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# A Systematic Review of the Evidence Base for Schema Therapy

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**Abstract.** Schema Therapy is becoming an increasingly popular psychological model for working with individuals who have a variety of mental health and personality difficulties. The aim of this review is to look at the current evidence base for Schema Therapy and highlight directions for further research. A systematic search of the literature was conducted up until January 2011. All studies that had clinically tested the efficacy of Schema Therapy as described by Jeffrey Young (1994 and 2003) were considered. These studies underwent detailed quality assessments based on Scottish Intercollegiate Guidelines Network (SIGN-50) culminating in 12 studies being included in the review. The culminative message (both from the popularity of this model and the medium-to-large effect sizes) is of a theory that has already demonstrated clinically effective outcomes in a small number of studies and that would benefit from ongoing research and development with complex client groups. It is imperative that psychological practice be guided by high-quality research that demonstrates efficacious, evidence-based interventions. It is therefore recommended that researchers and clinicians working with Schema Therapy seek to build on these positive outcomes and further demonstrate the clinical effectiveness of this model through ongoing research. *Key words: Schema Therapy; ST/SFT; empirical evidence; schema-focused therapy*

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## Introduction

Within public health care organizations, mental health professionals are continually striving to provide the best interventions and treatments available. Until recently there was a dearth of research that supported the effectiveness of psychological therapies for personality disorders (Fonagy & Bateman, 2006; Binks et al., 2009). These client groups were considered 'untreatable' by many because of the lack of treatment models with adequate sophistication and depth to address the needs of these more complex client groups (Young, Klosko, & Weishaar, 2003). With new psychological theories constantly evolving, it is essential to ensure that clinical practice keeps pace with research evidence. In such dynamic environments, systematic reviews are starting to play an increasingly important role in assessing the existing evidence for psychological interventions (SIGN, 2008).

The aim of this review is to collate the current evidence base for one of the more recent models of psychological therapy Schema Therapy (Young, 1994; Young et al., 2003). Schema Therapy (ST) was developed by Jeffery Young in the 1980s with the goal of improving interventions for individuals who had personality disorders and more complex, chronic and characterological difficulties.

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Such individuals are often considered 'difficult to treat' using traditional cognitive therapy and are frequently described as 'treatment failures' (Young et al., 2003). From extensive clinical experience, Young identified that such individuals appeared to benefit from some adaptations to traditional cognitive therapy. Over time these adaptations evolved into ST—a broad integrative model that overlaps with other models of psychopathology including Cognitive Behavioural Therapy and psychodynamic models (Young et al., 2003).

Over recent years, this model has become increasingly popular with clinicians and academicians who have started to test both the theoretical assumptions and the clinical effectiveness of this model. However, due to the recency of both the model and research in this area, no other review has been conducted in this field to our knowledge.

## *What is Schema Therapy?*

There are four main concepts that are central to ST: early maladaptive schemas, coping styles, schema domains and schema modes (Young et al., 2003). Early maladaptive schemas (EMS) are at the heart of model. Currently, there are 18 EMS and these are described as

> extremely stable and enduring themes, comprised of memories, emotions, cognitions, and bodily sensations regarding oneself and one's relationship with others, that develop during childhood and are elaborated on throughout the individual's lifetime, and that are dysfunctional to a significant degree (Young et al., 2003, p. 7).

Young states that schemas are present in every human being but are manifested in a more rigid and extreme way in cases of psychopathology.

EMS commonly develop in children who live in an environment that fails to meet their core emotional needs or in an environment where they experience repeated episodes of abuse, neglect, hostility and criticism (Young et al., 2003). Depending on the child's early environment, the development of schemas can be grouped into five domains: (1) disconnection and rejection, (2) impaired autonomy and performance, (3) impaired limits, (4) other directedness and (5) over vigilance and inhibition. Each domain represents an important component of a child's core needs, for example, schemas in the disconnection and rejection domain typically originate in detached, cold, rejecting, withholding, lonely, explosive, unpredictable, or abusive families (Young et al., 2003).

Coping styles refer to the ways a child adapts to these environments and experiences. There are three main coping strategies that these children adopt: (1) overcompensation (fighting the schema and acting as though the opposite were true), (2) surrendering (or giving in to the schema) and (3) avoidance (trying to avoid schema activation) (Young et al., 2003). Although these coping styles initially develop to help a child survive toxic environments, over time and in different environments such strategies can serve to maintain the dysfunctional schemas and cease to serve an adaptive function for the individual (Young et al., 2003).

Schema modes are the most recent addition to the ST model. Modes reflect the moment-to-moment emotional and behavioural state of a person at a given time. Modes comprise of clusters of schemas, for example, defectiveness (the belief that one is flawed or defective) and emotional deprivation (the belief that you will never be understood and that your needs will never be met by others) are both part of the Vulnerable Child mode. ST and schema mode therapy do not reflect two separate entities, rather schema mode work is seen as an advanced component of ST, which is particularly beneficial when working with individuals who have borderline personality disorder (BPD) or other complex presentations. Such individuals often present with a number of schemas being simultaneously activated, which can make individual schema work more complex (Young et al., 2003). By allowing therapists to work with groups of schemas simultaneously, schema mode therapy can simplify therapeutic interventions for some individuals.

## *The goal of Schema Therapy*

Young et al. (2003) explain that healthy persons can adaptively meet their own core needs through self-care and close adaptive relationships with others. The goal of ST is to help those who are currently unable to do this. This may involve identifying and reducing maladaptive coping behaviours, which function to perpetuate schemas and reduce the likelihood of schema change, whilst developing

healthier, more adaptive alternatives and healing unhelpful schemas. This can be a long process that requires the individual to confront and modify schemas that may have previously served a protective and adaptive function.

In ST, the therapeutic relationship is seen as the foundation for these changes to occur. As EMS and modes arise when core needs are not met, schema therapists aim to identify and meet these previously unmet needs in a limited way within the therapy relationship by using a variety of techniques including empathic confrontation and experiential, cognitive and behavioural strategies. This may then progress to mobilizing other supportive relationships. By helping the individual identify missed experiences or unmet needs in early childhood and providing opportunities to address these within a therapeutic relationship, ST serves as an antidote to the early damaging experiences that led to the formation of maladaptive schemas and modes. In ST this is referred to as 'limited reparenting' (Young et al., 2003).

### *Why conduct this review?*

Over the last 20 years, ST has evolved into a model that is both simple to understand and also deep and complex in nature. The combination of these factors has resulted in ST being a popular model with clinicians and researchers. The aim of this systematic review is to identify and consolidate the current clinical evidence base for ST and suggest areas in need of future development.

## Method

### *Review objective*

To review the treatment evidence for ST as described by Jeffrey Young (Young, 1994; Young et al., 2003).

### *Participants*

Young suggests that ST is not appropriate for all individuals. Indications that ST may not be appropriate in the short term are

1. current major crises,
2. psychosis,
3. acute, untreated Axis I disorder,
4. current chronic substance misuse,
5. when the presenting problem is situational and not related to a schema or life pattern and
6. when the individual is under 18 years, as personality variables in younger people may still be forming.

All study participants were considered in relation to these recommendations. The only fixed exclusion criteria was age. No study with participants under 18 years was included in this review.

### *Psychopathology*

Although ST was originally developed to improve treatment outcomes for individuals with personality disorders and chronic characterological difficulties, it is not restricted to this group. ST is recommended to be used with a variety of psychopathology. When individuals present with co-morbid Axis I and Axis II disorders, it is recommended that Axis I disorders are prioritized before addressing Axis II psychopathology. To ensure that this review represents a broad range of individuals, all forms of intervention (e.g., group and individual formats) and psychopathology were considered. Because of the high prevalence of co-morbidity of mental health conditions, it was considered clinically useful to include studies with participants who may have more than one mental health diagnosis.

### *Setting*

The aim of this review is to evaluate ST in a broad range of mental health settings to optimize its clinical utility and therefore both inpatient and outpatient settings were considered.

### *Interventions*

Because of the limited number of outcome studies in this area, all studies that applied ST to individuals with a mental health condition were considered. Although it was anticipated that the number of sessions would vary, only those studies that evaluated the efficacy of a ST intervention and exceeded 10 sessions were included in the review. This is due to ST aiming to achieve deep schema change, which is unlikely to occur in very short interventions.

### *Outcomes*

As ST may have a variety of different outcomes depending on an individual's unique needs, all outcomes were considered.

### *Language*
Only English language studies were included because of lack of translation resources.

### *Study Design*
Ideally, systematic reviews consider evidence only from high-quality randomized controlled trials (RCTs). However, there are many who feel that this may not be the best way of evaluating the true value of psychological treatments for personality disorders (Emmelkamp & Vedel, 2009). This is due to the inherent problems in running research with such complex client groups. Additionally, RCTs do not tell us much about implementing psychological treatments in real public health service settings. This is due to their strict guidelines and inclusion criteria, which are often unrepresentative of routine clinical practice. As research into psychological therapies is ultimately about informing clinical practice, this review includes RCTs, controlled trials (CT) and uncontrolled trials (UT). Single case studies or studies with less than five participants have been excluded owing to the higher potential for bias in these study designs. Finally, economic evaluations and studies using duplicate data have not been included.

### *Search Strategy*
The following search terms were used in this study: 'schema therapy' or 'schema-focused therapy'. However, for the purposes of this study, these would be referred to as 'schema therapy', which is now the most commonly used description. The following electronic databases were searched until 10 January 2011:

- MEDLINE (from 1950)
- EMBASE (from 1980)
- CINAHL (from 1982)
- The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2009, issue 3)
- PsycINFO (from 1872)

### *Searching other resources*
The reference lists of included and excluded studies were searched for additional studies and prominent researchers were contacted to enquire about other sources of information, including ongoing research or unpublished data. Finally, two prominent ST websites (the International Society for Schema Therapy's website (http://www.isst-online.com/) and Schema Therapy's website' (http://www.schematherapy.com)) were also searched.

### *Study selection*
All titles and abstracts were initially screened and irrelevant studies or purely theoretical studies were excluded, and the full text of all the remaining studies were obtained and read. Those studies that utilized data previously reported were removed to prevent duplication. A flowchart of the selection process can be seen in Figure 1.

## Results
Following this selection procedure, 12 studies met all the study requirements (see Table 1). In total, four of the studies were considered to be assessing the effectiveness of ST in the treatment of BPD (Farrell, Shaw, & Webber, 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; Nordahl & Nysaeter, 2005), one focused on the effectiveness of ST techniques in the treatment of childhood memories (Weertman & Arntz, 2007), two targeted substance misuse and concurrent personality disorders (Ball, 2007; Ball, Cobb-Richardson, Connolly, Bujosa, & O'neall, 2005), one looked at ST for posttraumatic stress disorder (PTSD) (Cockram, Drummond, & Lee, 2010), one evaluated group ST in an eating disorder population (Simpson, Morrow, van Vreeswijk, & Reid, 2010) and three focused on individuals with agoraphobia and cluster C personality disorders (Gude & Hoffart, 2008; Gude, Monsen, & Hoffart, 2001; Hoffart & Sexton, 2002).

### *Quality Assessment*
In order to differentiate between strong and weak evidence, quality assessments were carried out on all studies. To assist with these assessments, the Scottish Intercollegiate Guidelines Network (SIGN 50) were used. These checklists provided a framework to rate the methodological quality of each study. Based on these ratings, each study was given one of the following overall quality ratings:

- 'A' was awarded to those high-quality RCTs that met all or most of the quality criteria and when they did not fulfil them, the conclusions in the study were deemed very unlikely to alter.

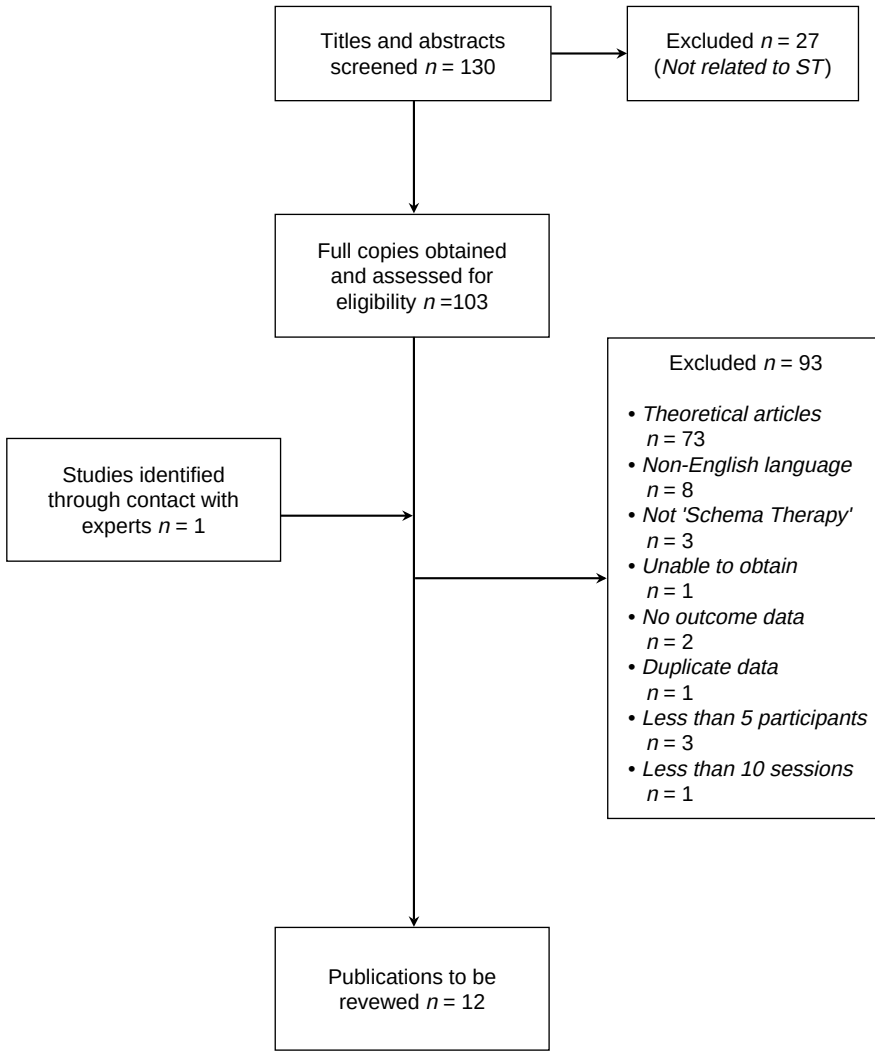


*Figure 1.* Flow chart of the study selection process.

- 'B' was awarded to those RCTs and controlled trials that met most of the quality criteria and when the conclusions in the study were deemed unlikely to alter.
- 'C' was awarded to those RCTs or controlled trials when few or none of the quality criteria had been fulfilled and the conclusions of the study were deemed likely or very likely to alter.
- 'D' was awarded to single-group designs and uncontrolled studies.

To try and minimize bias in ratings, two studies were rated again by an independent rater and compared to the existing assessment. No differences were found between the researcher's assessment and the independent researcher's assessment on either study. Table 2 summarizes the quality criteria ratings for this study.

# Discussion

## *Schema Therapy for BPD*

In total, four studies looked at the effectiveness of ST in treating BPD. Of these, one compared treatment as usual (TAU) to TAU with group ST (Farrell et al., 2009), one

Table 1. *Summary of included studies*

| Study | Aim | Design | Intervention | Outcome measures | Conclusions | Effect sizes |
|---|---|---|---|---|---|---|
| Ball (2007). | To compare Dual Focus Schema Therapy (DFST) to a 12-Step Facilitation Therapy (12FT) in 30 participants (15 males and 15 females) with a diagnosed personality disorder and concurrent substance misuse | RCT | 6 months of either DFST or 12FT | Substance use timeline calendar; Addiction Severity Index; Brief Symptom Index; Multiple Affect Adjective Checklist-Revised; Working Alliance Index | Both groups demonstrated a reduction in substance misuse, and this was more rapid in the DFST condition. Participants reported a stronger therapeutic alliance in the DFST condition. Reduction in dysphoric affect did not occur in the DFST bbut in the 12FT group. | Unable to compute |
| Ball, Cobb-Richardson, Connolly, Bujosa, & O'Neall (2005) | To compare Dual Focus Schema Therapy (DFST) to standard group substance abuse counselling (SAC) in 52 homeless, male clients with a diagnosed personality disorder and concurrent substance misuse | RCT | 24 weeks of either DFST or SAC | Due to low retention of participants was able to provide only outcome data on utilization of therapy | Greater utilization of DFST. Overall, however, individuals with more severe personality disorders utilized SAC more than DFST. | Unable to compute |
| Cockram, Drummond, & Lee (2010) | To compare Schema Therapy (ST) with traditional CBT (TCBT) for the treatment of PTSD in war veterans; TCBT was delivered to 127 individuals between 1996 and 2002; ST was delivered to 54 veterans between 2007 and 2008 | CT | 190 hours of either ST or TCBT | PTSD Checklist Military; Young Schema Questionnaire-L3; Hospital Anxiety and Depression Scale | PTSD symptoms, anxiety, depression and EMS decreased significantly following ST. When compared to TCBT, the ST group showed significantly greater reductions in PTSD and anxiety symptoms. | Between intake and follow-up, effect sizes were medium to large in the ST group (Cohen's d between 0.61 and 0.82) and small to medium in the CBT comparison group (between 0.3 and 0.53) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Farrell, Shaw, & Webber (2009) | This study tests the effectiveness of adding an 8 month, 30 session schema-focused therapy (ST) group to treatment as usual (TAU) for 32 women with a diagnosis of borderline personality disorder (BPD) | RCT | Either 8 months (30 sessions) of group ST and TAU or just TAU | Borderline Syndrome Index; SCL-90R, Diagnostic Interview for Borderline Personality Disorders-Revised; Global Assessment of Functioning Scale; These were administered pre-treatment, post-treatment and at 6-month follow-up | At the end of the treatment, 94% of ST + TAU group no longer met the criterion for BPD, whilst only 16% of TAU no longer met the criterion. Significantly lower scores on BSI, DIB-R and SCL-90R and higher scores on the GAF. These effects were maintained at 6-month follow-up. | At follow-up, effect sizes using pooled standard deviations were all large in the ST group(between 4.45 and1.17) and all small in treatment as usual (between 0.14 and 0.35) |
| Giesen-Bloo et al. (2006) | To compare the effectiveness of Schema Therapy (ST) and transference focused therapy (TFT) in 88 patients with a diagnosed borderline personality disorder (BPD) index score above 20 | RCT | Two sessions per week for 3 years of either ST or TFT | Borderline Personality Disorder Severity Index score (4th version); Quality of life; general psychopathological dysfunction; measures of Schema Therapy/transference focused psychotherapy personality concepts | Three years of Schema Therapy or Transference-Focused Psychotherapy reduced BPD specific (and general) psychopathologic dysfunction, improved quality of life and increased model-specific concepts. The BPDSI-IV demonstrated ST to be more effective than TFT on the following sub-scales: abandonment fears ($p = .04$), relationships ($p = .03$); identity disturbance ($p = .02$); impulsivity ($p = .03$, para-suicidal behaviour ($p = .04$); | With respect to the study's main outcome measures, 1 year of ST resulted in Cohen's d ranging between 0.43 and 1.03 and in TFP between 0.09 and 0.99. |

*(Continued)*

Table 1. *Continued*

| Study | Aim | Design | Intervention | Outcome measures | Conclusions | Effect sizes |
|---|---|---|---|---|---|---|
| | | | | | dissociative and paranoid ideation ($p = .02$). No significant differences were found on the other sub-scales; however; there were significantly stronger linear trends for ST increasing quality of life. | |
| Gude & Hoffart (2008) | Will ST increase interpersonal functioning more than TAU in patients with panic disorder, agoraphobia and co-occurring cluster C traits? | CT | 12 weeks of either group TAU or group ST | IIP, Symptom Check List -90; Mobility Index for Agoraphobia These were administered at pre-treatment, discharge and at follow-up | Patients in the ST group showed greater improvement in interpersonal function than treatment as usual. | Effect sizes from pre-treatment to follow-up on the IIP and SCL-90 phobic anxiety subdimension were large in the group of those having completed ST (0.88 and 1.82), whereas the TAU group exhibited low-to-moderate effect sizes (0.55 and 0.01) |
| Gude, Monsen, & Hoffart (2001) | To determine whether a low level of affect consciousness will be related to a high level of cluster C pathology at pre-treatment; whether change in cluster C pathology is influenced by change in affect consciousness; wether affect consciousness will show any change during schema focused phase | One group(pre-post design) | 11-week inpatient group; 5 weeks cognitive treatment of panic/agoraphobia and 6 weeks ST | The Affect Consciousness Interview; Mobility Inventory and the Structured Clinical Interview for DSM IV | Pre-treatment level of affect consciousness did not correlate with cluster C personality indexes but the avoidant index did at post-treatment. Affect consciousness changed during the ST phase but not during the CT phase. These results indicate that ST may increase affect consciousness more than CT. | The overall change between pre-treatment and follow-up on the measures of personality change ranged between 0.20 and 0.5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hoffart & Sexton (2002) | To examine the role of optimism in the process of ST in 35 patients with panic disorder and or agoraphobia and DSM-IV cluster C personality traits | One group (pre-post design) | 11-week inpatient group; 5 weeks cognitive treatment of panic/agoraphobia and 6 weeks ST | The Affect Consciousness Interview; Mobility Inventory; the Structured Clinical Interview for DSM IV; Panic Rating Scale; the State-Trait Anxiety Inventory; Schema Questionnaire; the Inventory of Interpersonal Problems | Positive association between optimism and schema processes and between EMS and level of distress, empathy, insight and therapists optimism. | Effect sizes from pre-treatment to follow-up on the MI-AAL was 0.52, the STAI was 0.32 and the Personality Disorder cluster C index was 0.39 |
| Nadort et al. (2009) | *Question 1*: To evaluate the success of implementing outpatient schema focused therapy for 62 individuals with a diagnosis of BPD and to determine the added value of therapist telephone availability outside office hours in case of crisis | RCT | Two 45-min sessions per week for 18 months either with or without therapist crisis support | Borderline Personality Disorder Severity Index score (fourth version); EuroQol; WHOQol; BPD-47; SCL-90 | No additional effects of extra crisis support with telephone availability were found. ST can be successfully implemented in regular mental health care. Treatment results and dropout were comparable to a previous clinical trial. | Significant effects at 1.5 years of ST for the whole group emerged for patients' reduction of BPDSI scores ($d = 1.55$), reduction on the BPD-47 scores ($d = 0.80$), SCL-90 scores ($d = 0.57$) and the Young Schema Questionnaire ($d = 0.69$) |
| | *Question 2*: A second aim was to compare the outcomes of this study with the previous RCT conducted by Giesen-Bloo et al. (2006) to determine whether similar outcomes would be found in regular practice | CT | Nadort et al.'s study: two 45-min sessions per week for 18 months | Same as above | | In the RCT (Giesen-Bloo et al., 2006), a pre- to post-treatment effect size difference of $d = 1.24$ was found on the BPDSI<br>In the present study the pre- and post-difference was $d = 1.55$ |

*(Continued)*

Table 1. *Continued*

| Study | Aim | Design | Intervention | Outcome measures | Conclusions | Effect sizes |
|---|---|---|---|---|---|---|
| Nordahl & Nysaeter (2005) | To test the effectiveness of ST for 6 female patients with BPD in a single case series design | Case series design | Between 18 and 36 months of weekly ST sessions | The symptom checklist 90, revised; Beck depression inventory; Beck anxiety inventory; inventory of interpersonal problems; the Young schema questionnaire | From baseline to follow-up, improvement was clinically meaningful for 5 of the 6 patients. Three of the six patients did not meet the criteria for BPD by the end of therapy. | Cohen's d for the group of 6 patients as a whole showed that the pre-treatment to follow-up effects were large, with effect size ranging from 1.8 to 2.9 |
| Simpson, Morrow, van Vreeswijk, & Reid (2010) | To evaluate the effectiveness of group Schema Therapy for 8 individuals with a diagnosed eating disorder and comorbid Axis I and II conditions | Pre-post test case series design | 20 group Schema Therapy sessions | EDE-Q; YSI-L2; HADS; EQ5-D; Experience of shame scale | Results indicated that 4 of the 6 completers had clinically significant improvement in eating. By follow-up all completers had achieved over 60% improvement in schema severity. | Cohen's d showed that the pre-treatment to follow-up effects were all medium or large except on the measure of depression<br><br>The effect sizes ranged from 0.91–1.70 |
| Weertman & Arntz (2007) | To test the hypothesis that the treatment of childhood memories is an effective way to change personality disorder-related schemas and psychopathology in personality disorders in a sample of 21 participants | Crossover design | 61 weekly ST sessions with three follow-up assessments at 3, 6, and 12 months | Rosenberg Self-Esteem-Scale; 90-item Symptom Checklist; Dutch Personality Questionnaire; Schema Questionnaire; Personality Disorder Belief Questionnaire; Miskimins self-goal other discrepancy scale | ST for personality disorder was associated with good overall improvements that were maintained. Given the absence of improvement during the exploration period, these effect sizes could not be attributed to attention effects. Experience of therapist in ST for personality disorder was related to better outcomes. | The effects of total treatment at post-test, 3, 6 and 12 month follow-up were large ($d = 0.97–1.97$) |

Table 2. *Quality assessment criteria based on SIGN-50 guidelines.*

| Study | Clarity of question | Control condition used? | Treatment and control run simultaneously? | Similar control condition in relation to intensity, duration, etc? | Randomization used? | Similarity of groups at start | Treatment integrity assessed? | Outcome measures? | Measurement of schema change? | Retention | Intention to treat analysis | Design | Follow-up? | Quality rating |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ball, 2007 | Well covered | Yes (12FT) | Yes | Unknown - poor description | Yes but lacks description | Not known | Yes | Adequate | No | Poor | Not reported | RCT | No | **C** |
| Ball et al., 2005 | Well covered | Yes (SAC) | Yes | Poor | Yes but lacks description | Not known | Yes | Adequate | No | Very poor | No | RCT | No | **C** |
| Cockram et al., 2010 | Well covered | TAU | No | Well covered | No | Not known | Not known | Well covered | Only in SFT | 100% in SFT unknown for comparison condition | No | CT | 3 months | **B** |
| Farrell et al., 2009 | Well covered | TAU | Yes | Poor | Random number table | Well covered | Yes | Well covered | No | 100% in SFT, 75% in TAU | No | RCT | 6 months | **B** |
| Giesen-Bloo et al., 2006 | Well covered | TFT | Yes | Yes | Adaptive biased Urn procedure | Well covered | Yes | Well covered | No | 73% SFT, 49% of TFT | Yes | RCT | Not officially but study was over 3 years | **A** |
| Gude & Hoffart, 2008 | Well covered | TAU | No | Poor | No | Well covered | Not known | Well covered | No | 72% TAU 100% SFT | Not reported | CT | 12 months | **C** |
| Gude, Monsen, & Hoffart, 2001 | Adequate | No | N/A | N/A | N/A | N/A | Not known | Well covered | No | Good | Not reported | UT | 12–15 month | **D** |
| Hoffart & Sexton, 2002 | Well covered | No | N/A | N/A | N/A | N/A | Yes | Well covered | Yes | 78% | No | UT | 12 months | **D** |
| Nadort et al., 2009 (Question 1: Telephone support) | Well covered | Yes, No telephone support | Yes | Well covered | Stratified randomization | Well covered | Yes | Well covered | Yes | 79% | Yes | RCT | No | **B** |
| (Question 2: Were the results comparable to Giesen-Bloo et al., 2006.) | Well covered | Data from Giesen-Bloo et al.'s study | No | Some differences | No | Similar | Yes | Well covered | Yes | Nadort et al.; 79% Giesen Bloo et al.; 86% | Yes in both | CT | No | **C** |
| Nordahl & Nysaeter, 2005 | Well covered | No | N/A | N/a | N/A | N/A | Yes | Well covered | Yes | Good | N/A | UT | 12 months | **D** |

Table 2. *Continued*

| Study | Clarity of question | Control condition used? | Treatment and control run simultaneously? | Similar control condition in relation to intensity, duration, etc? | Randomization used? | Similarity of groups at start | Treatment integrity assessed? | Outcome measures? | Measurement of schema change? | Retention | Intention to treat analysis | Design | Follow-up? | Quality rating |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Simpson et al., 2010 | Well covered | No | N/A | N/a | N/A | N/A | Yes | Well covered | Yes | 80% | N/A | UT | 6 months | **D** |
| Weertman & Arntz, 2007 | Well covered | No | N/A | N/a | N/A | N/A | Yes | Well covered | Yes | 100% | N/A | UT | 12 months | **D** |

compared ST to Transference-Focused Therapy (TFT) (Giesen-Bloo et al., 2006), another one compared ST with therapist telephone support to ST without therapist telephone support in a health service setting (Nadort et al., 2009) and the last looked at ST for BPD in a case series design (Nordahl & Nysaeter, 2005).

Overall, of the four studies reviewed, the most compelling evidence for the effectiveness of ST in treating BPD comes from Giesen-Bloo et al.'s (2006) study. This study directly compared the effectiveness of ST to TFT in 88 participants with a diagnosis of BPD. The rigorous assessment procedures, regular quality checks, standardized outcome measures and randomization are particular strengths of this research. The main outcomes of this study were reductions in general and BPD specific psychopathological dysfunction, increased quality of life and significant improvements on BPDSI-IV subscales in the ST group compared to the TFT group (see Table 1 for details). Overall the study's main outcome measures resulted in medium to large effects in the ST group (between 0.43 and 1.03) as compared to small to large effects (between 0.09 and 0.99) in the TFT group.

In addition to these strengths, this study also benefits from its choice of control condition. TFT has previously demonstrated efficacy in reducing BPD symptoms in a RCT (Clarkin, Levy, Lenzenweger, & Kernberg, 2007). It also shares some characteristics with ST. For example, both aim to change personality structure, reduce self-destructive behaviours and increase quality of life (Giesen-Bloo et al., 2006). Finally, both therapies can be offered in equal frequency and duration, making it highly unlikely that the positive ST outcomes displayed could be attributed to other factors. TFT was therefore a good choice as a control group for Giesen-Bloo et al.'s (2006) study.

One consideration when attempting to generalize these findings to other settings is the intensity and duration of the intervention. Although personality disorders typically require greater intensity and duration of therapeutic input, planning sessions twice a week for up to 3 years may be beyond the resources of some health care organizations.

The study by Nadort et al. (2009) was set up as an 'implementation study' to determine whether the results found in Giesen-Bloo et al.'s (2006) RCT could be replicated in a public health service outpatient setting. For this reason they did not use a different treatment control, rather results were directly compared with those of the Giesen-Bloo et al.'s (2006) study. After the intervention phase, results and dropout rates were comparable between the two studies. This suggests that ST could be successfully implemented in regular practice. This type of study is important, as it attempts to demonstrate efficacy in real health settings (rather than the controlled conditions found in a RCT). As such these findings may be more generalizable to public health care organizations.

However, interpretation of these results may be limited to some extent by some inherent differences between comparison groups. At pre-treatment, the participants in the implementation study displayed lower BPDSI scores, less medication use and higher reported quality of life (Nadort et al., 2009). They were also recruited in different time frames. Therefore, this group may have been somewhat less severe than those in the earlier clinical trial by Giesen-Bloo et al. (2006). Nevertheless, all participants did meet full criteria for BPD in both the studies. Ideally, future research attempting to demonstrate efficacy in general practice should use a simultaneous active treatment control allowing randomization to either ST or the control group. This design would better control for non-therapeutic factors that may influence the outcomes. However, practically this design might be difficult to achieve in regular clinical practice. Under such circumstances, a well-conducted quasi-experimental design controlling for baseline differences may be more achievable (Emmelkamp & Vedel, 2009).

Overall, the study by Nadort et al. (2009) provides additional clinically useful information, which would not be easily obtainable within a pure RCT. One of the main aims of this research study was to determine the added benefit of out-of-hours therapist telephone support to the treatment outcomes. Telephone support has been one of the more controversial aspects of ST within some health care settings and potentially may deter therapists from using this model. Interestingly, this study suggested that there was no added benefit of telephone support. The implications of these

findings may make ST more accessible and less onerous for therapists working in settings not set up to support this level of out-of-hours support.

The study by Nadort & Nysaeter (2005) used a case series design and as such participants in this study acted as their own controls. Although small in size, the large effect sizes of the main outcome measures between pre-treatment and follow-up were comparable to those in much larger studies. Additionally, the outcome measures were administered at regular intervals in a controlled way. These findings therefore contribute to the positive outcomes of ST.

The final study looking at ST for the treatment of BPD was conducted by Farrell et al. (2009). This study appears to show the largest benefits in reducing BPD symptoms suggesting that 94% of participants attending a ST group (in addition to TAU) no longer met criteria for BPD at end of treatment. However, other factors could account for some of these benefits, making it difficult to generalize the findings of this as a stand-alone study. Firstly, the ST condition received greater frequency of therapeutic input, with an additional 90 minutes structured clinical contact per week, which was specifically targeted towards reducing BPD symptoms. It is possible that the structured group environment with targeted content and additional time may account for some of the perceived differences rather than the ST component. As each treatment is likely to have its own structure, it can be difficult to match one type of therapy with another. This is a more general difficulty when investigating psychological therapies. Ideally, in order to establish if ST is the primary change factor, future research should compare group ST to a control treatment that is as equally structured, targeted and intense as possible. Additionally, the group ST treatment was run by its developers (suggesting high treatment fidelity) so it remains to be seen how effective other therapists are in delivering this intervention.

*Possible challenges to research in this area.* Ideally, it is recommended that future research of similar quality to Giesen-Bloo et al.'s (2006) study is conducted, comparing ST to a suitable control treatment (such as TFT or Dialectical Behaviour Therapy (DBT), for example, Linehan et al. (2006)). Such controlled comparisons are needed in order to enhance the evidence base for ST in general clinical practice. However, realistically it is acknowledged that there may be some difficulties in doing this type of research within health care organizations with resource pressures. Clinicians working within health care organizations need to have managerial support for both their clinical time and resources. ST is still relatively new and under-researched. Within the current economic climate, it may be challenging to get managerial support for ST research within health care departments, which might be under pressure to provide time-limited evidenced-based treatments. It might be helpful for clinicians seeking funding for such research to read the economic evaluation by van Asselt et al. (2008). This evaluation looks at the overall costs of BPD and compares this with the treatment costs. Although it is beyond the scope of this evaluation to review this paper in more depth, van Asselt et al. (2008) provide compelling evidence that ST is a cost effective treatment in comparison to the considerable costs incurred by health care organisations, and wider society, in supporting people with BPD. Overall, these difficulties may explain the scarcity of research in ST.

*Research recommendations.* Despite these potential challenges, the research conducted to date suggests that ST displays mainly large effect sizes and positive outcomes in decreasing BPD symptoms. Although clinicians who work in this field may be under pressure to provide succinct, cost-effective treatments, the complex nature of personality disorders means that at face value ST may initially appear an expensive intervention but may in reality be more cost-effective than other treatments (van Asselt et al., 2008). Another way to make this therapy more accessible could be to look at group ST rather than individual sessions. This is supported by Farrell et al.'s (2009) study, which suggests that group processes may improve the effectiveness of ST whilst also reducing the length of treatment required.

Finally, although difficult to perfectly match psychological therapies in terms of intensity, duration, structure and treatment goals, future research should aim to use control conditions that are as much as possible similar to ST. If control conditions vary in terms of intensity, frequency, duration and

goals, it becomes difficult to determine whether the observed effects are due to the psychological treatment or differences in other factors such as design and methodology.

### *Schema Therapy for personality disorder*

The study by Weertman & Arntz (2007) explored whether treatment of childhood memories is an effective way to change personality disorder-related schemas and psychopathology. This study used a crossover design and therefore did not have a simultaneous active treatment control. Overall, ST was associated with good overall outcomes and large effect sizes. Interestingly, this study also looked at the impact therapist experience had on outcomes. ST for BPD (and personality disorder in general) requires therapist training and supervision (Young et al., 2003). This study demonstrates the positive clinical impact of increased therapist experience on therapeutic outcomes. Such findings suggest that therapist experience may be an important influence on the outcomes of ST.

### *Schema Therapy for PTSD*

The study by Cockram et al. (2010) aimed to determine whether group ST would reduce PTSD symptoms in war veterans compared to a comparison CBT group that was previously run in the clinic. The main difference between the ST group and the CBT group was the content of six cognitive restructuring sessions. In the ST group, these six sessions focused exclusively on schema work and included trauma imagery, which allowed reprocessing of childhood experiences. There was also reference to how early experiences could have made some individuals more vulnerable to PTSD, which was absent in the CBT group. Overall, this study suggests that the ST group had significantly better outcomes than the CBT group in reducing PTSD symptoms and anxiety. There was no significant difference between the ST and CBT group in depressive symptoms.

This study benefits from having a control condition that was similar in content, structure and duration to the ST group. However, there are some methodological and statistical weaknesses that could be addressed in future research. In this study, the participants were recruited during different time frames, which meant that randomization was not possible. Additionally, it is possible that other changes in the clinic may have impacted the outcomes; for example, treatment fidelity and therapist experience were not reported in this study.

A particular strength of this study was the measurement of schema change. As the primary aim of ST is to reduce the impact of EMS, more studies would benefit from formal assessment of schema change. Unfortunately, as data was collected retrospectively, the control CBT group had not completed a post-intervention schema measure. As the content and structure of these groups had large amounts of overlap, it would be interesting to determine whether the relatively small amount of schema change work in the ST group impacted EMS as compared to the control CBT group. This makes it impossible to determine whether schemas reduced more in the ST than in the CBT group. However, the ST group demonstrated larger effect sizes than the CBT group on the other outcome measures, suggesting ST was more effective in general.

Overall, this study provides an indication that further research in this area would be beneficial. As this study focused on a particular subset of PTSD sufferers, it would be interesting to look at interventions that target PTSD that has arisen from a greater variety of trauma experiences. It would also be beneficial to compare ST to other psychological interventions that have evidence in treating trauma such as prolonged exposure (Foa, Hembree, & Rothbaum, 2007), cognitive restructuring (Ellis & Harper, 1975) or eye movement desensitization and reprocessing (Shapiro, 2001).

### *Schema Therapy for agoraphobia and cluster C personality disorders*

Three studies have investigated the evidence for applying group ST to inpatients with agoraphobia and cluster C personality disorders (Gude & Hoffart, 2008; Gude et al., 2001; Hoffart & Sexton, 2002). Two of these studies had no control conditions (Gude et al., 2001; Hoffart & Sexton, 2002) and also demonstrated relatively low treatment effects compared to the other ST studies discussed in this review. However, without a control condition, it is difficult to make any inference

about ST specifically, as the benefits may be due to other factors such as psychological contact or the inpatient environment. The other study had a control condition that differed in type of group (one was open the other closed) content, structure and possible behavioural experiments (Gude & Hoffart, 2008). Although any one of these differences may have influenced the difference in outcomes, this study demonstrated large effect sizes in the ST group compared to low-to-medium effects in the control group. Another important note made by the authors was in reference to the different data collection procedures used. The comparison group were sent the follow-up questionnaires by post, whilst the ST group had personal interviews. It is known that personal interviews can result in more favourable outcomes because of the potential of participants wanting to please the researcher (Moum, 1998).

Overall, the lack of control groups in these studies makes it difficult to draw clear conclusions. However, these initial promising findings suggest that future research in this field is warranted.

### *Dual focus Schema Therapy for substance misuse*

Two studies were found that targeted substance misuse and concurrent personality disorders (Ball, 2007; Ball et al., 2005). The research in this area was difficult to review for a number of reasons. Firstly, the authors of this research described difficulties retaining participants and collecting data. Secondly, there was an absence of power calculations, which potentially means the sample size may have been too small to detect effects. Thirdly, the main outcome measures were reductions in substance use, not reduction in EMS.

Although ST may benefit individuals who misuse substances, care should be taken to ensure participants are not contraindicated for therapy. For example, participants should be screened to ensure they are not actively using substances, are not in a state of acute withdrawal, are not facing other crises and are stable in other respects (Young et al., 2003). When this is not possible, it must be recognized that such influences may impact the effectiveness of ST. Future research should also evaluate schema change as one of the outcome measures, as this is the primary goal of ST. Ideally, control groups should be run with an evidenced-based treatment alternative delivered in an equally structured, focused and intensive way using the same outcome measures to the ST condition. Practically, this may prove difficult to substantiate within some health care organizations where therapies for this population are few and far between. Finally, to achieve high-quality research in this area, care should be taken to address the difficulties that were encountered and described by these studies. This will likely involve putting procedures in place to overcome the difficulties found in relation to recruitment, retention and data collection.

### *Schema Therapy for eating disorders*

To our knowledge, only one pilot study has attempted to look at the effectiveness of ST in an eating disorder population (Simpson et al., 2010). This study had a small number of participants (8) and no control group. For these reasons, clinical recommendations cannot be based on this study alone. Despite this study's small size, it benefits from having sound outcome measures (including schema severity) administered at regular intervals and in a controlled way. Reductions were found in eating disorder severity, anxiety and shame whilst quality of life increased. These benefits resulted in large effect sizes at the 6-month follow-up. The benefits of this pilot study demonstrate that further research is warranted in this area. Future research should use a control condition to ensure that the benefits were attributable to the ST component rather than other factors (such as a well-run, structured and closed group).

## Summary and recommendations

Overall this review highlights the gap between the clinical popularity of ST and the evidence base. Within the current economic climate, without a strong evidence base it may become difficult for clinicians to justify the use of any therapy. In order to establish itself as an evidence-based treatment, clinicians and researchers of the ST model need to plan and implement studies of a similar methodological

standard to the study by Giesen-Bloo et al. (2006). Over the next few years, a number of important studies are expected to be published, which shall be awaited with interest. These include a large multi-site study of ST in forensic settings and an international study looking at group and individual ST for individuals with BPD.

Despite the relatively few studies published on the effectiveness of ST, what is noticeable are the relatively large effect sizes. ST appears to display larger effects than are generally found in psychotherapies for personality disorders (Perry, Banon, & Ianni, 1999; Leichsenring & Leibing, 2003). This finding provides strong rationale to continue developing and expanding the research in this field. However, as treatment effects can be influenced by study design and methodology, it is important to control for such factors. Overall, the area appears to benefit from using good screening and assessment measures but needs to focus on the following key areas:

1. Using power calculations when planning sample size.
2. Ensuring control groups are as much as possible similar to the ST condition to reduce the possibility that differences are due to non-therapeutic effects such as frequency of contact, duration, intensity, etc. This will ensure the effects can be attributed to the therapy and not other factors.
3. Planning quality assessments and ensuring regular ST training and supervision for the therapists.
4. Measuring schema change as an essential outcome measure.
5. Ensuring the intervention is accessible to clinicians by exploring time frames and formats that can be implemented within clinical psychology services in health care organizations. As previously mentioned, this may include looking further at ST groups or using single-case experiments in routine practice as an alternative way of gathering data.

Finally, as there is a large amount of literature testing the theoretical basis for ST, a theoretical review of ST would make an interesting and clinically useful contribution to the literature.

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