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# Measuring adherence in social recovery therapy with people with first episode psychosis

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## Abstract

**Background:** The SUPEREDEN3 study, a phase II randomized controlled trial, suggests that social recovery therapy (SRT) is useful in improving functional outcomes in people with first episode psychosis. SRT incorporates cognitive behavioural therapy (CBT) techniques with case management and employment support, and therefore has a different emphasis to traditional CBT for psychosis, requiring a new adherence tool.

**Aims:** This paper describes the SRT adherence checklist and content of the therapy delivered in the SUPEREDEN3 trial, outlining the frequency of SRT techniques and proportion of participants who received a full therapy dose. It was hypothesized that behavioural techniques would be used frequently, consistent with the behavioural emphasis of SRT.

**Method:** Research therapists completed an adherence checklist after each therapy session, endorsing elements of SRT present. Data from 1236 therapy sessions were reviewed to determine whether participants received full, partial or no therapy dose.

**Results:** Of the 75 participants randomized to receive SRT, 57.3% received a full dose, 24% a partial dose, and 18.7% received no dose. Behavioural techniques were endorsed in 50.5% of sessions, with cognitive techniques endorsed in 34.9% of sessions.

**Conclusions:** This report describes an adherence checklist which should be used when delivering SRT in both research and clinical practice. As hypothesized, behavioural techniques were a prominent feature of the SRT delivered in SUPEREDEN3, consistent with the behavioural emphasis of the approach. The use of this adherence tool would be considered essential for anyone delivering SRT looking to ensure adherence to the model.

**Keywords:** adherence; CBT; psychosis; social recovery therapy

## Introduction

### Social recovery therapy

Cognitive behavioural therapy for psychosis (CBTp) is a well-documented and effective intervention for treating the positive symptoms of psychosis (Bighelli *et al.*, 2018; Wykes *et al.*, 2007; Wykes, 2014). However, there are limited studies focusing on interventions for functional outcomes, despite research evidence that such outcomes are poor in this client group

(Hodgekins *et al.*, 2015). Fowler *et al.* (2013) propose a specific therapeutic intervention called social recovery therapy (SRT) which incorporates CBT techniques with case management and employment support in order to improve functional outcomes following psychosis. Social recovery can be defined in terms of engagement in activities within occupational and interpersonal domains (Hodgekins *et al.*, 2015). This may include work, education, valued social activities, and relationships with others. The SRT intervention includes an assessment and a formulation, where the formulation focuses on the individual client's unique barriers to social recovery, including those within the client's wider system. The techniques used within the therapy sessions should be formulation driven with a large focus on active behavioural work, where the client and their therapist work together to engage in meaningful activity which is guided by the client's values and determined by their own goals. Evidence and experiences from behavioural work are used to instil hope and promote positive beliefs about the self (Hodgekins and Fowler, 2010) as the individual works towards achieving meaningful change in their lives. The therapist also works with the client's wider system to break down barriers and facilitate change.

SRT was piloted in the Improving Social Recovery in Early Psychosis (ISREP) study and found to be effective in improving hours per week spent engaged in structured activity in individuals with non-affective psychosis both immediately post-intervention (Fowler *et al.*, 2009) and 12 months later (Fowler *et al.*, 2017b). The SUPEREDEN3 (Sustaining Positive Engagement and Recovery) study was a larger phase II randomized controlled trial, which aimed to test whether the use of SRT was effective in increasing the time spent engaged in structured activity by young people with first episode of psychosis with persistent social disability, compared with those in receipt of usual Early Intervention for Psychosis service provision. This study found an average improvement of 8 hours per week in those who received SRT plus early intervention, compared with early intervention alone (Fowler *et al.*, 2018). Thus, the evidence suggests that SRT may be useful in improving functional outcomes in people with first episode psychosis.

### **Adherence and competence**

In order to effectively interpret the results of therapy trials and to translate the findings of research studies into practice, it is important to understand the extent to which the interventions being tested were delivered. Moreover, in order to examine which therapeutic techniques resulted in positive change for participants, we need to measure the specific components of the therapy intervention and the extent to which they were delivered in the trial (Fowler *et al.*, 2011). This has traditionally been explored using adherence scales. Adherence has been defined as 'the extent to which a therapist used interventions and approaches prescribed by the treatment manual and avoided the use of interventions proscribed by the manual' (Waltz *et al.*, 1993). This differs from the concept of competence which has been defined as 'the level of skill shown by the therapist in delivering the treatment . . . the extent to which the therapists conducting the interventions took the relevant aspects of the therapeutic context into account and responded to these contextual variables appropriately' (Waltz *et al.*, 1993).

Young and Beck (1980) developed the Cognitive Therapy Rating Scale (CTRS), which was later revised by Blackburn *et al.* (2001), producing the Revised Cognitive Therapy Scale (CTS-R) as a tool for measuring the competence of therapists delivering CBT. Fowler *et al.* (2011) highlight that whilst the CTRS measures a therapist's general competency in delivering CBT therapy, it does not capture adherence to CBTp. Startup *et al.* (2002) highlight that CBTp has a different content from CBT for other non-psychotic conditions, and consequently reported the development of a new adherence scale, the Cognitive Therapy for Psychosis Adherence Scale (CTPAS).

Rollinson *et al.* (2008) revised the CTPAS to create an adherence scale that could be used within the Psychological Prevention of Relapse in Psychosis (PRP) trial (Garety *et al.*, 2008). The Revised Cognitive Therapy for Psychosis Adherence Scale (R-CTPAS) expanded the original tool from 12 to 21 items. Rollinson *et al.* (2008) suggest that formally measuring the fidelity of treatment

could enhance understanding the mechanisms of change within complex interventions. Indeed, analysis of adherence data from the PRP trial concluded that treatment was only effective if participants received a full dose of CBTp (Dunn *et al.*, 2012), highlighting the importance of routinely assessing treatment adherence in therapy trials in order to understand which techniques work for which patients under which conditions (Fowler *et al.*, 2011). In addition to these findings, Spencer *et al.* (2018) found a dose–response effect in another trial of CBT for psychosis, with more sessions resulting in better outcomes, further highlighting the importance of assessing therapy dose effects.

Similarly, using adherence data from the EDIE-II trial of CBT for people with at-risk mental states, Flach *et al.* (2015) demonstrated a greater effect of the intervention if both homework and a formulation were part of the therapy. This highlights how it is possible to begin to understand the impact of different components of therapy.

### **Measuring adherence in social recovery therapy**

Whilst the R-CTPAS is a well-validated tool for use in assessing adherence in CBTp, SRT has a different emphasis and thus requires a new adherence checklist. A checklist was developed which included all of the different components of the SRT intervention. This paper aims to describe the SRT adherence checklist and to describe the content of the therapy delivered in the SUPEREDEN3 trial, both in terms of the frequency of different SRT techniques used and the proportion of participants who received a full dose. In line with the aims of SRT, it was hypothesized that behavioural techniques would be frequently used and that cognitive work would mostly focus on fostering a positive sense of self. It was also hypothesized that systemic work (i.e. involving family members and other organizations) would be a key feature of the intervention.

### **Method**

The SUPEREDEN3 trial was a single blind, phase II, randomized controlled trial comparing treatment from the early intervention for psychosis service (EIS) plus SRT, with EIS alone. A detailed description of the SUPEREDEN3 trial is provided in Fowler *et al.* (2018).

### **Participants**

Eligible participants were aged 16–35 years; had non-affective psychosis; had been clients of EIS teams in Birmingham, Lancashire, Norfolk and Sussex for 12–30 months; and had low levels of structured activity indicating severe social disability (defined as less than 30 hours a week engaged in structured activity). In total, 154 participants were recruited into the trial across the four sites (Birmingham, Norfolk and Suffolk, Lancashire and Sussex), with 75 randomized to receive SRT plus EIS, and 79 randomized to receive EIS alone. Adherence data are available for 74 of the 75 participants randomized to the SRT plus EIS arm. Further information about participant demographics is provided in Fowler *et al.* (2018).

### **Therapy delivery**

The SRT sessions were delivered by 13 therapists across the four sites of Lancashire, Norfolk and Suffolk, Sussex and Birmingham. All therapists were either qualified clinical psychologists or cognitive behavioural therapists and each provided a recording of at least one of their therapy sessions which was rated using the Cognitive Therapy Scale-Revised (CTS-R; James *et al.*, 2001), from which all therapists were deemed to be competent at delivering CBT. Training in the SRT model and intervention was provided including regular therapy training days and teleconferences held for all therapists. Weekly supervision was provided at each site. All therapy tapes were encrypted for data protection purposes.

### **The Adherence Checklist**

The therapy adherence checklist consisted of the 14 key components of the SRT intervention. Table 1 provides a list of the components and their description. The checklist was developed by the authors and corresponded to the key components of the therapy as detailed in the therapy manual (Fowler *et al.*, 2013).

In addition to the adherence checklist, therapists also completed data about additional between-session therapy contacts. This may include contact with family members or other services (e.g. education and employment providers or voluntary sector agencies). These data were used to provide further information about the systemic elements of the intervention.

### **Procedure**

For each of the therapy sessions delivered the research therapist completed an adherence checklist. All research therapists were encouraged to complete the checklist as soon as possible after their session with the participant. This involved the therapist endorsing (present/absent) which of the key therapy elements they considered had been present in the session, along with providing some notes to demonstrate why they believed this component had been delivered. Where individual therapists did not complete the adherence checklists themselves, these were rated by two other trial therapists using either clinical notes or session notes made by the therapist to determine which components of the SRT intervention had been present. To ensure inter-rater reliability in completing the checklists in this way, two trial therapists initially completed this task and compared ratings to ensure they were concordant.

All of the adherence checklists were reviewed by at least two additional therapists working on the project in order to determine whether an individual participant had received a full dose of SRT. This involved looking at all the sessions of therapy a participant had received and determining whether the essential key components had been present. The therapists rating therapy dose were blind to the clinical outcome of the participant. In order to have received a full dose of therapy, the essential key components were defined as: at least six therapy sessions; the presence of an assessment and a formulation; at least two pieces of behavioural work where the client went out with the therapist (any behavioural work which was conducted as homework tasks or within the clinic room during a therapy session were not included in this). For those participants who received a number of the essential key therapy components, but who did not meet the criteria outlined above for having received a full dose of SRT, a partial dose definition was considered as: at least six sessions; an assessment; a formulation; some behavioural work which was not meeting the definition for a full dose, for example because it was conducted by the participant as a homework task, or it was attempted or planned but not necessarily carried out. If participants received less than six sessions and/or any of the other key therapy components were not endorsed by the therapist then a rating of no dose was given.

### **Analyses**

Descriptive statistics were calculated to determine the proportion of sessions in which a given therapy technique was present and to describe the proportion of participants who received a full, partial or no dose of the intervention.

### **Results**

In total, adherence checklists were completed and collated for all of the therapy sessions which were received by 74 participants who had been randomized to receive the SRT intervention. This totalled 1236 sessions.

The number of SRT sessions received by participants ranged from 0 to 37, with a mean of 16.49 sessions. Of the 75 participants who were randomized to receive SRT sessions, 43 (57.3%) received

**Table 1.** Social recovery therapy adherence components for SUPEREDEN3 study

Component	Description
Engagement	Explanation of SRT at start of therapy, agenda setting, feedback, compassion, validation, promoting hope. This can and should be ongoing throughout therapy. Identifying and discussing barriers to engagement. Adherent if therapist has evidenced explicit engagement strategies, client engages in session and agenda is set
Assessment initial/ongoing	Only the first session will be ticked as an initial session, any other assessment sessions will be identified as 'ongoing'. Developing a shared understanding of current difficulties: social, behavioural, cognitive and systemic. Behavioural and risk assessments included here. Explicit mood/symptom reviews should be included here, as well as the gathering of new information in later sessions
Timeline	Assessment/discussion of the impact of psychosis on current difficulties
Problem and goals list	Including development, setting and review of. Any additional new problems or goals can be identified here even though it is not generated as part of a formal list
Values based assessment	Values exercise and work around values including motivation to change which may not be classed as assessment but work on values. Developing values and reflecting back in later sessions to values. Thinking about things that are meaningful to the client and discussed as values
Formulation	Understanding the onset and current maintenance of social recovery problems and other difficulties. Theory practice links and conceptual integration. Linking maintenance formulations into process and longitudinal factors. Reviewing formulation and links or reflecting on changes in maintenance as well as reviewing components of specific models. Evidence that client is helped to understand how CBT components/interventions are related to presenting problems. Change strategies/session materials are related to the formulation or underpinned in theory-practice links (e.g. providing a rationale for a particular intervention, such as behavioural experiment linked to testing belief included in formulation)
Psychoeducation	Normalizing experiences, symptoms and social withdrawal (avoidance) based on information discussed within the formulation. Information provided relating to presenting problems and coping strategies. Relapse prevention/blueprint sessions may also be rated here if psychoeducation is a feature
Cognitive work	Cognitive work as a heading can include identification, discussion and change strategies. Possible topics may include thoughts/beliefs around unusual experiences/symptoms/mood/behaviour, stigma, negative thoughts/beliefs about self/others/world, fostering positive sense of self and resilience, beliefs re: waiting until feel better, more confident, less anxious, etc., before undertaking new activities. Topics listed for endorsement on the checklist were illness beliefs; stigma; negative beliefs about self; fostering positive sense of self; and beliefs about waiting until feeling better. Also included here could be more generic cognitive strategies such as thought challenging, evidence for/against exercises, developing alternative appraisals, surveys. Guided discovery and Socratic dialogue included
Discussion/strategies re: unusual experiences	Includes both discussion and implementation of strategies around unusual experiences. Although if cognitive strategies have been implemented 'cognitive work' can be ticked as well
Discussion/strategies re: negative symptoms	Includes both discussion and implementation of strategies around negative symptoms/withdrawal. This may include discussions around testing expectancies of success/pleasure. Although if cognitive strategies have been implemented 'cognitive work' can be ticked as well
Behavioural experiment	Includes behavioural experiments aimed at testing out a thought, belief, assumption or prediction. For example 2-way experiments, attention shifting, surveys, in-session, <i>in vivo</i> , video feedback etc. Behavioural experiments should be set collaboratively with a clear plan. Can be completed in session, set as homework or reviewing experiment
Behavioural activation	Strategies to increase activity levels, with a focus on mastery/pleasure including, but not limited to, activity scheduling. Linked with values

*(Continued)*

Table 1. (Continued)

Component	Description
Overcoming avoidance	Examples of overcoming avoidance may include mindfulness, relaxation, diffusion, emotional regulation strategies, coping strategies, exposure to anxiety provoking situations, trying new things (not set as behavioural experiment)
Involving other systems/ organizations	This would include case management type work, risk management, safeguarding, including family and friends and Individual Placement and Support. Communicating, sharing and relaying information to others would be included here. Systemic work and involvement of others in therapy should be rated here also, e.g. parents as co-therapists or sharing formulation/strategies with others in the system

Table 2. Descriptive statistics for the SRT adherence checklist

Adherence checklist item	Frequency (%) endorsed			
	Total (1236 sessions)	No dose (51 sessions)	Partial dose (277 sessions)	Full dose (908 sessions)
Engagement	64.2	82.4	69.0	61.8
Assessment	49.4	80.4	50.2	47.4
Timeline	9.5	21.6	11.6	8.3
Problem list	16.1	25.5	17.0	15.3
Goals and values-based assessment	27.7	39.2	27.1	27.2
Formulation	47.7	35.3	43.3	49.7
Psychoeducation	16.3	5.9	15.5	17.1
Cognitive work	34.9	15.7	38.6	34.8
• Illness beliefs	3.3	0.0	2.2	3.9
• Stigma	2.4	2.0	0.4	3.1
• Negative beliefs about self	13.8	2.0	16.6	13.7
• Fostering positive sense of self	19.2	3.9	22.0	19.2
• Beliefs about waiting until better	8.0	7.8	6.9	8.4
Discussion/strategies re: symptoms of psychosis	15.7	11.8	15.2	16.1
Discussion/strategies re: negative symptoms	5.3	0.0	4.3	5.9
Behavioural work	50.5	23.5	37.2	56.1
• Behavioural experiment	17.8	2.0	14.1	19.8
• Behavioural activation	31.1	11.8	19.5	35.8
• Overcoming avoidance	20.8	11.8	15.5	22.9
Involving other systems/organizations	19.0	11.8	11.9	21.6

a full dose, 18 (24%) received a partial dose and 14 (18.7%) received no dose. Agreement between raters was 100%. Seven (9.3%) participants received less than five SRT sessions. One participant received no sessions and therefore no adherence checklists were completed, resulting in adherence data being available for 74 of the 75 participants randomized to SRT.

Using the adherence data available for the 1236 SRT sessions received by participants, it was calculated that the number of techniques used in an individual therapy session ranged from 0 to 12 (mean = 3.75;  $SD = 2.13$ ). Frequencies for each of the items on the SRT adherence checklist are shown in Table 2. This table also presents frequency data for the SRT components for the three dose groups (full, partial and no dose). On average the no dose group received 3.64 sessions ( $SD = 2.47$ ), the partial dose group received 15.5 sessions ( $SD = 5.40$ ) and the full dose group received 21.27 sessions ( $SD = 5.70$ ).

Of the sessions received by participants, 40 (3.2%) were engagement only, and 101 (8.2%) were engagement and/or assessment only.

Additional information about between-session therapy contacts was available for 52 participants (69.3%). Additional contacts with family members, employment/education providers or voluntary sector organizations were present for 44/52 participants (84.6%). Where these contacts were present, the number of contacts recorded ranged from 1 to 44 for a participant, with the length of time recorded for these contacts ranging from 2 to 619 minutes.

## Discussion

This study describes an adherence checklist which can be used when delivering SRT in both a research and routine clinical practice context. The adherence data reported in this study describe the content of the therapy delivered in the SUPEREDEN3 study, both in terms of how often specific techniques were used and the proportion of participants who received a full or partial dose of SRT. Whilst the majority of participants received a full dose, there was variation in the dose of therapy delivered across participants. This is not considered to reflect the competence of the therapists working on the trial but rather that it is not always possible for therapists to deliver the full trial therapy.

As hypothesized, behavioural techniques were a prominent feature of the intervention, being present in 624 (50.5%) of the sessions. This is compared with cognitive techniques which were present in 431 sessions (34.9%). This is consistent with the underlying behavioural emphasis within SRT, where it would be expected that sessions involved more behavioural work, and therefore provides an indication of therapists having been adherent to the model. Consistent with the emphasis of SRT on optimism, hopefulness and building a positive sense of self, cognitive work predominantly focused on fostering a positive sense of self.

The adherence data also highlight the systemic focus of the intervention, with 19% of sessions ( $n = 235$ ) being rated as 'involving other organizations'. The additional between-session contact data provide additional support, highlighting a high number of contacts with family members, work and education providers and voluntary sector organizations. This demonstrates that for many participants therapists were engaging in a considerable amount of additional systemic work outside of the individual therapy sessions, which is again consistent with the SRT model and indicates adherence. Unfortunately in the current study we were not able to collect the additional contact data for all participants; however, the findings suggest that this would be an important indicator of adherence which should also be recorded and measured.

The adherence data presented individually for each of the three dose groups (no, partial, full) indicate a difference in the delivery of SRT. Those receiving no SRT dose experienced a majority of sessions which focused on engagement, assessment, problem list and goal development and less focus on the 'active' therapy techniques which were present in the sessions received by those who received a partial or full dose of SRT. Whilst the partial and full dose groups received similar levels of cognitive techniques, it can be seen that the full dose group received more behavioural and systemic work, which is consistent with the SRT model.

This work has highlighted the need for a specific therapy adherence tool to measure the delivery of SRT. Indeed, behavioural work, cognitive work focusing on building a positive sense of self, and systemic work are not included on adherence scales for CBTp.

### **Study strengths and limitations**

This study utilized the adherence checklists completed by therapists after sessions had been delivered, rather than the rating of a selection of therapy tapes by external raters. This is a strength because it both maximized the amount of data available for analysis, and also ensured that the vast amount of behavioural work completed outside of therapy rooms was captured within the adherence checklist. However, it is also a potential weakness of the study as there was no corroboration of therapist ratings and therapists' ratings of their own therapy may be subject to bias.

A further strength of this study is that all of the adherence checklists were reviewed by at least two research therapists working on the trial, who were blind to the clinical outcome of participants, and high levels of agreement were present for therapy dose ratings.

### Further research

Whilst this analysis of the therapy adherence data has enabled us to answer key questions about both how the therapy looked in practice and to what extent participants received a full, partial or no dose of the trial therapy, there remain a number of further questions to explore. For example, it would be useful to conduct a mediation analysis similar to Dunn *et al.* (2012) to explore whether the intervention had an enhanced effect for those receiving a full dose of therapy. It would also be interesting to explore the impact of different presentations on the delivery of the therapy. Although all participants in the SUPEREDEN3 study had poor functioning, the factors underpinning this were variable (e.g. social anxiety, negative symptoms, residual positive symptoms). By analysing the therapy adherence data for different sub-groups it may be possible to explore whether participants with different presentations received SRT with a different focus. Such findings would be useful when thinking about implementation of SRT into routine clinical practice.

In addition, it would be useful to conduct a prospective validation test of the adherence scale by including it in another intervention study. As such, the scale has been included in the PRODIGY RCT (Fowler *et al.*, 2017a), a trial of SRT in young people with complex and emerging mental health problems, which will enable the scale to be explored in a larger sample.

### Conclusions

This work has highlighted the usefulness of a specific therapy adherence tool to measure the delivery of SRT. Key features include frequent use of behavioural techniques, cognitive work focusing on fostering a positive sense of self, and working with the wider system around the individual. This is a new intervention, requiring a new adherence tool to explore both its delivery and impact. The use of this adherence checklist tool would be considered essential for anyone delivering SRT and looking to ensure adherence to the model.

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**Conflicts of interests.** All authors declare that they have no conflicts of interest with respect to this publication.

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