Received: 1 August 2025 | Accepted: 17 December 2025

DOI: 10.1111/papt.70038

RESEARCH ARTICLE

Inpatient cognitive analytic therapy for emotionally unstable personality disorder: A co-produced and mixed methods single case experimental design

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Abstract

Objectives: To coproduce an evaluation of the effectiveness cognitive analytic therapy (CAT) for emotionally unstable personality disorder (EUPD) conducted during a psychiatric inpatient admission.

Design: A four-phase mixed methods single-case experimental design (i.e. A-B-C-FU design). The first three phases (A-B-C) were conducted on an inpatient ward and the follow-up phase (1 month) coincided with discharge.

Methods: The intervention was a protocol-driven eight-session CAT. Intervention competency was assessed using the CCAT measure. Recognition and revision of three target problems (TPs) and associated target problem procedures (TPPs) were rated at each session. Five idiographic measures (i.e., anxiety, connecting to others, manic mood, obsessional intensity and people-pleasing) were rated daily across all phases. Nomothetic outcomes (i.e., PHQ-9 and GAD-7) were completed at assessment, termination and follow-up. A change interview with the patient participant was conducted at discharge and follow-up. The patient participant provides a commentary on the process and outcome of the therapy.

Results: CAT was delivered competently. Change in TP and TPPs synchronized with CAT phases. Most change in idiographic outcomes occurred during the follow-up, with discharge being associated with deterioration. There was a reliable improvement to PHQ-9 and GAD-7 scores. Changes were rated by the patient as being personally important, impactful and unlikely without CAT. The patient participant's account of the therapy noted the importance of the inpatient psychological help, the tools of CAT being useful and the ending being painful.

Conclusions: Brief CAT can be competently delivered on inpatient wards and appeared an acceptable and effective intervention for this EUPD admission. Research directions are provided.

KEYWORDS
cognitive analytic therapy, EUPD, inpatient

Practitioner points

- Brief CAT can be competently delivered during the average inpatient admission window.
- CAT can both be a helpful and a challenging therapy to receive as an inpatient.
- The relational style of CAT is well matched to the challenges that EUPD patients might bring to an inpatient setting.

INTRODUCTION

Emotionally unstable personality disorder (EUPD) is a complex and enduring mental health condition characterized by a pervasive and persistent instability; more specifically, an unstable sense of self, mood fragility, impulsivity of action, self-harm and difficulties with relationships that then tend to combine to create frequent crises in people's lives (American Psychiatric Association, 2013). EUPD NICE guidelines (NICE, 2015) state that inpatient admissions should be avoided for such crises, and any necessary admission should be brief (e.g. 72 hours; Mufti & Zirinsky, 2021). Nevertheless, people with an EUPD diagnosis account for 15–28% of all psychiatric admissions (Gunderson et al., 2018), with admissions then often becoming lengthy because of persistent risk (Koch et al., 2019; Paruk & van Janse Rensburg, 2016) and often being associated with difficult relational dynamics with staff teams (Papathanasiou & Stylianidis, 2022). Psychologically uninformed inpatient management runs the risk of reenacting trauma (Hallett et al., 2025). Specifically, poorly managed discharge creates an admission 'revolving door' due to the failure to acknowledge and manage the abandonment issues that can be triggered by this event (Gobbicchi et al., 2021).

EUPD patients have higher levels of unmet needs during inpatient admissions and are more likely to misuse alcohol and non-prescribed medications during admissions (Hayward et al., 2006). There is a dearth of information and evaluation on what psychological interventions EUPD inpatients receive (Maconick et al., 2023). Inpatients with EUPD primarily receive medication (97.5%), but 47.7% receive some psychoeducation and 43.2% receive formats derived from dialectical behaviour therapy (Shahpesandy et al., 2021). The inpatient EUPD evidence base consists of just two studies (one RCT and a cohort study), with both evaluating group DBT. The Springer et al. (1995) RCT showed no significant difference in symptomatic outcomes between a 10-session DBT group compared to a 'living well' group. The Booth et al. (2014) cohort study offered group DBT in 2-week cycles of repeating sessions (up to 6 weeks of sessions) and reported reductions over time in the frequency of self-harm.

Cognitive analytic therapy (CAT) is a time-limited, integrative, relational and transdiagnostic psychotherapy, which is delivered in 8, 16 or 24 session formats (Ryle et al., 2014). CAT was motivated by the attempt to create a common language for all the psychotherapies (Ryle, 1978). Theoretically, this was achieved through integrating object relations theory and cognitive theory and supplementing this with Vygotskian and Bakhtinian concepts concerning the continuous dialogic and social formation of self (see Burns-Lundgren, 2024 for a theoretical review of CAT). There is meta-analytic evidence of both the effectiveness and acceptability of CAT across a range of mental health disorders (Hallam

et al., 2021; Simmonds-Buckley et al., 2022). CAT has a 3-phase approach of *reformulation*, *recognition* and *revision* which seeks to identify, monitor and then help to change target problems (TPs) and associated target problem procedures (TPPs). Reformulation is where the therapist assesses the patient, recognition is where the patient is encouraged to stand back from the roles and patterns that have been narratively and diagrammatically identified and revision is the change focused phase of CAT (Ryle & Kerr, 2020). TPs in CAT are the issues that the patient wants to work on during the therapy, restated in easily recognizable and also relational terms, and TPPs are the patterns that maintain the TP in the here and now. TPPs are defined as snags (i.e. self-sabotage), traps (i.e. vicious circles) or dilemmas (i.e., an either/or dilemma in which both poles are negative). There is a formal CAT competency model that outlines the key activities and skills of each of the three phases (Parry et al., 2021).

When patients with identified EUPD or complex PTSD (or presentations that suggest this type of diagnosis) are screened for CAT, then typically this patient group would be allocated to the 24-session CAT model (Gaskell et al., 2023). This long-format CAT is informed by the multiple self-states model, because it can formulate and intervene with the identity fragmentation that often presents (Ryle et al., 1997). Whilst CAT is delivered on inpatient psychiatric wards, there have been no controlled evaluations of effectiveness with EUPD admissions (see Cavieres & Tan, 2024 for a review). Additionally, offering 16 or 24-session CAT would not fit with (a) the brief admission remit of EUPD management (NICE, 2015) and (b) with the NHS Mental Health Implementation Plan which sets a maximum cross-diagnosis admission window of 32 days (Crossley & Sweeney, 2020). Therefore, the current study evaluated the acceptability and effectiveness of the 8-session CAT model (Kellett et al., 2024) for inpatient EUPD, but bearing in mind these time constriants. The bi-weekly 8-session approach means that full treatment can be delivered in 4 weeks, and this fits with the evidence that the actual average length of an inpatient admission is 39 days (Gilburt & Mallorie, 2024).

Given the dearth of literature, there is a need for controlled evaluations of psychological interventions delivered in inpatient settings (Hallett et al., 2025). The current study is the first to complete a single-case experimental design (SCED; Hersen, 1990) evaluation of an inpatient brief CAT intervention for EUPD. Because the evidence base for inpatient EUPD treatment is so limited, conducting a SCED study is an appropriate first step in the hourglass model of evidence generation (Power et al., 2023). SCED is characterized by utilizing a small number of patients, implementing repeated and intensive measurement of idiographic and nomothetic outcomes, sequential and/or randomized allocation of treatment sequences/treatment phases and employing method-specific statistical 'non-overlap' analyses to evaluate effectiveness (Krasny-Pacini & Evans, 2018). The current study created a mixed methods SCED by utilizing daily measured idiographic measures, sessional tracking of TPs/TPPs, nomothetic outcome measurements at pre, post and follow-up, intensive sampling of competency and conducting two qualitative interviews. The intensive assessment of competency adds to the internal validity of the study, as this is unusual for SCED studies (Hersen, 1990). This current study is also the first co-production of a SCED with an inpatient receiving CAT on a psychaitric ward. The co-production sought to create an equal partnership in the production of this evidence (Needham, 2008), in which the patient's experience of brief and ward-based CAT and their analysis of both process and outcomes was sought.

METHOD

Ethics and design

The study is based on the single-case reporting guidelines (SCRIBE; Tate et al., 2016). The participant provided written consent for the study to be conducted and reported and ethical approval for the study was granted (041077). The SCED design had four phases (A-B-C-FU) with the follow-up phase lasting for 4 weeks. The phases were mapped onto the CAT phases of reformulation (phase A), recognition (phase B), revision (phase C) and follow-up (FU) phase. The reformulation phase (A) lasted 6-days (2 CAT sessions), the recognition phase (B) lasted for 8-days (3 CAT sessions) and the revision phase

(C) lasted 6-days (3 CAT sessions). The FU phase lasted 35-days with a single session conducted at the end of that phase. The first three phases were delivered on an 18 mixed-bedded psychiatric inpatient ward, whilst follow-up was conducted on discharge in the community. The study therefore had a total time-series of $N = 55$ days. The co-production aspect was defined by four factors (a) agreeing wording and frequency of each idiographic measure and the scale anchors, (b) co-design of the TPs and TPPs, (c) writing of the results and interpreting the outcomes and (d) submission of the full paper.

Idiographic outcome measures and analysis strategy

Five idiographic measures were co-designed in the first session and then completed daily throughout the four phases of the study. Four of the daily idiographic measures were reported on Likert scales: *feeling anxious* (0 feeling calm to 100 really anxious), *connecting to others* (0 isolating myself to 100 connecting well with others), *manic mood* (0 settled to 100 totally manic), *obsessing intensity* (0 not at all to 100 all the time). People pleasing (i.e., the fifth idiographic measure) was measured with a daily frequency count over the four phases. An interrupted time-series plot of each idiographic measure was produced and change was assessed via the percentage of data points exceeding the median (PEM; Ma, 2006), the percentage of all non-overlapping data (PAND; Parker et al., 2007), non-overlap of all pairs (NAP; Parker & Vannest, 2009) and Tau (Brossart et al., 2018). PEM, PAND and NAP statistics all work on testing the premise that when no change has occurred in the idiographic measure between baseline and subsequent treatment phases, then there would be marked overlap between these phases. When change has occurred, there will be non-overlap between the phases (this could index deterioration and/or harm depending on direction) and therefore a phase shift. The size of the non-overlap shift in PEM, PAND and NAP outcomes was interpreted using the Scruggs and Mastropieri (1998) guidance: <70% = questionable/ineffective treatment (this is where there would be large amounts of overlap), 70–90% = moderately effective treatment (some non-overlap) and >90% = highly effective treatment (marked non-overlap). Tau assessed for any significant differences between the baseline and subsequent phases and Tau variants assessed whether there were: (1) baseline trends in idiographic outcomes, (2) differences between baseline and subsequent phases in idiographic outcomes (i.e. A vs. B, A vs. C and A vs. FU) and (3) the difference between phases when needing to account for any significant baseline trend in an idiographic measure. The co-production and consenting process was completed after the final follow-up in order that the patient did not feel pressure to create a positive picture, and so to reduce bias as far as possible with this type of design.

Target problems and target problem procedures

Three TPs and associated TPPs (i.e. one snag and two dilemmas) were collaboratively agreed in the first session. These were then rated at each session for recognition (0 – 'cannot see the pattern' to 100 – 'spotting it really well') and revision (0 – 'have not been able to change it' to 100 – 'changing it very effectively'). The control dilemma was 'I'm either in total control or I am in utter chaos'. The people-pleasing trap was 'Feeling unlovable and damaged my focus is very much on others. I get drawn into looking after their needs too much and change me to fit them. This only maintains my sense of being broken.' The too close-too far dilemma was 'I'm either enmeshed with people or I am all on my own'.

Nomothetic outcome measures and associated analysis strategy

Two nomothetic outcome measures were completed prior to session 1, after session 8 and at follow-up. Change on these measures was assessed using reliable and clinically significant change criteria (RCSC; Jacobson & Truax, 1991).

Patient Health Questionnaire-9

The PHQ-9 is a 9-item (0–3) scale, based on the nine DSM-V criteria listed under criterion A for major depressive disorder (Kroenke & Spitzer, 2002). The PHQ-9 is a widely used measure for case identification due to its reliability and validity. Caseness for depression is a score of ≥10. PHQ-9 scores are interpreted as minimal depressive symptoms (1–9), mild depressive symptoms (10–14), moderate depressive symptoms (15–19) and severe depressive symptoms (20–27). For reliable change, scores need to be reduced by 6+ points, and for clinically significant change, the post score needed to be <10.

General Anxiety Disorder-7

The GAD-7 is a 7-item (0–3) scale that is used to measure the severity of generalized anxiety disorder (Spitzer et al., 2006). The overall score can range from 0 to 21, with cut-off scores for mild, moderate and severe anxiety symptoms being 5, 10 and 15, respectively. Anxiety caseness is a score ≥8. The GAD-7 is a valid and reliable anxiety outcome measure (Mossman et al., 2017). For reliable change, scores need to be reduced by 4+ points, and for clinically significant change, the post score needed to be <8.

Change interview

At the end of CAT and at the follow-up, the Change Interview (Rodgers & Elliott, 2015) was completed; this is a semi-structured interview which identifies whether change or not has occurred and how important any identified changes are to a patient. The interviews were conducted by an assistant psychologist (IR) to minimize bias. Each interview lasted for 30–40 min. The Change Interview also identifies whether whether identified changes are connected (or not) to the therapy delivered (i.e. the interview tries to sceptically work against the expectation that therapy has been helpful; Thompson & Harper, 2012). The patient participant was invited to reflect on the CAT intervention, identify any associated changes and then rate each change in terms of expectation (i.e. 1 expected to 5 surprising), personal importance (1 not at all to 5 extremely), impact on ward stay (1 not made stay easier to 5 vital for my stay), ability to apply identified changes in community (1 can't apply change to 5 can apply all aspects) and source of change (i.e. 1 unlikely to have changed without therapy to 5 likely to have changed without therapy).

Patient participant

Reason for admission and diagnosis. The participant was a 38-year-old female, admitted following a serious suicide attempt (overdose) and referred for psychological input by the multidisciplinary team following the weekly purposeful admission meeting. The participant had a confirmed diagnosis from the inpatient Consultant Psychiatrist of emotionally unstable personality disorder (EUPD) and alcohol dependency. *Screening*. The patient was screened for suitability and offered eight-session CAT. The participant wanted to use CAT to reduce self-destructiveness. *Background*. The participant was the youngest child born into a nuclear family comprised of a mother, father, three sisters and one brother. The birth order means that the participant received a lot of attention as a child from siblings but then felt abandoned when they left home as adults. There was a strong message as a child of the importance of looking after other people's needs, and this was shaped by interactions with the father due to being made to feel guilty when not doing his bidding. The mother was described as anxious, and this contributed to feeling uncontained as a child. Two episodes of sexual abuse as a child at 7 years and during teenage years for 12 months, both with associated dissociative coping. The second experience of abuse contained more grooming and so damaged the participant's ability to trust, and the

participant also reported feeling personally responsible for the continued abuse, due to not saying no to the abuse and enjoying some aspects of the attention at the time. Despite being bright, the participant struggled at school both academically and with forming and maintaining relationships. The participant was in a long-term heterosexual relationship at the time of the admission, which they described as supportive, but also prone to co-dependency. Prior to the admission, the participant had recently moved to the region and ran an online business. *Previous input*. The participant developed anorexia in her early 20s whilst in an emotionally and sexually abusive relationship and developed chronic alcohol problems. Two prior inpatient admissions and a long history of self-harm and suicidal overdoses in the community. Community mental health team involvement for the eating disorder, two private detoxes and one stint in residential rehabilitation for alcohol abuse. Referred to IAPT services but disengaged from the cognitive behavioural therapy. Also engaged in private person-centred counselling, and stated that this was supportive, but ineffective. Multiple presentations in A&E due to the self-harm. During the admission, the participant was prescribed Mirtazipine 30 mg once daily for low mood, Promethazine 25 mg for poor sleep and Thiamine 100 mg for alcohol dependency.

Treatment

The CAT was delivered in an acute adult inpatient service provided by the NHS in the United Kingdom. The therapist was a male Consultant Clinical Psychologist and CAT psychotherapist, supervisor and trainer, with monthly clinical supervision from a CAT practitioner. The patient was allocated to the 'Sheffield model' version of 8-session CAT (Kellett et al., 2024). All sessions were 50 min in length. The treatment protocol was the session-by-session guide designed for the RELATE randomized trial of CAT for self-harm (Taylor et al., 2024, 2025), adapted for inpatient delivery (Kellett et al., 2023, 2025). The protocol is presented in Supporting Information. There are five specific patient resources that support and are linked to the three phases that have been developed to try to enable high levels of patient engagement (e.g. an out of session TP/TPP tracker, a personal history sheet, a prompt sheet for writing a personal reformulation, an observing eye psychoeducational sheet and a goodbye letter guidance sheet).

As per the eight-session protocol, the first two sessions were central to assessment (e.g. taking a history); they did not contain any treatment elements, and a narrative reformulation (NR) was read to the patient at session three. The NR identified links between past and present and highlighted possible associated enactments in the therapeutic relationship (Ryle & Kellett, 2018). In the SCED, the sharing of the NR signalled the end of baseline A phase and start of the B recognition phase.

In terms of adherence to the treatment protocol, the main components (i.e. NR, sequential diagrammatic reformulation [SDR], change map and goodbye letters exchanged between patient and therapist at termination) were present (Kellett et al., 2023) and these components were synchronized to the phases of CAT. CAT is an active therapy that encourages the recognition and naming of potential enactments between the therapist and patient (Parry et al., 2021). The most common enactments centred around abandonment, perfect care and dependency. The patient was discharged with a therapy pack containing the narrative NR, SDR, change map, TPP rating graphs, ABC phase time series graphs, nomothetic analysis and goodbye letters. The follow-up ratings on nomothetic measures and the idiographic measures were added to outcome graphs and shared with the patient after the follow-up session.

Competency

The measure of therapist competence in CAT (CCAT; Bennett & Parry, 2004) was used to assess competency and each session was rated by the same trained observer. The trained observer was an assistant psychologist (IR) who had been trained in using the measure and sat in on the sessions and rated live. Consent for this was sought from the patient. CCAT assesses 10 domains of competence, is based on detailed descriptions of observable therapist performance and is sensitive to the three-phase CAT approach. The CCAT is not a measure of adherence; it is a measure of therapeutic skillfulness, and these skills differ according to CAT

phase. The 10 subscales (with detailed specific descriptors) contain nine generic competency subscales (each scored 0 incompetent to 4 competent) and one CAT-specific competency subscale (scored 0 incompetent to 4 competent). In terms of its psychometrics, the CCAT has high internal consistency, acceptable levels of interrater reliability, and CCAT scores significantly predict the quality of therapeutic alliance. The CCAT is scored 0–40 and the cut-off for competent CAT is a score of 20+. Seven of the eight sessions were rated with the CCAT and were sampled to ensure coverage of reformulation, recognition and revision phases. The only unrated session was session 4, and this was due to rater absence.

RESULTS

Acceptability

All eight sessions were attended, plus the follow-up.

Competency

The mean CCAT scores for reformulation phase sessions were 39.5/40, the mean CCAT score in the recognition phase sessions was 40/40, and the mean CCAT score for the revision phase sessions was 40/40.

Idiographic outcomes

Figure 1 presents time-series plots for each idiographic measure according to phase of intervention. The red horizontal lines represent the range of baseline variability in each idiographic measure which then highlights the degree of overlap or non-overlap in subsequent phases. Table 1 reports the means (SDs) per study phase and Table 2 the non-overlap analysis of change in these measures. Visually in the time-series plots, there was evidence of a positive shift in idiographic outcomes between reformulation and recognition phases. Comparisons between baseline and recognition phase show highly effective improvements across the idiographic measures. The recognition versus revision phases then show signs of deterioration. It was apparent at the time of discharge that the patient was emotionally and relationally struggling with this process. The deterioration evident in the idiographic outcomes appears likely to have been due to the imminent discharge from the ward, some substance misuse on home leave and the feelings of abandonment that were predicted in the NR. Comparisons between the baseline and follow-up show evidence of highly effective reductions to anxiety, manic mood and people pleasing and being more connected to people during the follow-up period.

TP/TPP outcomes

Figure 2 contains the TP/TPP recognition and revision ratings, where red lines are sessional recognition rating and blue lines are sessional ratings of revision. All three TP/TPPs visually show the same pattern of increasing recognition and revision following flat baselines during reformulation. The mean ratings for recognition and revision of the 'control dilemma' per phase were reformulation phase (3% and 5%), recognition phase (85% and 78.33%) and revision phase (66.67% and 76.67%). The mean ratings for recognition and revision of the 'people-pleasing trap' were reformulation phase (82.5% and 7%), recognition phase (91.67% and 80%) and revision phase (90% and 79.33%). The mean ratings for recognition and revision of the 'too close:too far' dilemma were reformulation phase (50% and 16%), recognition phase (90% and 56.67%) and revision phase (91.67% and 82.33%). Follow-up ratings show that the patient was continuing to effectively recognize and revise the TP and TPPs.

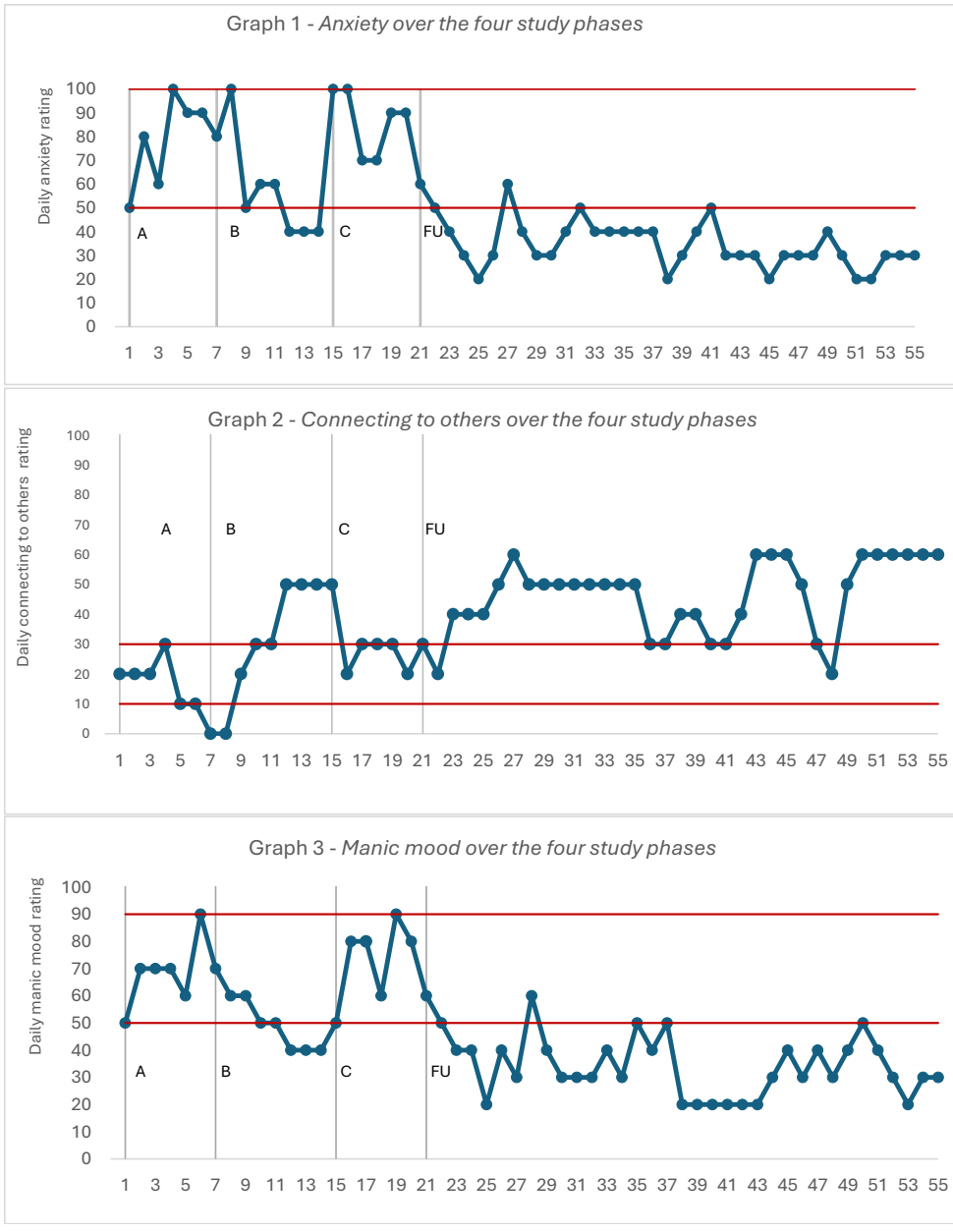
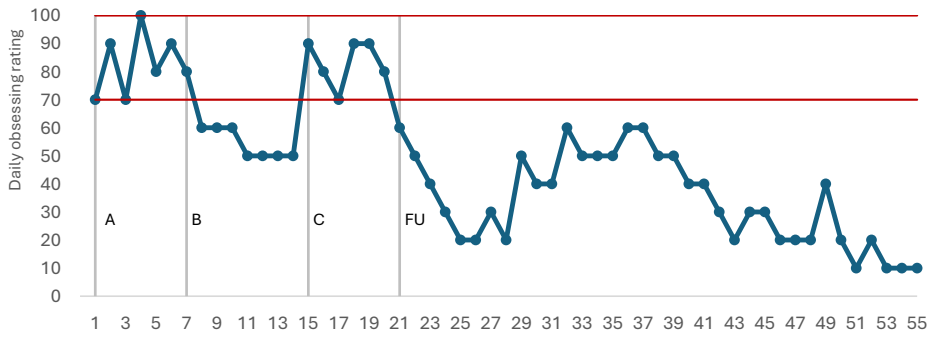


FIGURE 1 Time series plots of the idiographic outcomes. A = reformulation phase, B = recognition phase, C = revision phase, and F/U = follow-up phase.

Nomothetic outcomes

The GAD-7 was 19 at intake, 20 at the end of CAT and 13 at follow-up. The PHQ-9 was 22 at intake, 24 at the end of CAT and 14 at follow-up. This is a reliable (but not clinically significant) reduction in anxiety at follow-up and a reliable (but not clinically significant) reduction in depression at follow-up.

Graph 4 - *Obsessing intensity over the four study phases*



Graph 5 - *Frequency of people pleasing over the four phases of the study*

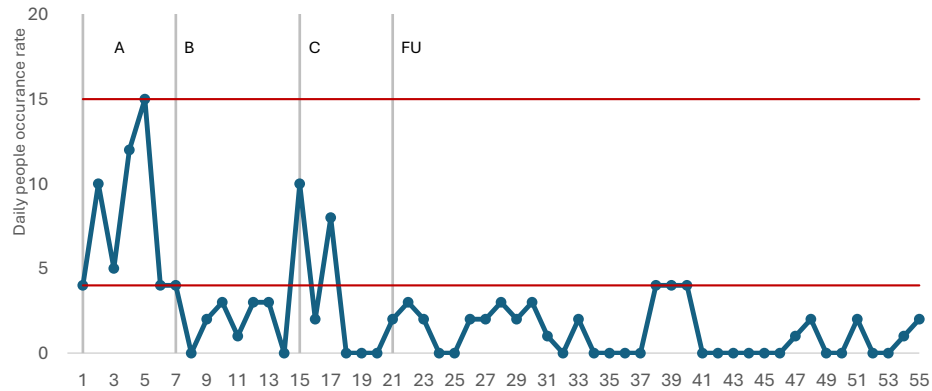


FIGURE 1 (Continued)

Change interview

Two main changes were reported by the patient at the end of CAT (i.e. 'being more kind to self' and 'not feeling ashamed') and three main changes were reported at follow-up (i.e. 'self-confidence improved', 'more trusting' and 'being able to acknowledge and feel feelings'). These changes are reported in Table 3 and these changes were rated by the patient as unexpected, created by CAT, were personally meaningful and helpful for the ward stay (impact on ward stay not assessed at follow-up).

Patient participant account of the intervention and the changes produced

The offer

For me the offer of psychology intervention on the inpatient unit was life changing. At the time, I remember feeling as if for the first time someone was actually listening to what I was saying and understanding how I was feeling; to put it simply I felt relief. Although I did not want to be on the ward at all, the therapy offer made my stay much more bearable and without the therapy I don't think I would have

TABLE 1 Descriptive statistics of idiographic outcome measures across the four study phases.

	Reformulation phase			Recognition phase			Revision phase			Follow-up phase		
	Days	Mean	*SD*	Days	Mean	*SD*	Days	Mean	*SD*	Days	Mean	*SD*
Anxiety	6	78.3	17.72	8	58.75	20.27	6	86.67	12.47	35	34.86	10.25
Connecting	6	18.30	6.87	8	28.75	19.65	6	30.00	10.00	35	46.00	12.24
Manic mood	6	68.30	12.13	8	51.25	10.53	6	73.33	13.74	35	34.57	11.30
Obsessing	6	83.30	11.06	8	57.50	9.68	6	83.33	7.45	35	34.29	15.91
People pleasing	6	8.30	4.27	8	2.00	1.41	6	3.33	4.11	35	1.20	1.35

Note: Days represents complete data.

TABLE 2 Non-overlap statistics for idiographic measures comparing phases of CAT.

	Baseline trend	Tau[a] (unadjusted) Tau[b]-baseline-corrected	Non overlap of all pairs (NAP)			PAND	PEM
			%	*SE*	95% CI		
Reformulation vs. recognition							
Anxiety	0.552	−0.401[a]	76%	0.13	(45–92%)	71%	88%
Connecting	−0.389	0.280[a]	68%	0.16	(37–87%)	71%	69%
Manic mood	0.447	−0.546*[,a]	84%	0.11	(53–96%)	79%	94%
Obsessing	0.358	−0.698*[,a]	95%	0.05	(65–99%)	93%	100%
People pleasing	0.276	−0.724*[,a]	98%	0.03	(69–100%)	93%	100%
Reformulation vs. revision							
Anxiety	0.552	0.223[a]	36%	0.17	(14–68%)	50%	33%
Connecting	−0.389	0.548[a]	82%	0.12	(48–95%)	75%	83%
Manic mood	0.447	0.199[a]	38%	0.19	(15–69%)	50%	33%
Obsessing	0.358	0.000[a]	50%	0.18	(22–78%)	58%	50%
People pleasing	0.276	−0.491[a]	82%	0.13	(48–95%)	83%	67%
Reformulation vs. follow-up							
Anxiety	0.552	−0.544*[,a]	98%	0.02	(77–100%)	95%	100%
Connecting	−0.389	0.516*[,a]	96%	0.03	(75–99%)	93%	97%
Manic mood	0.447	−0.531*[,a]	98%	0.02	(77–100%)	95%	100%
Obsessing	0.358	−0.539*[,a]	100%	0.00	(100–100%)	100%	100%
People pleasing	0.276	−0.560*[,a]	99%	0.01	(79–100%)	95%	100%

[a]If baseline trend is not significant, Tau between phase effect is reported.

[b]If baseline trend is significant, Tau-Baseline corrected between phase effect size adjusted for baseline trend is reported.

*Significant at $p = <.05$.

started as positively on my recovery once back home. I was intrigued by the 8-session CAT approach, as over the years I have accessed a variety of therapy sessions from multiple providers and previous therapy had proved unsuccessful. This approach felt more dynamic, and therefore I was willing to try anything if it helped, I liked the idea of joint participation using practical methods and it felt like my last chance.

Process

I like routine and stability, so two sessions a week felt just right – I was desperate for help when I arrived on the ward so was happy to get stuck right in. The first few sessions felt important as it was in these sessions that I learnt to trust my therapist after being very sceptical and dismissive. Particularly, the reformulation letter struck a chord with me, as I felt like my therapist completely understood and

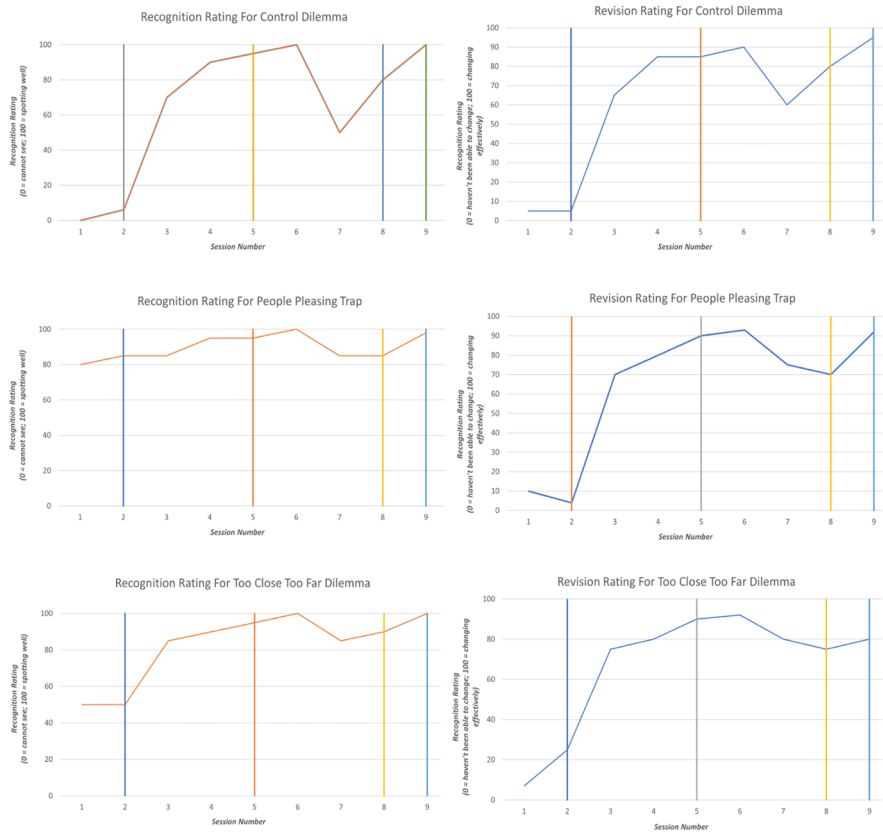


FIGURE 2 Target problem and target problem procedure sessional ratings. Reformulation phase = sessions 1–2, recognition phase = sessions 3–5, revision phase = sessions 6–8, and follow-up = session 9.

heard what I was saying, thinking, and feeling. We were able to also draw up and agree clear boundaries which enabled a healthy working relationship and where I started to trust and work out my dilemmas.

The tools

I believe having something physical to go away with at the end of each session enabled me to keep my recovery at the forefront of my mind. The letters I found emotionally powerful and I struggled to read them (I still do now). On reflection, I think during this period this was the first time someone else acknowledged the pain and suffering I went through as a child and also believed that I could change my patterns of self-destructive behaviour. It was after the first letter that I started to feel a tiny bit of hope – something I haven't felt in a long time. The maps were interesting to use, and I feel that using the map and being able to add to it enabled me to decide what felt right and what felt wrong. Having physical tools enabled me to recognise and visually see my behaviour patterns clearly in front of me, and so I was able to process them better in my mind.

SCED

With the daily measures at first, I couldn't see how useful they could be – it was only after some home leave, where I was able to look at how my scores changed, and I could see clearly using the therapy tools where my behaviour patterns had changed. I enjoyed taking the time to collect the daily measures of how I was feeling and reflect on the day, look at any difficulties and where I could make any reasonable

TABLE 3 Changes reported and rated at the end of CAT and at follow-up.

Reported at the end of CAT	Change was 1 expected, 3 neither expected nor unexpected, 5 surprised by the change	Personal importance: 1 not at all, 2 slightly, 3 moderately, 4 very, 5 extremely	Impact on ward stay: 1 not made stay easier, 3 made stay okay, 5 vital for my stay	Ability to apply change to community: 1 cannot apply, 3 can apply some, 5 can apply all aspects	Likelihood of change without CAT: 1 likely, 3 neither, 5 very unlikely
Being kinder to myself	4	5	2	4	5
Not feeling ashamed	3	5	5	4	5
Reported at follow-up					
Self-confidence improved	4	4	n/a	1	4
More trusting	4	5	n/a	5	5
Acknowledging and feeling my feelings	4	5	n/a	5	5

changes to make positive changes for the next day. To become more self-aware and involved with how to take charge on the day ahead.

The ending

It is only by reflecting and using the tools I can see now that I have a fear of abandonment and I quite possibly, without being aware, feared the ending of the therapy and feeling as though I wasn't quite fixed. I see now that my thinking was still quite distorted and looking back, practicing and actively using the tools, I understand that there is no 'perfect life' and that I will never be perfect, but I can still go on to achieve and live a fulfilling life. The ending was difficult; I was scared of going home and not getting better. I was desperate to go home, but terrified of what my life would look like after being on the ward where everything felt safe – I also felt I still had lots of unpacking to do in my mind. I suppose when you are away from reality, whether that be rehab, a holiday, or the ward, it almost feels like I don't have the same battles that occur every day. After feeling hope for the first time starting this therapy, I was worried that things may not go as well as I wanted them to once home and that terrified me.

Feedback

8 sessions were not enough. Although grateful for the opportunity I came away feeling like I still had a busy mind. It almost felt like we started working through all the difficult things but then stopped and I had nowhere to turn and no one who was impartial to talk too. On a positive, I felt that during the 8 sessions a lot was achieved – it felt emotionally exhausting, the sessions brought up feelings and emotions where I felt physical pain and struggled to breathe. I've never felt that way before ever, so I guess on that basis the therapy was helping me to process all the suppressed emotions/feelings. It has taken a long time for everything to sink in and settle down – often when I use the therapy pack there are things I've forgotten about so it's really useful for me to use during periods of reflection. Over the years, I can genuinely say I have never experienced any therapy like this – on that basis I have to say that for me personally this method works. I came away feeling different in a more positive way.

DISCUSSION

This has been the first paper to describe and evaluate an 8-session CAT intervention for a patient with EUPD during an inpatient admission. This paper has taken a co-production approach to ensure a good representation of the patient voice (Needham, 2008). The effectiveness and durability of brief inpatient CAT were evaluated using a mixed methods A-B-C-FU SCED. A network of outcomes was created by generating qualitative evidence, intensive idiographic measurement, assessment of nomothetic outcome and tracking of TP/TPPs and so this enabled a thorough evaluation of change. While CAT is clearly being used on inpatient wards (Cavieres & Tan, 2024), evaluations of effectiveness have not been forthcoming. In terms of acceptability, all eight sessions were attended, and this is in the context of the median number of inpatient CAT sessions being four (Cavieres & Tan, 2024). This would represent full attendance during a brief admission window. In terms of outcomes, there was evidence of an effective intervention with regards to the TP/TPs and there was reliable reduction in anxiety and depression at follow-up. Idiographic outcomes illuminated how difficult the patient found the discharge process and idiographic outcomes deteriorated as the patient neared discharge. However, the follow-up period was associated with the greatest amount of non-overlap change in the idiographic outcomes, and this was also reflected qualitatively in the change interview results. There is meta-analytic evidence that gains tend to be maintained and improved upon following CAT (Hallam et al., 2021). The changes facilitated by CAT were personally meaningful, unexpected and, crucially, in the opinion of the patient, would not have occurred without CAT. Interestingly, the patient feedback was also that 8-sessions of CAT were insufficient. Given that EUPD patients tend not to receive any formal psychological intervention during

inpatient admissions (Shahpesandy et al., 2021) and the average length of admission across diagnoses is 39 days (Gilburt & Mallorie, 2024), then an 8-session CAT would seem a 'good enough' psychological inpatient intervention, that has also been specifically designed to synch with the average admission window.

This has been the first inpatient CAT study to also intensively sample competency. CCAT results illustrate that it is possible for brief CAT to be delivered competently in inpatient settings. This also demonstrates that CAT was delivered consistently competently across the three phases. Given the relational focus of CAT and the relational issues that EUPD patients bring to inpatient settings, then the CAT model would appear to have a lot to offer with this patient group (Ryle & Kellett, 2018). This also means that a biopsychosocial treatment approach can be implemented during an inpatient EUPD admission, rather than medication being used in isolation (Shahpesandy et al., 2021). When an EUPD admission occurs without any psychotherapeutic intervention, then it is unlikely that the roles and patterns that created the crisis prompting admission would be altered. The TP/TPP ratings of recognition and revision were synchronized with the phase of CAT (i.e. increased recognition during the recognition phase and increased revision during the revision phase). The patient participant's description of CAT uncannily mirrored the three qualitative themes reported by ex-CAT patients by Balmain et al. (2021): changes due to CAT (e.g. insight and actively using the tools of CAT), strong emotions being experienced during sessions (e.g. feeling frustrated, scared, upset) and also the process of CAT (e.g. endings and therapeutic relationship). The second theme and the current patient feedback prompts inpatient CAT therapists to consider risk of potential iatrogenic harm before allocating to the model (Parry et al., 2016).

The time-series graphs showed that the patient participant found the discharge process from the ward to be difficult, but this did not then limit progress during the follow-up phase. Abandonment dynamics are common enactments during discharges from inpatient wards (Webb et al., 2023). Consistent efforts were made to prepare the participant for the termination of CAT, but the broader sense of abandonment negatively impacted the idiographic outcomes during the 'C' phase of treatment and on the TP/TPP ratings (i.e. the dip at session 7). The enactment was predicted in the NR and there were consistent conversations about the end of CAT from the start of therapy and in the goodbye letter. Clearly, these efforts did not insulate the patient from finding the discharge from the ward difficult.

Limitations and suggestions for future research

Effectiveness in SCED is evaluated by comparing subsequent outcomes against a baseline. The baseline is intended to operate as a 'control' phase against which change can then be compared (Hersen, 1990) and therefore functions like the control group in a group study. There was no evidence of a significant trend in the idiographic baselines, but baselines were also not particularly stable. While stable baselines are empirically advantageous, it is unethical to wait for a baseline to stabilize before starting treatment (Kennedy, 2005). Some disorders are also defined by variability (e.g. EUPD, cyclothymia and bipolar depression as examples) and therefore a positive outcome occurs when there is less variability during treatment phases compared to baseline (i.e. without expecting or demanding little or no variation in the baseline). It is acknowledged that fully powered randomized control trials provide better tests of efficacy, as passive and active control groups help to determine whether change occurs due to the passage of time or when another intervention is being provided. In poorly developed evidence bases, such is the case with the effectiveness of inpatient EUPD psychological interventions, then fully powered RCTs will only be funded on the foundations of practice-based evidence.

The reformulation stage of CAT is not technically considered an intervention in and of itself (Ryle & Kerr, 2020), but reformulating does entail meeting with a therapist, creation of goals and an alliance being formed. When baseline phases have been evaluated (Kellett et al., 2022), no differences in idiographic measures have been found between no contact and contact with a CAT therapist, and this supports that reformulation is not an intervention, but also contact with a therapist in itself is not a

facilitator of change. A more sceptical interpretation of the follow-up results could be that the change shown in this phase was purely an artefact of being in the community. The change interview results however tended to suggest the continued use of the inpatient therapy during follow-up. A criticism of the study methodology is the relative brevity of the follow-up period and future studies should extend their follow-up phases. Hermer et al. (2022) highlighted that providing outpatient treatment within 30 days of discharge was best practice, but this was rarely achieved and when it did occur, it was uncertain as to whether this then reduced readmission. While the participant had previously received other therapies previously, another competently delivered inpatient therapy (e.g. DBT) may have been equally helpful and effective as CAT was.

Exact replication of the study would be impossible because of the idiographic and idiosyncratic nature of some of the measures, but the use and timing of the nomothetic measures and the ABC with follow-up SCED design could be replicated. Inpatient EUPD CAT SCEDs could also be collated to enable a single case meta-analysis to be conducted (Moeyaert et al., 2023). Evaluating effectiveness with male inpatient EUPD admissions would be helpful. In terms of study limitations, all the outcome data were self-report, which limits confidence in the reliability of the outcomes. The inpatient context means that intensive and daily staff ratings are also possible and should be explored. The outcome network could therefore have been usefully supplemented, for example, with staff daily ratings (e.g. to mirror the anxiety rating). The change interview could have been conducted at the end of the B phase also. A wider selection of nomothetic outcome measures would have been useful. For example, the Interpersonal Sensitivity Scale (Boyce & Parker, 1989) to more closely capture changes to abandonment dynamics and outcomes. It would be useful in future research to conduct crossover SCEDs and so compare idiographic outcomes for CAT vs. DBT phases for EUPD inpatients (i.e. conduct an ABAC design; Hersen, 1990).

Summary of the study

The intensive measurement demanded by SCED methods was possible even during an in-patient admission. From the patient perspective, CAT was a welcome intervention during the inpatient admission; the tools of CAT were useful, more sessions would have been welcome, and the idiographic measures were useful prompts for reflection and evidencing change. CAT appeared to be a challenging but helpful inpatient intervention. The discharge process appeared difficult, and idiographic and nomothetic measures reflected this. Phase comparisons show marked reductions in people pleasing in particular, and the personal changes facilitated by CAT tended to have a theme of better emotion regulation. The main limitations of the study are the largely unavoidable methodological features of SCED, such as the $N = 1$ sample size.

CONCLUSIONS

This innovative and unique mixed methods study has documented an effective outcome from CAT for a patient with a diagnosis of EUPD that was conducted during an inpatient psychiatric admission. This highlights that the discharge process for EUPD patients can be an 'enactment magnet' and so needs close consideration and careful management in order not to provoke another crisis, and then the revolving door of readmission. Tracking readmission rates following inpatient psychological interventions is a research and health economic priority. There is evidence that without psychological intervention, 16% are readmitted within 30 days (Muhammad et al., 2023), and 47.7% are readmitted within 1 year (Lassemo et al., 2021). Brief CAT offers potential as an intervention for reducing readmission as (a) it is possible to deliver a full treatment within the time boundary of the average admission, (b) the intervention focuses on the roles and patterns that create the admission and therefore potentially reduce readmission when roles and patterns are changed by the intervention, and (c) patients are discharged

with a therapy pack for use in the community, the sharing of this pack with the community team ensures continuity of psychological approach and community teams are encouraged to support the continuation of the inpatient work. This research supports the continuing use of CAT for inpatient EUPD and SCED appears to be a useful initial contributory evaluative method. The evidence base for inpatient CAT is in its empirical infancy and so needs to be urgently expanded (Cavieres & Tan, 2024).

AUTHOR CONTRIBUTIONS

Helena France: Writing – original draft; writing – review and editing. **Isobella Rychlinski:** Formal analysis; writing – original draft; writing – review and editing; project administration. **Chris Gaskell:** Conceptualization; writing – original draft; writing – review and editing; formal analysis; supervision. **Melanie Simmonds-Buckley:** Conceptualization; writing – original draft; writing – review and editing; methodology; supervision. **Stephen Kellett:** Conceptualization; investigation; writing – original draft; writing – review and editing; methodology; formal analysis; project administration; supervision.

ACKNOWLEDGEMENTS

The authors have nothing to report.

FUNDING INFORMATION

The authors have nothing to report.

CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Data S1.

How to cite this article: France, H., Rychlinski, I., Gaskell, C., Simmonds-Buckley, M., & Kellett, S. (2026). Inpatient cognitive analytic therapy for emotionally unstable personality disorder: A co-produced and mixed methods single case experimental design. *Psychology and Psychotherapy: Theory, Research and Practice*, *00*, 1–19. https://doi.org/10.1111/papt.70038