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Abstract

Paranoid Personality Disorder (PPD) presents as chronic and widespread interpersonal distrust, whereby the actions of others are interpreted as malevolent and malicious. This research details the assessment, formulation and treatment of a case of PPD within a 24-session contract of cognitive analytic therapy (CAT). The outcome methodology was an A/B with extended follow-up single case experimental design (SCED). The SCED was supplemented with qualitative patient interviewing via the Change Interview regarding their experience of CAT, whether change had taken place and detailing of any identified change mechanisms. Quantitative results show that five out of the six daily rated paranoia target complaint measures extinguished during the treatment phase. Qualitatively, the patient attributed change to the therapy conducted. The results suggest that CAT was an effective intervention in this case of PPD and are discussed in terms of identified methodological shortcomings, treatment implications and the potential for generating a convincing evidence base for the psychotherapy of PPD.

Key Practitioner Message

- Narrative reformulation using a CAT model offers a key opportunity for the patient to achieve a new understanding of their paranoia.
- Psychotherapy for PPD requires a cognitive component, within a boundaried and relational therapy, that is able to reflect on paranoid enactments and ruptures within the therapeutic relationship.
- There is large role for clinician-researchers in developing a PPD outcome evidence base.

Keywords

Single case experiment design, CAT, paranoid personality disorder

The phenomenological core of Paranoid Personality Disorder (PPD) entails a chronic, widespread and unfounded suspicion that people are being consistently hostile, threatening and/or demeaning, with paranoid beliefs maintained in the absence of any real supporting evidence (DSM-IV, APA, 1994). PPD is therefore characterized by an exaggerated sensitivity to perceived rejection, whereby the neutral actions of others are consistently interpreted as either being hostile or contemptuous (Bernstein & Useda, 2007; Freeman & Garety, 2004; Turkat, 1985; Turkat, Keane, & Thompson-Pope, 1990). Paranoia therefore appears maintained by chronic and acute attention/vigilance to potential 'threat signals' from the interpersonal environment (Akhtar, 1990; Horowitz, 2004). Paranoia can be enhanced when such threat signals reflect personal histories or life experiences (Yang, 2008), with paranoid beliefs often highly structuralised and ego-syntonically embedded in personality organisation (Meissner, 1978).

The term paranoid in PPD does not refer to the presence of true delusions or psychosis, but implies the presence of a chronic and on-going state of mind characterised by unfounded anxious suspicion (Bernstein & Useda, 2007). PPD occurs in 0.7-2.4 % of the population and is more prevalent in males (Coid, 2003), with some initial evidence of modest heritable risk factors (Kendler, Czajkowski & Tambs, 2006). Prevalence rates suggest that PPD is one of the more commonly diagnosed Axis II disorders in both community and clinical settings (Grant, Hasin, Stinson, Dawson, Chou & Ruan, 2004; Torgersen, Kringlen, & Cramer, 2001). PPD is associated with increased risk for anxiety and depression (Johnson, Cohen, Kasen & Brook, 2005), violent and criminal behaviour (Johnson, Cohen, Smailes, Kasen, Oldham & Skodol, 2000), suicide attempts (Overholser, Stockmeier, & Dilley, 2002)

and poor quality of life (Cramer, Torgersen, & Kringlen, 2006) via schizoid social isolation and withdrawal (Horowitz, 2004).

Despite the accumulated evidence regarding the prevalence, frequency of diagnosis and correlates of PPD, numerous clinical questions remain concerning effective engagement and treatment strategies (Edens, Marcus & Morey, 2009). This is due to paranoia unfortunately contributing to behavioural avoidance of research participation (Kaser-Boyd, 2006). The evidence base in relation to the psychotherapy of PPD is therefore slim and is comprised of a small collection of quantitative and qualitative single case studies (Carroll, 2009). Qualitative N=1 case evaluations unfortunately lurk on the bottom rung of scientific credibility, in terms of the rigour by which outcomes are assessed (Hilliard, 1993). Quantitative N=1 designs (a range of single case experimental designs) have increased in methodological credibility to include hermeneutic efficacy designs (e.g. Stephen, Elliott & Macleod, 2011), withdrawal designs (e.g. Cavell, Frentz & Kelley, 1986) or randomization procedures within study phases (e.g.Wenman, Bowen, Tallis, Gardener, Cross & Niven, 2004). The central criticism of N=1 approaches always remains the degree to which results are generalizable from a single patient (Kazdin, 1978). Advocates of SCED state that the method provides a time and cost-effective alternative to randomized clinical trials and offers significant advantages in terms of both internal and external validity (Rizvi & Nock, 2008). The flexibility and range of SCED methodologies also enables the generation of sufficient evidence concerning new therapies or innovative approaches within extant therapies to encourage larger future group studies (Salkovskis, 1995).

Both Williams (1989) and Dimaggio, Cantania, Salvatore, Carcione & Nicolo (2006) used traditional qualitative case studies to describe the positive impact of cognitive therapy and psychotherapy respectively on PPD. Nicolo, Centenero, Nobile

& Porcari (2003) reported a 40 session cognitive therapy with a PPD patient. A more exacting assessment of change was achieved by sessions being scored according to rating scales, which indicated a positive shift in the patient's paranoid metacognitive profile over time. Carvalho, Faustino, Nascimento & Sales (2008) used a hermeneutic single case efficacy design to evaluate a six session intervention of individual systemic therapy for PPD, to conclude that treatment was efficacious and that genogram-based exploration methods played a pivotal role. Yang (2008) has called for more detailed and methodologically robust N=1 studies to advance the PPD evidence base.

The current paper presents a study of the 24-session treatment of a PPD patient with CAT evaluated via a SCED. No previous studies have attempted to use CAT as the treatment modality for PPD. CAT was initially developed to treat Axis I disorders (Ryle, 1991, 1995), with the clinical model subsequently evolving to conceptualise more complex and enduring problems (Kerr, Birkett & Chanen, 2003). A criticism of CAT is that the popularity of the approach appears out of proportion with the evidence of its efficacy and effectiveness (Margison, 2000; Marriott & Kellett, 2009). CAT nevertheless has evolved to become a structured, brief and integrative form of psychotherapy, with a well-developed self-contained methodology, backed by a fully structured theory of mental functioning and therapeutic change (Ryle, 2004). The present research was guided by five substantive questions: Could CAT facilitate significant change to the chronic paranoia experienced by the patient? Could any progress regarding paranoia be maintained without the support of therapy? Do some CAT sessions have more of an impact than others? Did any specific events or processes during CAT appear bring about changes in paranoia? Did the patient ascribe change to the therapy conducted?

Methods

Design and analysis

The methodology was an 'A/B' with extended follow-up SCED. The 'A' baseline phase spanned 3 CAT assessment sessions (42 days consecutive data collection), the 'B' CAT treatment phase spanned 21 sessions (161 days consecutive data collection), with a 4 session follow-up phase (140 days consecutive data collection). The 42-day baseline satisfied the number of observations required in the time series for sufficient SCED baseline duration (Hilliard, 1993). As target complaint measures were collected over the entirety of contact with the patient (343 consecutive days spanning assessment, treatment and follow-up), the resultant target complaint longitudinal data was analysed using interrupted time series analysis (ITSACORR; Crosbie, 1993). This was to ensure that any serial dependency in the time series could be accommodated (Haartman, Gottman, Jones, Gardner, Kazdin & Vaught, 1980).

Patient, therapist and organisational context

The therapist is a Consultant Clinical Psychologist. At the time of conducting the case, he had eight years post-qualification full-time adult mental health experience in the NHS in the UK, with additional post-doctoral training to Practitioner Status in CAT. The organisational context for the study was a secondary care community mental health team, situated in a mental health Trust. Referrals were received from fellow team members (predominantly Psychiatrists) and General Practitioners concerning patients with complex and enduring psychological problems, who appeared suitable for psychological assessment and possible intervention. The patient was seen for treatment in a psychological therapies department, set on a community

hospital site.

The patient (a 36 year old male) was initially screened with the SCID-II (Spitzer, Robert, Gibbon & Williams, 1997) that identified PPD prior to initiating the SCED. As the project was evaluating the impact of an established form of psychotherapy (CAT) in an N = 1 sample, extant single case research ethics guidelines were followed, noting that it would have unethically delayed treatment to seek formal ethics committee approval to conduct the study (Cooper, Turpin, Bucks & Kent, 2005). However, the function of the self-monitoring and methodology were explained to the patient and signed research consent was achieved. All personal and geographic information have been modified in order to preserve anonymity.

Traditional outcome measures

The patient completed a range of valid and reliable outcome measures at assessment, termination of treatment and at final follow-up. As part of the general assessment of mental health, the outcome measures employed were the Brief Symptom Inventory (BSI; Derogatis, 1993), Beck Depression Inventory-II (BDI-II; Beck, Steer & Brown, 1995) and the Inventory of Interpersonal Problems-32 (IIP-32; Barkham, Hardy & Startup, 1994). Personality assessment was undertaken via the Personality Structure Questionnaire (PSQ; Pollock, Broadbent, Clarke, Dorrian & Ryle, 2001). In terms of measure selection, the BDI-II, BSI and IIP-32 were routinely completed pre and post therapy as part of a local audit and evaluation system (Newman & Kellett, 2000). The PSQ was selected as this is a recommended CAT outcome measure with PD patient groups (Ryle, 2004).

Target complaint and session impact measures

At session 1, the patient collaborated in the design of six target complaint measures in the form of a structured quantitative daily diary. The six measures were (1) suspiciousness (*'I've felt suspicious of others' motives today'*), (2) hypervigilance (*'I have been scanning my environment'*), (3) dissociation *('I have been in a world of my own today*'), (4) conspiracy (*'I've been looking for connections today'*), (5) questioning (*'I have been* questioning the *motives of others today'*) and (6) anxiety (*'I've felt anxious today'*). All target compliant measures were scored on the same likert scale, where 1 was 'not at all' to 9 'totally.' The Session Impacts Scale (SIS; Elliott & Wexler, 1993) was completed following each session measuring problem solving, unwanted thoughts, understanding, relationship factors and hindering.

Patient interview

The patient was interviewed using the semi-structured 'Change Interview' (Elliott, 2002). This interview elicits and lists changes (or not) made in therapy and assists the patient in sceptically considering the possible origins of positive change, stasis or deterioration. The patient was also presented during the interview with outcome graphs of the traditional outcome and target complaint measures, to stimulate reflection on their experience of receiving CAT and to assist in the generation of attributions of change.

Assessment details

The patient stated that he was born without complication into a nuclear type family and had one female sibling. The patient described a childhood dominated by his father's morbid jealously of his mother. From early in childhood, the patient was forced to spy on his mother and then was subject to close interrogation by his father on her behaviour. The

patient coped by becoming increasingly effective at surveillance methods in order to avoid his father's rage, should he not be able to provide sufficient reassurance. The patient recalled that his father actively coached distrust and detachment and recalled his mother as a peripheral and emotionless figure. He recalled having few childhood friends. The patient found employment after leaving education at 16 in welfare benefit fraud. He was employed in this role for 12 years and rose through the ranks, due to his ability to perform complex surveillance tasks. The patient stated that he merely applied his normal behaviour to the task of surveillance at work. A depressive episode approximately two years prior to contact with the patient resulted in a reposting to an administrative role. The patient described that he had never established any effective friendships, due to his ongoing levels of distrust and that he was prone to constructing elaborate conspiracy theories. The patient was married, but described feeling chronically disconnected from his wife and daughter. The patient stated that he had always mentally fought to exclude his wife and daughter from his paranoia.

The patient stated that he organised his life around what he termed *'The Game'* and detailed elaborate beliefs that the world was divided into 'players' and 'non-players.' The patient was disparaging and disdainful of 'non-players' and stated that they merely occupied and cluttered the social field of players. Players were described as high-ranking, intelligent, knowing and socially attractive and non-players as low-ranking, dull and ignorant. Once the patient believed that he saw another player, then he would believe that they then engaged in playing 'the game.' This was essentially the misinterpretation of random stranger's normal behaviour, which was interpreted as evidence of 'game-playing.' For example, the patient would believe he was being deliberately 'followed' by another driver who happened to be using the same route or would go the local shopping mall and stare at people from a balcony, until someone made eye contact and then tried to 'lose him' in the shops. The patient described a brief sense of elation from winning what were believed to be stages of the game

(e.g. ‘losing’ the other driver believed to be ‘following him’ or ‘finding’ the other person ‘hiding’ in a shop). The patient stated that he often spent long tracts of time each day playing ‘the game’ and remained vigilant for the potential presence of ‘players.’ In terms of substance abuse, the patient stated that he regularly abused alcohol and had a history of abuse of psychedelics, particularly LSD. The patient stated that binging on alcohol gave him respite from paranoid thinking, only for the paranoia to return once the alcohol had left his system. The patient had ceased abuse of LSD, due to recognising the negative impact it had on his mental state.

The patient had been previously treated with a range of anti-depressants in Primary and Secondary Care due to depressive episodes. The patient was currently being seen in Secondary Care due a depressive relapse and was being treated with an anti-depressant and a low dose of an anti-psychotic. Adherence to previous courses of medication and the current prescription was piecemeal. The patient had never considered a psychological approach to his difficulties and no psychological interventions had been attempted. The patient was referred for psychological assessment due to the psychiatrist being confused as to the case presentation and diagnosis. This was subsequently agreed as PPD with co-morbid depression. During the initial screening appointment, the possibility of psychotherapy was collaboratively discussed and agreed with the patient. In terms of insight, the patient’s paranoia appeared ego syntonic (Meissner, 1978) and he did not appear to see his participation in ‘the game’ as dysfunctional or problematic. As noted in diagram 1, the patient felt pleasure in participating in ‘the game’ due to his sense that he was cleverly outwitting opponents. The patient was seeking help for his anxiety and assumed that there was little that could be done to change the paranoia, as it had been a lifelong problem.

Intervention overview

The patient was offered a 24 sessions (plus 4 follow-up sessions) therapy contract, as that is the specified CAT treatment duration approach for PD patients (Ryle, 2004). The patient attended all sessions. CAT is a structured, integrative and time limited psychotherapy with the model, content and structure of CAT with PD clearly delineated (Ryle, 2004). CAT with PD patients is split into three core phases (a) reformulation (the assessment of the patient leading to the presentation of narrative and diagrammatic reformulations), (b) recognition (patient self-monitoring of patterns, roles and states detailed in narrative and diagrammatic reformulations) and (c) revision (the application of change methods to create exits from old reciprocal roles and the creation of new more functional reciprocal roles).

Reformulation

Early CAT assessment sessions work towards producing a 'narrative reformulation' letter that details the origins of the patient's distress/target problems, target problem procedures and possible threats to the therapeutic alliance should such procedures be activated in the therapeutic relationship (Kellett, 2012). The structure of the first three sessions was as follows (session 1) current problems and patterns, (session 2) childhood and personal history and (session 3) relationships. Target problem procedures are written in the first person in the narrative reformulation to help patients see their problem patterns more clearly. The narrative reformulation was delivered at session 4 in the current case and signified the end of the baseline phase (Hilliard, 1993).

In terms of sharing the narrative formulation with the patient at session 4, the draft nature of the letter was emphasised and the patient was asked to tune into thoughts and feelings created by the letter whilst it was being read. An example extract from the narrative reformulation was as follows: *"Wh*en you were growing up, the home was dominated by

your father's paranoia. As you have stated 'you lived in his world' which was one dominated by distrust, jealousness and suspiciousness towards, in particular, your mother. It seems from an early age that you have learnt to be always on the defensive and you were taught a consistent lesson of distrust and oppressive suspiciousness of others. Your father used you as a source to check out his paranoia and you recall being frequently and frighteningly interrogated for facts and opinions by him. In the present day you continue to interrogate and distrust any person or evidence presented before you and you may be drawn *into doing this with me."* An example target problem and target problem procedure taken from the narrative reformulation was as follows, Target Problem = *over vigilance*, Target Problem Procedure = *"Believing that people are a direct threat to me, I feel I need to protect* myself by watching people closely all the time. This watchfulness means that I notice many small incidents or behaviours all the time and then join them together to make a conspiracy theory. When this happens, I then withdraw from social situations, which reinforces my belief in the conspiracy theory and so limits my opportunities to learn that people can be *trusted."*

The patient's immediate response to the letter was one of paranoia in terms of feeling that he had shared too much information during the assessment, particularly concerning 'the game.' This was normalised as a predictable and understandable reaction to such condensed feedback and the patient was asked to reconsider the content of the letter. The letter was re-read this time by the patient in the session, which seemed to change his stance to some relief and acceptance regarding the content as an accurate description of the origins and maintainers of his paranoia. As a 'homework' task, the patient was asked to read the letter at least 3-4 times across non-paranoid and paranoid episodes in the following week. The patient returned at the fifth session with some small corrections to the narrative

reformulation's tone and content, stating that the homework had helped with assimilating the content of letter, particularly when his paranoia was low.

The second stage of reformulation is the construction of a sequential diagrammatic reformulation (SDR; Ryle, 2004), which is a pictorial representation of key reciprocal roles and the procedures that link self-states, using the multiple self-states model for PD patients (MSSM; Golynkina & Ryle, 1999). The SDR for the current case was completed at session 6 and the SDR is displayed in diagram 1. The SDR was built using a 'states approach' (Ryle, 2004) in which the typical states of the patient were initially identified and mapped (in this case the paranoia, game and radar states) to emphasise difference and separation between self-states. This mapping also emphasised the manner in which the patient could rapidly switch between these self-states, which is consistent with the MSSM (Golynkina & Ryle, 2004). The SDR was built in sections in a collaborative manner to ensure that all mapping was done in session and to prevent the SDR being perceived as the work solely of the therapist. Whilst building the SDR with the patient, the therapist was mindful and checked out that the self-states and reciprocal roles being described were not being activated within the therapeutic relationship. The patient was informed that he could ask for the mapping to stop, should he get over-whelmed with paranoia during the process. The SDR was visible and used across all remaining sessions as a means of reflecting on process, managing potential ruptures and in planning change (Kellett, 2012).

insert diagram 1 here please

Recognition

Throughout the recognition phase the patient was asked to complete additional regular self-monitoring in terms of recognising when he was in particular states or enacting specified

procedures. This took the form of a tick box exercise whereby the states and procedures were listed on a flashcard and the patient ticked the relevant sections when he was aware of the problems stated. This enabled the patient to recognise and record when he was aware of being (a) about to enter a state (b) actually in a state or (c) in a procedure (for example, a withdrawal procedure). The self-monitoring expanded as the SDR was completed with the patient.

Revision

The final stage of CAT focuses on constructing 'exits' to avoid repetition of problem procedures and the construction of new reciprocal roles. The key exits were mindfulness of paranoia, reduced interpersonal vigilance by stopping playing the game, closer interpersonal contact, reduced alcohol intake, behavioural activation by increasing valued pleasurable activities and increased reflective awareness of self-states/problem procedures via internalisation of the SDR. Each time a new change method was discussed this was added to the SDR as an 'exit' from either a reciprocal role or problem procedure (Kellett, 2012). Exits were written in a different colour in order to easily differentiate them from the body of the SDR. Once a change method was developed in a session, then associated 'homework' assignments were collaboratively designed and agreed with the patient. For example in terms of the reduced interpersonal vigilance exit, the patient was encouraged to focus in and listen to what people were saying, rather than watching people from a distance. A culture developed in the sessions of collaboratively designing behavioural experiments to test out and compare old and new reciprocal roles. Therefore the CAT enabled the development of a new reciprocal role of connecting to trusted as an exit that enabled the patient to see that he could increase trust in others (e.g. by sharing a piece of personal information) or let himself be emotionally and physically closer to others (e.g. by not over analysing information,

taking things on face value and not walking away). Both these changes to behaviour produced the same connected feeling.

Across the phases of the CAT intervention, efforts were made to ensure the 'core conditions' of treatment were maintained in the context of CAT theory. This was help the patient for example hear and feel the therapists empathy for the fear induced by the paranoia, whilst recognising that the patient was highly likely to interpret statements and utterances from the therapist in a paranoid manner (see rupture-repair section below). In creating and maintaining the alliance, two factors were crucial (a) active collaboration (Horvath & Bedi, 2002) and (b) transparency (Zur, 2007). The therapist aimed to create a 'good enough' therapeutic alliance, rather than one in which large degrees of trust would be evident (McWilliams, 1994; Gabbard, 2005). There was a marked effort to ensure collaboration regarding in session and between-session working and consensus regarding the origins of the paranoia and maintaining factors. The language of the sessions therefore was that of 'we' and 'us' working on paranoia 'together.' The narrative reformulation appeared particularly useful in terms of establishing consensus via early active collaboration (DeFife & Hilsenroth, 2011), as the aim of the letter was to arrive at an agreed and shared understanding of the origins of paranoia and to identify paranoia maintaining factors and goals for the CAT (Ryle, 1991, 1995).

The other important common factor was the attempt to adopt a position of transparency in the sessions. Transparency in psychotherapy has traditionally referred to the therapeutic use of self-disclosure (Zur, Williams, Lehavot & Knapp, 2009), but in the current context refers to developing a means of interaction with the patient in which little was left to the imagination. Therefore rather than simply asking an open question (e.g. *"tell me about your father's personality"*), the therapist would explain

each question to avoid the patient unhelpfully interpreting the question in a paranoid manner (e.g. *"tell me about your father's personality, because it might help us to see any influence of this on the paranoia as you grew up"*). If the therapist felt some anxiety about the patient or the effectiveness of the therapy, then this would be shared in a transparent way. Therefore, if the therapist felt that the patient might not attend the following session then the patient was asked directly of his plans. Transparency was useful in ensuring that the patient always understood the rationale for any change being attempted.

A major aspect of CAT practice with PD patients is the ability to engage in rupture-repair sequences (Bennett, Parry & Ryle, 2006; Daly, Llewelyn, McDougall & Chanen, 2010), when there is a threat to the therapeutic alliance. Whenever the therapist observed or sensed a rupture (signalled by behaviours such as agitation, withdrawal, staring, confusion or over compliance), then a collaborative exploration of the possible enactment was conducted using the SDR. This was to identify which reciprocal roles had being enacted within the therapeutic relationship (Bennett *et al.,* 2006). The patient was encouraged to have shared responsibility for stating when he felt the therapeutic alliance was faltering or whenever he was experiencing over-whelming feelings of paranoia. An example of this was an early treatment a session was not progressing as expected and the patient was distracted and agitated. The rupture in the alliance was jointly observed and the SDR was collaboratively examined to locate the source of the rupture. This enabled the patient to disclose that he had been thinking that the therapist might be a player (an enactment of the observing-monitored reciprocal role) and he was considering abandoning therapy. Resolution was achieved by enabling the patient to step outside of the self-state and orientate himself to back to reality. Reassurance was not provided that the therapist was not a 'player,' as this would have reinforced the belief that the game was real.

In CAT, both the patient and the therapist produce 'goodbye' letters that are shared at the final session to enable effective management of the ending. An extract from the patient's goodbye letter was as follows: *"I didn't really know what to expect from our* sessions and suspected that it might be a waste of your time and mine. When you spoke of trust it was just a word. I knew the meaning of the word but not the feeling. In the true nature of t*he word, trust meant nothing at all to me. I hadn't made a true connection to* anybody for years and that was OK with me, it was simple and clean. What I did by nature was monitor people, are they a threat, is there a hidden agenda or are they of no consequence – a non-player? I remember being followed every day and I remember the *look in other players' eyes. You have made me aware of an intelligence I thought I never* possessed. I have become aware of a world with other people in it. Most of all I like these people (well most of them) and have realised that I am one of them. I am at ease at last and *I like it."* The letter from the therapist reinforced the changes that the patient had made (giving up the game, closer connections with people and mindfulness), the factors in the therapeutic relationship that had felt important (trust and transparency) and signalled relapse prevention strategies (staying connected to others, reduced alcohol intake, engaging in valued activities and self-care).

Results

The results are divided into four sections to address the five study questions, (1) interrupted time series analysis of target complaint measures and subsequent graphing of target complaint timelines, (2) t-tests of session impacts between baseline and treatment phase sessions, (3) reliable change analysis (Jacobson & Truax, 1991) of the psychometric outcome measures (facilitated by use of the published norms) and finally (4) description of

the Change Interview (Elliott, 2002). ITSACORR was performed on target compliant measures and the means and SDs for the target complaint measures by study phases are reported in table 1. For suspiciousness, there was a significant overall change from baseline to treatment [F (2,26) = 5.06, $p < 0.05$] with no significant decrease in intercept, t(26) = 0.22, but a significant change in slope t(26) = 2.63, $p < 0.05$. For anxiety, there was a significant overall change from baseline to treatment [F (2,26) = 4.24, $p < 0.05$], a significant decrease in intercept, t(26) = -2.39, $p < 0.05$ and a significant change in slope, t(26) = 2.73, $p < 0.05$.

insert table 1 here

Graph 1 illustrates the time series of the suspiciousness target complaint data and Graph 2 displays a composite paranoia measure, in which the six target complaint measures (the weekly sum of suspiciousness, hypervigilance, questioning, dissociation, conspiracy and anxiety over the time course of the study) were combined. Graph 1 displays the evidence of reductions to suspiciousness at the point of CAT narrative reformulation, with suspiciousness subsequently extinguished by the latter stages of treatment (week 22 of the study). Graph 2 replicates reductions in paranoia at the point of narrative reformulation across the summed target complaint paranoia measures. Despite there being no statistically significant reductions in the target complaint measures of hypervigilance [F (2,26) = 0.06, $p = ns$], questioning [F (2,26) = 1.98, $p = ns$], dissociation [F (2,26) = 1.26, $p = ns$] and conspiracy [F (2,26) = 2.49, $p = ns$], such problems extinguished during treatment and did not re-occur at all over the follow-up period. The continuing minor fluctuations in the composite paranoia measure evident in Graph 2 was caused by the patient continuing to solely score on the target complaint measure of anxiety.

insert graph 1 and 2 here please

T-tests comparing the impact of baseline and treatment phase sessions illustrated a significant increase in problem solving (t = -2.27, $p < 0.05$) during treatment, but no change in unwanted thoughts (t = -0.39, p = ns), understanding, (t = 1.16, p = ns), relationship (t = 0.20, p = ns) and hindering (t = 0.81, p = ns). The traditional outcome measure scores at assessment, termination and follow-up are reported in table 2 with associated RCI values (Jacobson & Traux, 1991). The RCI determines whether observed change in a measure as a result of treatment is greater than the change that would be expected due to measurement error. Additionally, *clinically significant* reliable improvement occurs when there is a significant RCI score, plus the final score places the patient in the non-clinical or community range on that measure (Barkham, Stiles, Connell & Mellor-Clark, 2011). Analysis of the outcome measures noted pre-post clinically significant and reliable reductions in the BDI (RCI = 7.51, $p < 0.01$ and scoring in the non-clinical range at termination) and BSI-GSI (RCI = 3.38, $p < 0.01$ and scoring in the non-clinical range at termination), but not in the PSQ or the IIP-32. No further reliable improvement or deterioration in the traditional outcome measures occurred between termination and follow-up, indicating stasis.

insert table 2 here please

In the Change Interview (Elliott, 2002) the patient rated a low initial expectation of change (1 on a likert scale anchored as 1 ‘unlikely’ to 5 ‘very likely) and high surprise at the extent of change achieved (rated 5 on a likert scale anchored 1 ‘very much expected it’ to 5 ‘very much surprised by it).’ As table 3 summarises the patient stated three key changes, “I see people differently now, I can manage my thoughts and no longer playing the game.”

The patient reported being very surprised by the changes and that the changes were unlikely without the help of therapy. These findings are supported by the patient's goodbye letter, in his initial assumption that therapy would be of little use to him. The patient stated that the graphed time series of the target complaint measures reflected his change process – the therapeutic action of the narrative reformulation, the early subsequent struggle to stay in therapy due to residual paranoia and the decision to stop playing the game, which facilitated eventual extinction of many of the target complaint measures. The patient was invited to consider other possible factors facilitating change and denied that 'out-of-therapy' events facilitated the changes recorded. He did note however that his increasingly close relationship with his wife and child did help to support his psychological change – this was a benefit of the exit on the SDR of developing and practicing interpersonal closeness. The key variables creating change were emergent trust in the therapeutic relationship, reflective use of the diagrammatic reformulation and mindfulness of paranoia. In terms of specific helpful therapeutic factors, the patient identified the active and open therapeutic style of the therapist and that some direction was provided when requested. The patient noted that it was extremely difficult to manage his paranoia initially in sessions and not surreptitiously play 'the game' with the therapist.

insert table 3 here please

Discussion

This is the first study of its kind to use CAT as the treatment method for PPD and to assess outcomes using a SCED supplemented with additional patient interviewing. The methodology tracked key paranoid symptoms continually for almost one year through

reformulation, recognition, revision and follow-up CAT phases. Of the six target paranoid complaint measures, five were extinguished during treatment. The suspiciousness outcome graph demonstrated that by week 22 of the study, the patient no longer perceived people as questionable, dishonest or dangerous. Despite the lack of statistical significance to the changes in hypervigilance, questioning, dissociation and tendency to make conspiracy theories, the evidence of extinction during the treatment phase means that such changes were clinically significant. Further tracking of target compliant measures throughout the 6-months follow-up (apart from the anxiety measure), noted little evidence of paranoid relapse and that progress appeared well maintained.

The anxiety target complaint measure did continue to fluctuate during treatment and over the follow-up period, despite the significant baseline-treatment reduction. Interestingly, the patient started to feel new anxieties related to his new 'connectivity' to people. For example, his partner had a major health scare and the patient reported a profound sense of appropriate concern about this, which created associated anxiety. The patient therefore also learnt in the sessions that some anxiety is reactive and normal and that it would be abnormal not to feel anxious in some situations. Treatment sessions were rated as containing more 'problem solving' compared to the assessment phase sessions. This is consistent with the CAT model as during pre-formulation sessions there is an emphasis on understanding and assessment, rather than accent placed on active change that occurs in post reformulation sessions (Ryle, 1991, 1995). The patient qualitatively retrospectively attributed his reduced paranoia to the CAT conducted during the Change Interview (Elliott, 2002). It appears that the narrative reformulation letter impacted on the therapy by dint of the fact that the therapist's view of the patient had been shared in clear and unequivocal terms. Therefore the patient did not have to resort to any potentially paranoia inducing 'mind-reading' of the therapist in terms of the therapist's viewpoint as this had been

captured in the narrative reformulation. The letter therefore appeared to operate as a secure collaborative base (Kellett, 2012) from which to conduct the therapy.

In terms of pre-post assessment changes, perhaps the most significant interpersonal change was that the patient started to develop a much closer relationship with his wife and daughter and felt able to express a level of concern and love that had been previously lacking. The patient also reported following treatment being ready to engage with work tasks more effectively and more importantly being able to engage with the work social environment. Accordingly, the patient described making the effort to get to know people and form new relationships, in a way that was impossible prior to intervention (see goodbye letter for evidence). Globally, the patient reported a newfound sense of relative social ease, which appears the antithesis of the PPD position (Bernstein & Useda, 2007). The patient discontinued taking the prescribed medication during treatment due to reduced paranoia with little apparent ill effect. Treatment sessions emphasised the development of a less paranoid cognitive style, through the development of more benign reciprocal roles (e.g. trusting – connected). The therapeutic relationship was the explicit testing ground for the initial development and exploration of more benign reciprocal roles. When this had been partially or fully achieved, then efforts were made to quickly generalise out the learning accrued in session to the social world. Therefore, much of the work of the therapy was carried out between the sessions, with the collaborative design of between session tasks a feature of each session. Reviewing between-session learning in subsequent sessions enabled the patient to settle into somewhat of a containing 'rhythm' during treatment.

The Change Interview (Elliott, 2002) illustrated that the explicit discussion and negotiation of trust was crucial aspect of treatment. Perhaps the closest measure of trust in the study was the 'questioning' target complaint item *'I have been questioning the motives of others today'* and it is acknowledged that a more focal and

direct measure of trust may have been useful for the study. The collaborative design of the target complaint measures in the language of the patient is nevertheless a key aspect of the practical application of SCED (Kellett & Beail, 1997). McWilliams (1994) and Gabbard (2005) both note that establishing a therapeutic alliance without the expectation of trust is useful in PPD. The patient's 'goodbye' letter stated that the therapy had taught him the meaning of trust, suggesting that good enough trust had developed.

Graphing of target compliant measures demonstrated evidence of an event (narrative reformulation) – change (reduced paranoia) sequence (Elliott, 2002). This sequencing appeared due to the explicit connection made between early life experiences and current paranoia. In the Change Interview (Elliott, 2002) the patient stated that the narrative formulation adopted a non-blaming and hopeful stance, in which the genesis of the paranoia was normalised as an expression of disturbed attachment relationships. As with all CAT narrative reformulations the letter also made explicit the manner in which unhelpful procedures or roles might be enacted within the therapeutic relationship (Kellett, 2012). Therefore the patient was informed that although they might experience paranoia at times during therapy (due to this being their habitual role), that CAT offered an opportunity to explicitly discuss and repair potential or actual ruptures to the therapeutic relationship caused by the paranoia (Bennett *et al*. 2006). The patient's concrete cognitive style enabled him to suddenly decide to stop playing the game, after the pros and cons for continuation were discussed. In this respect, the patient's cognitive style was not really altered and this is an aspect of change that did not occur. Whilst it is possible that a longer treatment contract may have facilitated greater cognitive flexibility, the case was

conducted accordingly to the CAT PD structure of 24 treatment sessions, plus 4 follow-ups (Ryle, 2004).

In terms of clinical and methodological study criticisms, it is possible that another competently applied therapy may have helped the patient just as much as CAT did, or possibly more. The SCED methodology could have been improved via a more robust withdrawal design (e.g. ABAB) or the introduction of a new therapy phase (e.g. ABC). As fidelity to the CAT model was not assessed, there is no certainty that CAT was actually delivered and the follow-up period was too short to truly assess the long-term stability of change. Taping sessions and assessing fidelity to the CAT model by use of the Competence in CAT measure (CCAT; Bennett & Parry, 2004) would have improved confidence in the results observed. It is possible that the usefulness of the therapy was based more on 'common factors' described than on specific CAT factors (Castonguay, 2000, 2006). Indeed CCAT explicitly measures common factor variables and they are part of the CAT model (Bennett & Parry, 2004). Of the four psychometric outcome measures used, only two displayed reliable and clinically significant pre-post change. The patient did not experience reliable change on the IIP-32 or PSQ and this is a clinical criticism. The patient scores at assessment on these measures were not particularly high and this may account for the lack of change.

Of the possible common factors affecting outcome, the alliance (Horvath & Bedi, 2002) and transparency (Zur, 2007) were the most pertinent. Some aspects of unavoidable self-disclosure such as age, gender, body language (Zur, 2007) were apparent in terms other aspects of transparency. The extant PPD guidelines (McWilliams, 1994; Gabbard, 2005) may benefit from adding 'transparency' as another key clinical skill - this can be quickly achieved both narratively and diagrammatically with PPD patients. The narrative and diagrammatic reformulatory approach of CAT seems particularly well suited to facilitating

transparency, as the therapist's view of the patient is always explicit – this comment probably holds for the other personality disorders as well. Carvalho et al. (2008) also noted the usefulness of genogram-based exploration methods with PPD and this would indicate that diagrammatic work with PPD appears clinically useful.

The evidence from the current study suggests that psychotherapy for PPD requires a cognitive component, within a boundaried and relational therapy, that is able to reflect on paranoid enactments within the therapeutic relationship. Mindfulness as a cognitive intervention holds promise and was useful in the current case as it enabled an attentive awareness of the reality of circumstances (especially of the present moment) as an antidote to the paranoia (Fulton, Germer & Siegel, 2005). The current SCED provides a step forward in the credible evaluation of outcomes in PPD given the paucity of the extant evidence base (Carroll, 2009) and indicates CAT as a promising treatment option. The quantitative and qualitative results dovetail to indicate that CAT appeared an effective intervention for the previously widespread and chronic paranoia. It is doubtful whether sufficient numbers of reliably diagnosed PPD patients could ever be collected for a large controlled study. The establishment of case series of patients via practice research networks (Castonguay *et al.* 2010) seems a possible and useful step forward in the evaluation of treatment effectiveness in PPD.

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Diagram 1: Sequential diagrammatic reformulation

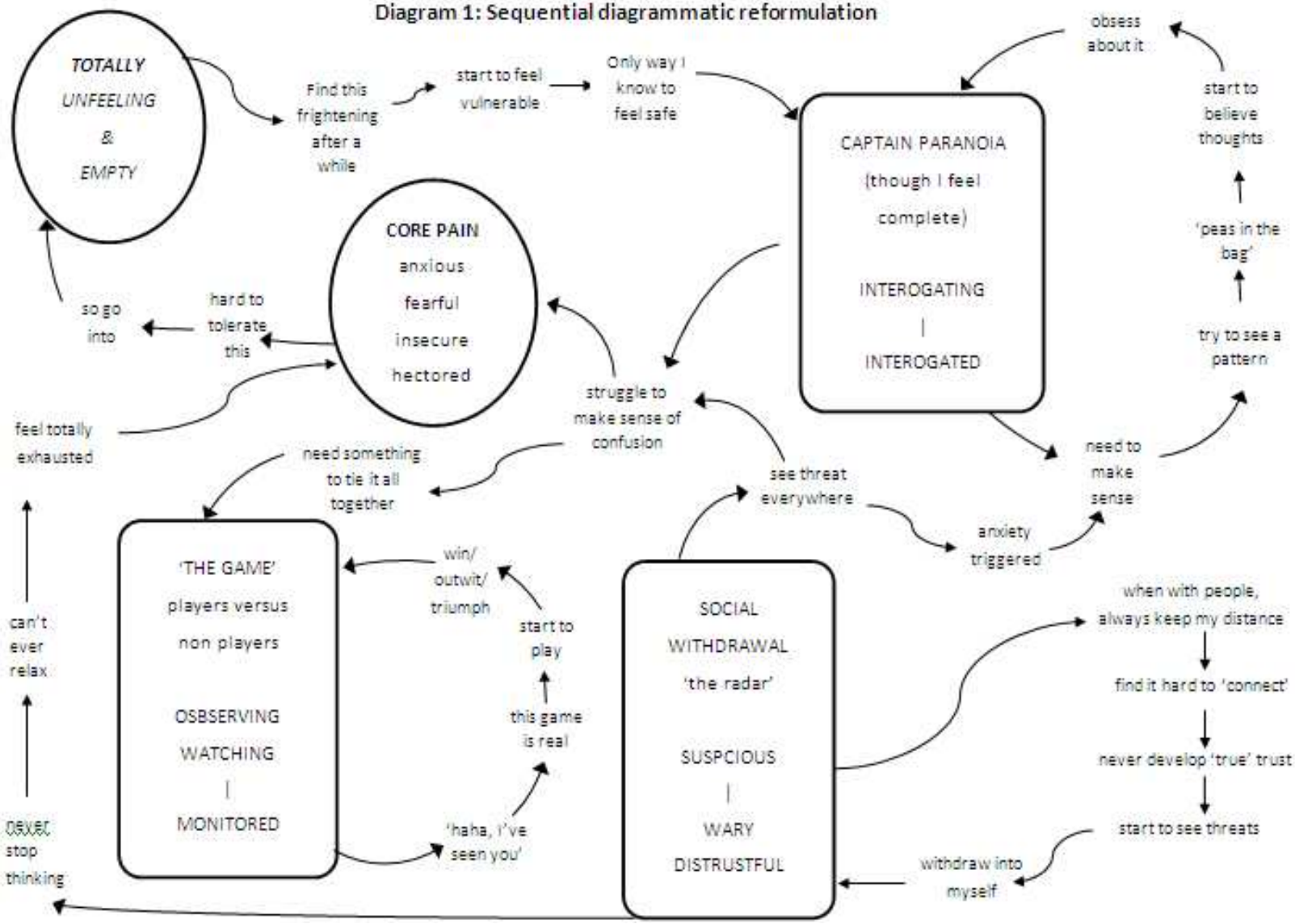
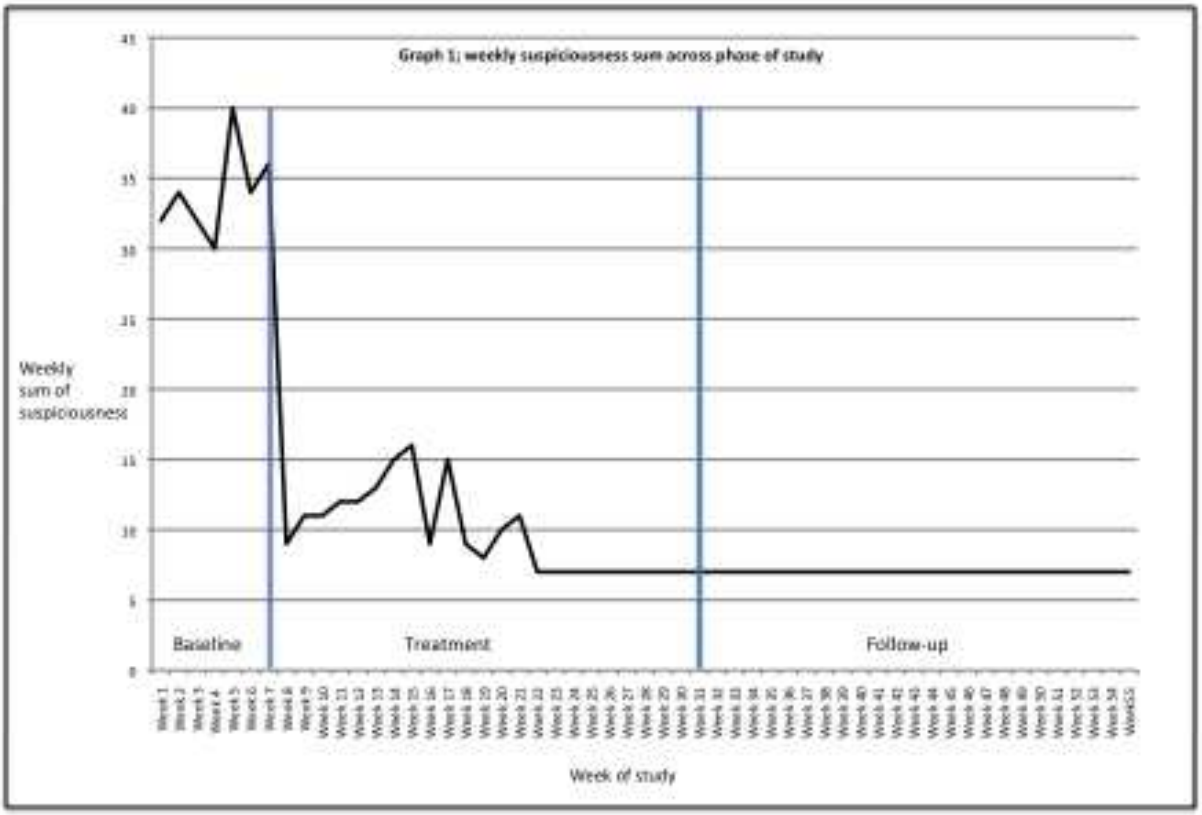


Table 1; means and SDs for target complaint measures by study phase

	Baseline phase Mean (sd)	Treatment phase Mean (sd)	Follow-up phase Mean (sd)
Suspiciousness	34.33 (3.02)	9.58 (2.97)	7.00 (0.00)
Hypervigilance	23.67 (9.81)	11.04 (7.72)	7.00 (0.00)
Questioning	21.67 (11.72)	9.67 (2.76)	7.00 (0.00)
Dissociation	20.33 (11.08)	11.15 (7.15)	7.00 (0.00)
Conspiracy	19.67 (11.68)	10.48 (6.11)	7.00 (0.00)
Anxiety	27.33 (11.52)	16.48 (10.30)	17.16 (9.06)


Graph 1; weekly suspiciousness sum across phase of study
Weekly sum of suspiciousness
Baseline
Treatment
Follow-up
Week of study

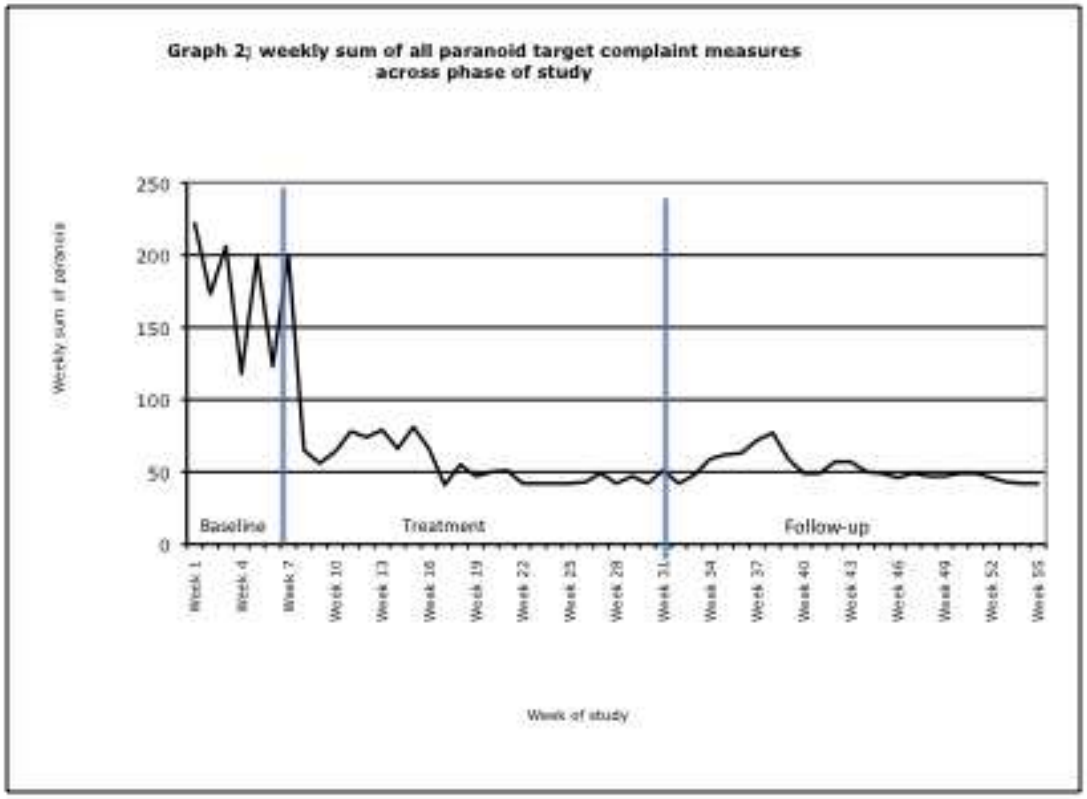

Graph 2; weekly sum of all paranoid target complaint measures across phase of study
Weekly sum of paranoia
250
200
150
100
50
0
Baseline
Treatment
Follow-up
Week 1
Week 4
Week 7
Week 10
Week 13
Week 16
Week 19
Week 22
Week 25
Week 28
Week 31
Week 34
Week 37
Week 40
Week 43
Week 46
Week 49
Week 52
Week 55
Week of study

Table 2; *analysis of traditional outcome measures*

Outcome measure	Caseness cut off for the measure	Pre-Tx score	Post-Tx score	Pre-Post Tx RCI	6 month F/U score
Beck Depression Inventory II (BDI-II)	0-13 (min) 14-19 (mild) 20-28 (mod) 29-63 (severe)	**34**	8	7.51*	1
Brief Symptom Inventory (BSI) – Global Severity Index (GSI)	Score > 0.58	**1.47**	0.28	3.38*	0.16
Inventory of Interpersonal Problems -32 (IIP-32)	Score > 1.50	0.97	0.69	0.53	0.46
Personality Structure Questionnaire (PSQ)	Measure does not have caseness cut-offs	10	10	0.00	8

Numbers in bold indicate criteria met for 'caseness' on that measure at that time point

RCI score = Reliable Change Index comparing pre and post treatment

* = reliable improvement on the RCI, $p < 0.01$

Table 3; *summary of changes reported at post-treatment Change Interview*

Key change	Expectancy for change	Change mechanism; therapy or out of therapy event	Likelihood of change without therapy
Seeing people differently now	Very much surprised by this change	Therapy	Very unlikely without therapy
Being able to manage paranoid thoughts	Very much surprised by this change	Therapy	Very unlikely without therapy
Stopping playing *'the game'*	Very much surprised by this change	Therapy	Very unlikely without therapy