with technique use in other conditions, highlighted the importance of clinician factors influencing the delivery of CAT, rather than client-specific factors. However, in exploring the effect of clinician anxiety and conscientiousness, the study did not find evidence to support hypotheses 3 and 4. Hypothesis 5 was partially supported as clinician gender was related to a reduced use of technique use when working with clients with BPD and a similar trend was noted for female clinicians working with clients with depression. Therefore, while the findings indicate the importance of the clinician in influencing the delivery of therapy, the specific clinician factors remain unclear.

Hypotheses 6 and 7 were supported, as there were distinct patters of technique use for clinicians working with both clients with depression and BPD. In the treatment of BPD, distinct patterns of either CAT or CAT lite were identifiable. Perceived client complexity was associated with the pattern of technique use, with clinicians delivering CAT lite with those clients perceived to be highly complex. For those clients with depression, there were three distinct patterns of technique use with CAT, CAT Reduced Boundaries or CAT Process. The patterns of technique use were associated with client age and gender, as clinicians working with female clients and younger clients reported patterns of technique associated with CAT Process or CAT Reduced Boundaries.

**How are the findings related to the literature base?**

The research is the first attempt to review adherence to core CAT techniques in routine clinical practice. The finding of positive levels of core technique use was promising. However, there was also evidence of variability in technique use, which is consistent with research examining technique implementation in other evidence-based therapies such as CBT (Waller et al., 2012).

Across all conditions, clinicians reported implementing recognition work and between-session work less frequently than other techniques. As there is currently no evidence regarding the active ingredients of CAT treatment, it is concerning that certain elements are omitted. Theoretically, the recognition phase in CAT is essential if a client is to choose an alternative response over a well-worn, habitual procedure (Ryle, 1990). Furthermore, use of between-session work or ‘homework’ has been associated with greater outcomes at end of therapy and follow-up (Kazantzis, Deane & Ronan, 2000; Kazantzis & Ronan, 2006). It is noted that therapists who hold negative attitudes to manuals are less likely to implement this technique (Kazantzis et al., 2005). The finding that clinicians report using recognition and between-session work less frequently than other techniques might therefore be explained in terms of clinician attitudes to the helpfulness or acceptability of these techniques.

The study identified that client age, gender and perceived complexity can influence the delivery of therapy. Ultimately, there is no evidence that these factors require CAT be adapted as research has demonstrated the appropriateness and acceptability of CAT with young people with emergent personality disorder (Chanen et al., 2008), women (Calvert, Kellett & Hagan, 2015) and complex presentations (Calvert & Kellett, 2014). Waller (2009) identified a clinician’s cognitions, emotions and behaviours as potential factors associated with drift from evidence based therapies and it might be argued that the influence of client age, gender and complexity better reflects the importance of a clinician’s perception or beliefs about these specific client factors, rather than any direct influence of these factors on the process of therapy.

Furthermore, the finding that drift or lower implementation of techniques in one condition, is associated with drift in other conditions also appears to highlight the importance of clinician factors influencing the delivery of therapy, However, of all the clinician factors measured within the study, only clinician gender appeared to account for the variability in use of core therapeutic techniques. In the extant literature, while therapist gender is not associated with outcome (Baldwin & Imel, 2013; Okiishi, et al., 2006), therapist gender is associated with differences in choice of therapy behaviours or interventions (Staczan et al., 2017), with female therapists reportedly using more empathic and supportive techniques than male therapists (Staczan et al., 2017).

In contrast to the literature base (Levita et al., 2016; Meyer et al., 2014), clinician intolerance to uncertainty was not associated with a reduced use of core techniques. The findings of the study might suggest that cognitive aspects of clinician anxiety are of less importance to the delivery of CAT, which is largely a talking therapy. Indeed, intolerance to uncertainty is more pertinent to the application of behavioural change techniques such as exposure (Levita et al., 2016).

No other clinician factor was associated with drift. This is also contrary to the literature base. For example, previous research has reported that more experienced therapists report being less adherent to treatment, particularly with complex presentations (Tschuschke et al*.*, 2015) however clinician experience did not make any difference to the application of core techniques, in this study.

 This is the first study to report variations in the delivery of CAT in routine clinical practice. However, heterogeneity in the delivery of therapy is consistent with the literature base. A study into the treatment of eating disorder, reported that clients reported three distinct patterns of treatment approach all of which were reported as CBT. The pattern most likely to resemble CBT was least likely to be offered (Cowdrey, 2015). Furthermore, a survey into the use of evidence-based practices with clinicians working with substance abuse noted that therapists’ approach to treatment was integrative and reflected a clinician’s judgements about the needs of a client, rather than adherence to evidence-based treatment protocols, such as motivational interviewing (Gifford et al., 2012). As suggested by Meehl (1973), clinicians tend to overvalue the uniqueness of their client and their presentation and subsequently fail to apply the appropriate evidence-based techniques. The findings of the study might similarly support that clinicians are adapting treatment based on the clients’ presentation (younger age, higher complexity, for example). However, as discussed earlier these judgements are often not based on objective evidence that these factors will require an adaptation to therapy. Rather they reflect potentially misguided beliefs held by the clinician. The influence of clinician beliefs and judgement on the delivery of therapy is concerning when we consider that clinician judgement often performs poorer than statistical or actuarial prediction in predicting human behaviours (Grove et al., 2000).

**Critique**

**Limitations.** There are a number of limitations of the study. There are concerns about the accuracy of clinicians’ self-report. Research into therapy fidelity, suggests that clinicians over-report their use of techniques when compared to observer reports (Hogue, Dauber, Lichvar, Bobek & Henderson, 2015) and that they overestimate their competence, particularly those that are least competent (Brosan, Reynolds & Moore, 2008). The use of case examples and usual practice attempted to overcome some of this poor self-report. Indeed, clinicians often reported that their usual practice was more consistent with the approaches to CAT outlined in the literature, when compared with their past case examples. As such, the case example data might be considered less biased. However, the question about the overall accuracy of self-report data suggests that the findings could overestimate fidelity.

The use of parametric tests over non-parametric equivalents could be argued a limitation of the study. Data indicated significant skewness however the rationale for employing parametric equivalents was based on the argument that there was a sufficiently large sample size (Jekel et al., 2001; Pallant; 2007). It could be argued that employing a parametric test with skewed data might have reduced the statistical power (Bridge & Saliwosky, 1999) or that the data should have been log transformed to conform more closely to a normal distribution. However, it is noted that log-transformation is limited, and use of this technique is discouraged (Feng et al., 2014).

Furthermore, it might be argued that the approach of the study was obviously assessing adherence, and therefore encouraged socially desirable responding. The trial phase of the project indicated variability in responding and suggested that there was unlikely to be a ceiling effect, whereby fidelity to the model was likely to be overestimated. It is acknowledged that the method of collecting the data in the study was artificial and the reliability of the findings could be enhanced by a more naturalistic observation of CAT in routine clinical practice. However, the method employed here was appropriate given the absence of research in this area and provides a proof of the concept that drift is relevant to the delivery of CAT as well as other evidence based therapies.

 The study is further limited by the method of recruitment. By approaching therapists on the ACAT website there was likely to have been a large number of clinicians who were accredited who were not contacted to participate. Additionally, such clinicians are likely to be based in private practise and therefore this could signify a dearth of data from NHS or voluntary sector therapist. There is also concern with the potential for self-selection bias. Firstly, those clinicians who responded to the survey might not be representative of the population in general, therefore limiting the generalisability of the findings. Such clinicians, particularly those recruited through the ACAT website and conference, might also be more vested in developing and progressing CAT therefore, introducing potential for bias. Furthermore, due to the nature of a snowball sampling method, it is not clear how many clinicians were invited but declined to participate in the study. Lack of an understanding about those who did not participate again limits generalisability, as there might be a particular group of clinicians who self-select out of research. Indeed, the study sample could be argued to under-represent the practice of non-accredited clinicians.

The use of Likert and forced responding further limited the data. Participants were unable to provide any context that they might consider relevant to their decision-making process. A space to consider the decision-making process for clinicians might have provided a useful insight into the factors that were pertinent to excluding certain elements. Furthermore, this study was limited in its understanding of the application of CAT by not considering whether clinicians integrate other therapies or techniques. It is known that therapists can adapt the delivery of a therapy not just by excluding elements but also by integrating elements of other therapies. For example, CBT therapists report using a psychodynamic approach with a complex client, while psychodynamic therapists reported using more CBT techniques (Thompson-Brenner & Weston, 2005).

The therapeutic techniques identified in the study as core CAT techniques might be disputed. At present, there is no research into the active ingredients of CAT. As such, the researcher took a conservative approach and included techniques that were was discussed in the literature (Ryle, 1990), the CCAT (Bennett & Parry, 2004) and by an accredited ACAT therapist and supervisor. It might be argued that other techniques considered ‘key’ were omitted, including identifying and managing threats to the therapeutic alliance (Bennett & Parry, 2004)

There is also a noted limitation with the use of the TIPI to measure conscientiousness. While this was an efficient measure demonstrating validity, there are noted concerns with the reliability of this measure. To reliably assess the relationship between therapist personality and therapist drift, a more robust measure should be considered.

It is also noted that there is a risk of Type II error (incorrectly rejecting the null hypothesis) due to basing the power calculation on a one tailed hypothesis.

**Strengths.** Despite the noted limitations, there are strengths of the study. This is the first study of the kind in this area and has identified the usefulness of exploring and understanding drift in CAT in routine clinical practice. Furthermore, while there are noted limitations with the methodology applied in the study, the use of survey and self-report data of clinician practice in not uncommon and was informed by existing research into therapist use of techniques in DBT (DiGiorgio et al., 2010).

The fact that the majority of the data come from the routine practice of accredited ACAT therapists highlights the credibility of the data and enhances the generalisability of the findings to experienced accredited therapists. Furthermore, the representativeness of the data was increased as participants reported working with a range of clients in a range of services (intellectual disability, forensic, health, child and adolescent, for example).

The study was appropriately powered to detect moderate to large effects. Appropriately powering the study enhances the confidence that there was no Type II error. However, the capacity of the study to detect smaller effects might have been limited.

Finally, the use of case example and usual practice data were helpful to highlight disparities between clinicians’ accounts of their practice. Generally, clinicians said they were more adherent in usual practice, which might have indicated response bias. Using case example data for clustering limited the potential for response bias to influence the findings.

**Future research**

The study has shown generally high fidelity to CAT in routine clinical practice. However, there is evidence of variability in the delivery of CAT and it is important to develop the understanding of drift in CAT further.

In line with the noted limitations of the study, future research might benefit from exploring the relationship between ‘drift’ in CAT and patient outcome. Researchers establishing the effectiveness of CAT employ measures of competence (Kellett et al., 2013), and it is suggested that future research should also employ measures of adherence. The CCAT is a measure of competence but it could also be used to identify whether key elements of therapy have been excluded. Furthermore, researchers should explicitly outline techniques employed in therapy and those that were excluded so that conclusions can be made in terms of adherence. However, it is noted that the inclusion of measures of adherence can have unintended negative consequences on client outcome (Johnson, 2017 – this volume), for example by increasing negative counter-transference (Henry, Strupp, Butler, Schacht, & Binder, 1993) and poorer interpersonal process (Henry, Schacht, Strupp, Butler & Binder, 1993). It is therefore important that measures of adherence be applied carefully. Retrospective adherence checks for example by review of recorded therapy sessions might provide more valid data.

This research also highlights the importance of understanding the active ingredients of CAT. It is essential that we develop our understanding, as we now know that some clients are receiving CAT that excludes certain elements. With a greater knowledge of the active ingredients, clinicians might be less likely to omit key elements.

Finally, it is important to further develop our understanding of why clinicians are omitting certain aspects of treatment. The study suggests that an understanding of intra-clinician factors and judgements appear important. However, there might be other factors that were not explored, including factors beyond the client and clinician, such as service context and supervision.

**Clinical Implications**

The findings of the study are preliminary, but suggest that while CAT is often delivered with high levels of adherence, there is evidence of variability. The concept of therapy interfering behaviours (TIBs; Linehan, 1993) is of interest here. Within CAT treatment, a clinician is encouraged in the early stages of reformulation to identify and discuss with a client how target problem procedures might be enacted during therapy and adversely affect progress. However, therapists are also identified as bringing behaviours to therapy that interfere with progress and effectiveness (Linehan, 1993). Therapists excluding certain elements of a treatment without a strong, evidence-based argument could be considered a TIB. This research indicates that there is a need to better understand what the clinician brings to the therapy room.

Supervision and training might be one helpful avenue for encouraging clinicians using CAT to notice common unhelpful procedures they might be bringing to therapy (e.g., avoidance of between-session work). It is suggested that supervision and training of clinicians using CAT (as with other therapies) should provide space to focus on adherence and the barriers to this.

It is important to note that there appear to be large discrepancies between a clinicians’ self-assessment of their usual practice and their practice with their last case. Clinicians appear to over-rate their adherence when focussing on ‘usual practice’. It is therefore recommended that when discussing and exploring adherence within supervision or training, discussion about adherence should be centred on specific cases rather than a discussion about adherence in general practice, as this focus is likely to produce more reliable information.

In terms of the supervision and training of clinicians using CAT, it is important to acknowledge the influence of particular therapist and client factors, such as gender, on the delivery of CAT. There is evidence that therapist gender (and, in some cases, client gender) influences the delivery of therapy. This is a sensitive area, and highlights the need for training courses and supervision to be open and supportive spaces to discuss issues around gender, gender roles and their influence on therapy.

At this stage, no conclusions can be drawn in terms of the influence of therapist drift in CAT and on client outcome. The above section highlights the need for further research to establish the impact of drift and client outcome. However, clinicians in routine practice can also start to explore the implications of adherence or drift on client outcome through the application of routine outcome measures and practice-based research methodologies, such as single case experimental design.

**Conclusion**

 The study is the first to explore self-reported adherence to CAT in routine clinical practice and the factors that influence the delivery. Overall, the study found generally high rates of implementation of ‘core’ therapeutic techniques. However, there was variation in the use of techniques, with between-session work and recognition work reported as the most frequency omitted techniques. In the study, intra-clinician factors were identified as the most common factor for influencing the delivery of therapy, and it is suggested that clinicians bring their own snags, traps and dilemmas into the therapy room. There are noted limitations. However, the findings indicate that this a rich area for further research.

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# Appendix A: Confirmation of Ethical Approval

****

# Appendix B: G\*Power Output

*[1] -- Wednesday, April 26, 2017 -- 15:25:40*

**t tests** - Means: Difference between two dependent means (matched pairs)

**Analysis:** A priori: Compute required sample size

**Input:** Tail(s) = One

 Effect size dz = 0.5

 α err prob = 0.05

 Power (1-β err prob) = 0.8

**Output:** Noncentrality parameter δ = 2.5980762

 Critical t = 1.7056179

 Df = 26

 Total sample size = 27

 Actual power = 0.8118316

*[2] -- Wednesday, April 26, 2017 -- 15:27:00*

**t tests** - Correlation: Point biserial model

**Analysis:** A priori: Compute required sample size

**Input:** Tail(s) = One

 Effect size |ρ| = 0.35

 α err prob = 0.05

 Power (1-β err prob) = 0.80

**Output:** Noncentrality parameter δ = 2.5340980

 Critical t = 1.6802300

 Df = 44

 Total sample size = 46

 Actual power = 0.8023278

# Appendix C: Email Invitation to Online Survey

Dear colleague

I am a second year Trainee Clinical Psychologist at the University of Sheffield. As part of my doctoral work, I would like to ask you to take part in a research study regarding how we apply CAT in real-life clinical practice. I am contacting all clinicians whose details are provided on the ACAT website, so that we can develop as comprehensive a picture as possible.

This online survey asks you to reflect on your general practice, as well as with specific cases. It will take no longer than twenty minutes to complete. All responses are anonymous and strictly confidential. You may withdraw from the questionnaire at any point by closing the browser - any incomplete questionnaires will not be used in the study.

The research has been approved by the University of Sheffield's Department of Psychology Research Ethics Committee, and is supervised Prof. Glenn Waller (g.waller@sheffield.ac.uk). Please feel free to contact us if you would like any more information about the study or if you have any questions.

To complete this survey, please follow this link:

https://sheffieldpsychology.eu.qualtrics.com/SE/?SID=SV\_5teJhPC5542XH5b

If you are aware of other colleagues who use CAT but who are not ACAT registered, would you pass this email and link on to them?

If you are interested in the outcome of the study, please email me and I will ensure that you receive a summary of the findings.

Kind regards

Rachael Johnson

Trainee Clinical Psychologist

(rjohnson8@sheffield.ac.uk)

# Appendix D: Participant Information Sheet

|  |  |
| --- | --- |
|  | Department Of Psychology.Clinical Psychology Unit.Doctor of Clinical Psychology (DClin Psy) Programme Clinical supervision training and NHS research training & consultancy. |
| Clinical Psychology UnitDepartment of PsychologyUniversity of SheffieldWestern BankSheffield S10 2TN UK | Telephone: 0114 2226650 Email: A.Sinha@sheffield.ac.uk |

**Information Sheet**

Research Project Title: Understanding cognitive analytic therapy (CAT) practice in real life clinical settings.

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

3. What is the project’s purpose?

There is a growing evidence base for a number of psychological therapies, including CAT. However, that research is often based on highly controlled delivery of operationalised therapies. For some, this fact undermines the utility of this research in everyday clinical settings. This research is interested in measuring the application of CAT in real life clinical practice.

4. Why have I been chosen?

You have been chosen to take part in this study as you are a professional practising CAT. The experience and knowledge of therapists is fundamental in answering the research questions. A number of professionals have been approached and asked to participate.

5. Do I have to take part?

No. It is up to you to decide whether or not to take part. If you do decide to take part, you can print off this information sheet to keep, and you can still withdraw at any time without any consequences and without having to give a reason.

6. What will happen to me if I take part?

You will be asked to complete the online survey that follows this information sheet and consent form. This will be a one-off survey that will take approximately twenty minutes.

7. What do I have to do?

You will be asked to respond to the survey honestly, reflecting on your experiences as a clinician who routinely works using CAT.

8. What are the possible disadvantages and risks of taking part?

This is an electronic survey that will need to be completed in one sitting. Therefore, in completing this survey, you might need to set aside around 20 minutes.

9. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will support the delivery of high quality, evidence-based psychological therapies.

10. What happens if the research study stops earlier than expected?

If the research stops earlier than anticipated, I will notify you about this and the reason(s) why this has happened.

11. What if something goes wrong?

Should you wish to raise any issues about your experience while participating in this project, you should contact myself (Rachael Johnson, Principal Investigator) or my supervisor (Professor Glenn Waller). Should you feel your complaint has not been handled to your satisfaction, you can contact Amrit Sinha, Research Support Office at a.sinha@sheffield.ac.uk.

12. Will my taking part in this project be kept confidential?

All the information that we collect during the course of the research will be kept strictly confidential. You will not be identifiable in any reports or publications.

13. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project’s objectives?

A number of demographic questions will be asked regarding your gender, professional background, age, etc. You will also be asked to complete three questionnaires. This information will be used to address the aims of the study.

14. What will happen to the results of the research project?

It is expected that the results of this study will be published toward the end of 2017/start 2018. You will not be identifiable from any publication of results.

15. Who is organising and funding the research?

The research is organised and funded as part of the University of Sheffield DClinPsy programme,

16. Who has ethically reviewed the project?

This project has been approved by the University of Sheffield’s research ethics board.

17. Contact for further information

Should you wish to contact a member of this research project, please contact either:

Rachael Johnson (Trainee Clinical Psychologist).

Email: rjohnson8@sheffield.ac.uk

Or

Professor Glenn Waller

Email: g.waller@sheffield.ac.uk

Tel: 0114-222-6568

Thank you for your participation.

Regards

Rachael Johnson

Trainee Clinical Psychologist.

# Appendix E: Participant Consent Form

|  |  |
| --- | --- |
|  | Department Of Psychology.Clinical Psychology Unit.Doctor of Clinical Psychology (DClin Psy) Programme Clinical supervision training and NHS research training & consultancy. |
| Clinical Psychology UnitDepartment of PsychologyUniversity of SheffieldWestern BankSheffield S10 2TN UK | Telephone: 0114 2226650 Email: A.Sinha@sheffield.ac.uk |

**Consent Form**

Title of Research Project: Understanding cognitive analytic therapy (CAT) practice in real life clinical settings.

Name of Researcher: Rachael Johnson

Participant Identification Code for this project: \_\_\_\_\_\_

1. I confirm that I have read and understand the information sheet dated *[insert date]* explaining the above research project
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. *Please contact Rachael Johnson, Lead Researcher at rjohnson8@sheffield.ac.uk if you wish to withdraw.*
3. I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials. I will not be identified or identifiable in the report or reports that result from the research.

4. I agree for my data to be used in future research.

5. I agree to take part in the above research project.

# Appendix F: Screenshot Qualtrics Online Survey



# Appendix G: Participant Demographic Questionnaire

|  |  |
| --- | --- |
| Occupation |  |
| Years Qualified |  |
| Gender | Male Female Prefer not to say |
| Do you routinely provide CAT therapy? | Yes No |
| Do you practice any other therapies? If so, what? |  |
| Are you ACAT accredited? | Yes No |
| How often do you consult manuals in your therapeutic practice?Please give this as a percentage of your sessions with clients :0 = never use, 100 = always use. |  |
| Roughly what percentage of your caseload involves working with individuals with diagnoses of depression? |  |
| Roughly what percentage of your caseload involves working with individuals with diagnoses of personality disorder? |  |

# Appendix H: Participant questionnaire for patient demographic information

Please think about the last client you treated with (BPD/Depression) using a CAT model. Choose a client from the last twelve months, who completed treatment. If a client has a co-morbid presentation, please answer only if this client’s main target for treatment was associated with (BPD/depression).

With this client in mind, please answer the following questions:

Did the client have a formal diagnosis?

Y N

In terms of severity of the client’s presentation, how would you rate this?

Low Medium High

In terms of complexity of the client’s presentation, how would you rate this?

Low Medium High

In terms of risk to self, how would you rate this client?

Low Medium High

In terms of risk to others, how would you rate this client?

Low Medium High

# Appendix I: Intolerance of Uncertainty Scale (IUS-12)

Please rate each of these items for how characteristic it is of you.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Not at all characteristic of me | A little characteristic of me | Somewhat characteristic of me | Very characteristic of me | Entirely characteristic of me |
| Unforeseen events upset me greatly. | 1 | 2 | 3 | 4 | 5 |
| It frustrates me not having all the information I need. | 1 | 2 | 3 | 4 | 5 |
| Uncertainty keeps me from living a full life. | 1 | 2 | 3 | 4 | 5 |
| One should always look ahead so as to avoid surprises. | 1 | 2 | 3 | 4 | 5 |
| A small unforeseen event can spoil everything, even with the best of planning. | 1 | 2 | 3 | 4 | 5 |
| When it’s time to act, uncertainty paralyses me. | 1 | 2 | 3 | 4 | 5 |
| When I am uncertain I can’t function very well. | 1 | 2 | 3 | 4 | 5 |
| I always want to know what the future has in store for me. | 1 | 2 | 3 | 4 | 5 |
| I can’t stand being taken by surprise. | 1 | 2 | 3 | 4 | 5 |
| The smallest doubt can stop me from acting. | 1 | 2 | 3 | 4 | 5 |
| I should be able to organise everything in advance. | 1 | 2 | 3 | 4 | 5 |
| I must get away from all uncertain situations. | 1 | 2 | 3 | 4 | 5 |

# Appendix J: Ten Item Personality Inventory (TIPI)

**Your personal style**

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Disagree strongly | Disagree moderately | Disagree a little | Neither agree nor disagree | Agree a little | Agree moderately | Agree strongly |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

I see myself as:

|  |  |  |
| --- | --- | --- |
| 1. | \_\_\_\_\_ | Extraverted, enthusiastic. |
| 2. | \_\_\_\_\_ | Critical, quarrelsome. |
| 3. | \_\_\_\_\_ | Dependable, self-disciplined. |
| 4. | \_\_\_\_\_ | Anxious, easily upset. |
| 5. | \_\_\_\_\_ | Open to new experiences, complex. |
| 6. | \_\_\_\_\_ | Reserved, quiet. |
| 7. | \_\_\_\_\_ | Sympathetic, warm. |
| 8. | \_\_\_\_\_ | Disorganized, careless. |
| 9. | \_\_\_\_\_ | Calm, emotionally stable. |
| 10. | \_\_\_\_\_ | Conventional, uncreative. |

# Appendix K: CAT Techniques Questionnaire

Please think about the last client you treated with (Depression OR Borderline Personality Disorder) using a CAT model, and who completed treatment. If a client has a co-morbid presentation, please answer only if this client’s main target for treatment was associated with depression.

With this client in mind, please answer the following questions:

Did you use the following techniques during therapy with this patient?

Identify target problems Y N

Identify target problem procedures (snags/traps/dilemmas) Y N

Create a sequential diagrammatic reformulation Y N

Identify exits from target problem procedures Y N

Focus on endings i.e. wrote a goodbye letter Y N

Write a reformulation letter and share this with the client Y N

Set therapeutic goals Y N

Employ a collaborative approach Y N

Assess risk of harm to self Y N

Assess risk of harm to others Y N

Set between-session work Y N

Contract for a time-limited therapy Y N

Do recognition work with the client (i.e., diaries) Y N

Develop a strong working alliance Y N

Now, please consider beyond that recent patient, and think about your wider caseload. Please rate how often you use each of the following techniques when treating your caseload of patients with a diagnosis of (Depression OR Borderline Personality Disorder) using Cognitive Analytic Therapy (CAT).

Identify target problems:

Always

Often

Sometimes

Rarely

Never

Identify target problem procedures (snags/traps/dilemmas):

Always

Often

Sometimes

Rarely

Never

Create a sequential diagrammatic reformulation:

Always

Often

Sometimes

Rarely

Never

Identify exits from target problem procedures:

Always

Often

Sometimes

Rarely

Never

Focus on endings i.e. wrote a goodbye letter:

Always

Often

Sometimes

Rarely

Never

Write a reformulation letter and share this with the client:

Always

Often

Sometimes

Rarely

Never

Set therapeutic goals:

Always

Often

Sometimes

Rarely

Never

Employ a collaborative approach:

Always

Often

Sometimes

Rarely

Never

Assess risk of harm to self:

Always

Often

Sometimes

Rarely

Never

Assess risk of harm to others:

Always

Often

Sometimes

Rarely

Never

Set between-session work:

Always

Often

Sometimes

Rarely

Never

Contract for a time-limited therapy:

Always

Often

Sometimes

Rarely

Never

Do recognition work with the client (i.e., diaries):

Always

Often

Sometimes

Rarely

Never

Develop a strong working alliance:

Always

Often

Sometimes

Rarely

Never

1. NS represents non-significant [↑](#footnote-ref-1)