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Effectiveness Studies

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Schema Therapy (ST) is a treatment method that has gained a lot of popularity in the last decade. This combination of cognitive-behavioral, interpersonal, psychodynamic, and experiential techniques, originating in the US, is also used for patients with personality disorders in the Netherlands and seems promising. However, empirical support for the efficacy of ST remains rare. Even though a randomized controlled trial (RCT) from a methodological point of view is the gold standard to study clinical effectiveness and cost-effectiveness, a search through the literature reveals that such designs are not carried out very often. There is a great demand for controlled empirical efficacy studies.

In this chapter, the authors describe the most important results of the studies that have been published thus far, with the focus on implications for clinical practice. They distinguish between studies in which the treatment is primarily focused on personality problems and studies in which the focus is on the treatment of Axis I disorders.

Schema Therapy for Personality Disorders

Thus far, the efficacy of Schema Therapy has mainly been investigated for borderline personality disorders (BPD). Study results regarding BPD are discussed first, followed by a summary of the evidence for other personality disorders.

Schema therapy for borderline personality disorders

Over the last years, several publications have been published in which an outline of the treatment methodology per schema mode for BPD were described (e.g., Young,

The Wiley-Blackwell Handbook of Schema Therapy: Theory, Research, and Practice, First Edition.
Edited by Michiel van Vreeswijk, Jenny Broersen, Marjon Nadort.

Table 1.1 Evidence for the efficacy of Schema Therapy for borderline personality disorder

Authors	*Year of publication*	*Design*	*Outcome*
Nordahl and Nysaeter	2005	Single-case series, $N = 6$ Duration of individual therapy: weekly, average 22 months	Five persons improved significantly on depression and anxiety symptoms, general psychopathology, and interpersonal dysfunction Maladaptive schemas reduce significantly (ES = 1.6)
Giesen-Bloo, *et al.*	2006	RCT, $N = 86$ ST compared with TFP Duration of individual therapy, twice weekly for three years	Both treatments show significant clinical improvements, ST on all measures dominant compared with TFP In Schema Therapy lower risk of premature dropout
Nadort, *et al.*	2009	Randomized two-group design, $N = 62$ ST with extra phone support compared with ST without extra phone support Duration of therapy two years, twice weekly in year 1, and once weekly in year 2	After 18 months, 42% lost BPD diagnosis Extra 24-hour phone support has no effect on the outcomes
Farrell, Shaw and Webber	2009	RCT, $N = 32$ women Groups ST + TAU compared with TAU only TAU weekly (individual psychotherapy, eclectic and supportive) ST + TAU 30 extra group sessions in eight months	ST + TAU group had significant lower scores on BPS symptoms and on the global odds of psychiatric symptoms, and higher GAF scores compared with TAU only No dropout in ST + TAU group

BPD = borderline personality disorder; ES = effect size; GAF = global assessment of functioning; N = number of patients; ST = schema-focused therapy; TFP = transference-focused therapy; TAU = treatment as usual

2005; Kellogg and Young, 2006). These publications offer a clear overview about how the treatment can be carried out, but don't provide evidence as to whether the treatment is effective. Table 1.1 summarizes the scientific evidence regarding the efficacy of ST for BPD.

The outcomes of a single-case series design from Norway provide a first indication of the efficacy of ST (Nordahl and Nysaeter, 2005). Analyses showed a strong reduction in the power of maladaptive schemas and improvements in secondary outcome measures. Furthermore, progress observed directly after the therapy continued in the follow-up monitoring. However, this study does have to be interpreted with caution.

Using a single-case design in which only one therapist uses the schema model makes it impossible to generalize to a larger group. Furthermore, the post-treatment assessment and follow-up were not carried out by independent evaluators, which may have influenced the validity of the outcomes. Therefore, this study offers an indication of ST as a valid evidence-based treatment method, but it provides no concrete evidence.

This evidence is offered by an RCT into the efficacy of ST for borderline personality disorder (BPD) (Giesen-Bloo *et al.*, 2006). In a two-group design, ST was compared with transference-focused psychotherapy (TFP). Eighty-six people with BPD were randomly assigned to one of two treatment conditions and received protocolized outpatient treatment two sessions a week for three years. Both ST and TFP resulted in significant clinical improvements in several domains, for example, a decrease of specific borderline symptoms, an improvement in the quality of life, and an improvement in the field of general psychopathologic functioning. However, ST was dominant compared to TPF for all outcome measures. Furthermore, there was a lower risk of dropout from the treatment in the ST condition. This is noteworthy for this population, because the risk of dropout is very high for borderline patients.

In Giesen-Bloo *et al.* (2006), some of the possible strong points of the schema model for BPD are described: 1) the transparency of the model; 2) the specific reparenting attitude of the therapist regarding attachment problems; 3) the use of techniques that are easy to implement and strategies that provide control, structure, and safety; and 4) the possibility to contact the therapist between sessions. This study also show the therapeutic alliance (which has a positive influence on the inner changing processes) is rated higher by both patients and therapists in the ST condition than in the TFP condition.

Recently, Nadort and colleagues (2009) completed an implementation study in which they investigated, alongside the implementation of the borderline protocol in daily practice, whether providing 24-hour telephone support or no 24-hour telephone support had any effect on outcome. The most important results of this study were 1) successful implementation is possible, given that more than half of the patients no longer met the criteria of a BPD after 1.5 years; and 2) telephone support additional to the ST protocol had no effect (see Part VII, Chapter 1 for more detailed outcomes of this study).

In summary, it can be said that the efficacy of ST for BPD is scientifically underpinned. However, it should be noted that results were obtained from only a small number of studies and therefore should be interpreted with caution. Furthermore, there are some critical comments on Giesen-Bloo *et al.*'s (2006) RCT. The trial was checked statistically regarding the use of medication, but not experimentally, and they didn't use a waiting list condition or a TAU (Treatment as Usual) condition. Even after an intensive long-term treatment, it seemed that almost one-third of the subjects were still receiving treatment. However, the intensity of treatment sessions had been reduced: after four years, more than 60% of the ST patients received less than one treatment session per week, whereas 50% received only one session every three weeks (booster sessions). The average number of sessions in the ST condition was significantly lower than in the TPF condition (Giesen-Bloo *et al.*, 2006).

Farrell, Shaw, and Webber (2009) compared the combination of TAU and group SFT with only TAU in a group of 32 women (aged between 22 and 52 years) with

BPD. All patients had already received TAU (a weekly individual supporting therapy) previous to study enrolment, and were randomly assigned to a group SFT (30 sessions in eight months) or to a control group. The post-treatment assessment showed significantly lower scores for the severity of BPD symptoms, as well as higher global functioning in the combined condition. These scores were clinically significant and stable in the follow-up after six months. Effect sizes within the combined group were very high, and approximately zero in the TAU alone condition. It was also remarkable that not a single patient dropped out in the combined condition, whereas four patients (25%) were dropouts in the TAU condition.

An open study into the effects of clinical group ST of the same group again showed significant effects (Reiss and Farrell, 2010).

An open pilot study into residential group treatment for BPS in Mainz showed much weaker effects. However, a clear learning curve was noticeable: groups that started later in time showed better results (Reiss, Lieb and Vogel, 2010).

Schema therapy for other personality disorders

Whereas the research into the efficacy of ST for BPD is still in its infancy, there is even less evidence-based proof for other personality disorders. No scientific study with a strong design has been published so far. However, a lot is happening in this field. In the Netherlands, two ambitious studies into the efficacy of ST are currently being conducted, in which the focus is on milder personality disorders, on the one hand, and forensic psychiatry on the other.

Schema therapy for milder personality disorders

Since the middle of 2006, Bamelis and colleagues have been carrying out a large-scale effectiveness study in which both the clinical and cost-effectiveness of ST are compared with TAU for people with one or more of the six milder personality disorders (avoidant, dependent, obsessive-compulsive, paranoid, histrionic, and narcissistic). Three hundred subjects were selected in 12 Dutch healthcare institutes, and randomly assigned to either a ST protocol consisting of 50 sessions or a treatment that is common for the specific personality disorder within the respective institute.

A few schema modes that are characteristic for this population were developed (Avoiding Protector, Paranoid Over-Controller). In the first year, ST sessions are held once a week, and then booster sessions take place in the second year. The frequency and content of the TAU condition vary depending on what is common within the respective outpatient setting.

In three institutes, patients are additionally randomly assigned to a third protocol treatment: clarification-oriented psychotherapy, according to the model developed by Sachse. By adding this standardized protocol, it is possible within this design to compare two standardized protocol treatments and so thus reducing the possible effect of non-specific factors. Patients in this study have a baseline measurement, and accordingly extensive assessments every six months. Three years after the start of treatment, there is a follow-up assessment.

Table 1.2 Efficacy studies into Schema Therapy for other personality disorders

Authors	*Year of publication*	*Design*	*Research population*
Bamelis *et al.*	In progress	RCT, $N = 300$ Schema Therapy compared with TAU and clarification-oriented psychotherapy according to Sachse Duration: individual treatment two years, twice a year assessment, one-year follow-up	Target group = Cluster C, paranoid, histrionic, and narcissistic personality disorders Recruitment in 12 Dutch mental healthcare institutes
Bernstein *et al.*	In progress	RCT, $N = 120$ ST compared with forensic TAU Duration individual treatment three years, twice a year assessment, three-year follow-up	Target group = Cluster B personality disorder in a forensic setting Recruitment in seven Dutch high-security forensic institutions
Weertman and Arntz	2007	Cross over design, $N = 21$ (from mental healthcare institutes) Techniques focused on present compared with techniques focused on the past Duration individual treatment 48 sessions, one-year follow-up	Comparable outcome for focus on present and focus on past Therapists and patients prefer to start with focus on the past Effect is visible in follow-up after one year
Hahusseau and Pélissolo	2006	Naturalistic study, $N = 14$ patients in outpatient care Duration treatment 13 months	Target group = Cluster B and C Significant improvement in all outcome measurements
Zorn *et al.*	2007	RCT, $N = 93$ (from mental healthcare) Schema-oriented emotional-behavioral treatment (SET) compared with social skills training	Target group = Cluster B and C, mainly narcissistic PS Outcome: SET dominant on clinical outcome measurements and lower dropout

The primary outcome measures are: no longer meeting the diagnosis of personality disorder and a reduction of the symptoms. Several secondary outcome measures are studied: quality of life, general psychological functioning, social functioning, and specific schema-related concepts.

The personality disorders mentioned in the Bamelis study have not yet been approached as a primary treatment focus in scientific publications. Every now and then, they appear in studies as comorbid problems alongside certain Axis I symptoms (see below). Some exceptions are a case description by Cecero and Young (2001) and a naturalistic study by Hahusseau and Pélissolo (2006). In Cecero and Young, the treatment process of a female patient who has a dependent PD, besides

depression and an anxiety disorder, is described. First, depression and anxiety were reduced by means of cognitive behavioral techniques. Following this, a schema-focused case conceptualization was made with the patient. The patient found more and more evidence for maladaptive schemas by implementing experiential techniques and by identifying schema-specific behavior during treatment sessions. The central change process consisted of four strategies: 1) cognitive schema reorganization; 2) experiential techniques; 3) breaking behavioral patterns; and 4) the use of the therapeutic alliance.

In an explorative study, Hahusseau and Pélissolo (2006) followed 14 psychiatric patients (mainly Cluster C and B), who received an average of 26 ST consultsations over a little more than a year (the most important techniques were emotional catharsis and the use of corrective emotional experiences). Outcomes showed significant improvement on the primary outcome measurement (social adaption scale), as well as improvement on outcome measurements regarding anxiety, depression, and general psychopathology.

Weertman and Arntz (2007) showed that experiential techniques that focused on the past (e.g., historic role-play and imagery rescripting) had the same positive effect as techniques that focused on the present. Exploring the background of the problems had no, or even a negative, effect. The effect size of the complete program was large, with an average of approximately 1.5.

Schema Therapy in a forensic setting

There is a high need to adapt schema therapy to forensic patients with a personality disorder.

Bernstein, Arntz, and de Vos (2007) described a schema mode model for forensic patients with Cluster B personality disorders (anti-social, narcissistic, and borderline). This model consists of forensic modes (e.g., Angry Protector, Bully and Attack, Conning and Manipulative, and Predator). Bernstein and colleagues have set up a multi-center RCT for patients with Cluster B personality disorders in several Dutch forensic psychiatric institutes.

In the study, 120 patients are randomized into two treatment conditions: ST and the usual forensic treatment. Patients receive individual treatment for three years. In the ST condition, patients have a session twice per week. In the TAU condition, the contact with social workers occurs once per week. TAU within forensic institutes is multi-modal: patients normally receive both individual and group therapy, combined with education, rehabilitation, and other services.

In this study, the primary outcome measures are change in personality disorders and risk of relapse, which is monitored every six months. General psychopathology and changes in early maladaptive schemas and schema modes are secondary outcome measures. After the treatment phase, patients are followed for another three years in order to determine current relapse (or, if applicable, violence within the institute).

Currently, seven forensic institutes are participating. Expectations are that the follow-up study will end in 2014.

Apart from the RCTs mentioned above, for which outcomes aren't yet available, there are hardly any studies into the effectiveness of ST for personality disorders other

than borderline. Although scientific research into the efficacy of ST is still scarce and currently finds itself in the implementing phase, there are indications that ST can offer effective added value. Richardson (2005) shows that there are persistent maladaptive schemas present in a group of young sexually violence perpetrators: demanding/grandeur, egocentrism, social isolation, emotional inhibition, and insufficient self-control/discipline. Psycho-education and social skills training seem to produce no significant and long-term change. ST might offer a solution.

Schema Therapy in groups for personality disorders

Originally, ST was intended as an outpatient and individual approach, but it has also been modified for a group-focused approach.

A study in which schema-focused emotional-behavioral group therapy (SET) was compared with classic social skills training for 93 subjects with a Cluster B or C diagnosis (in particular narcissistic personality disorder), showed that the schema–focused group achieved more progress in the field of interpersonal behavior, emotional coping, and symptom reduction. Clinically relevant effects of the ST group were the reduced severity of and suffering from the disorder, and a significant decrease in dropout rates (Zorn, Roder, Muller, Tschacher and Thommen, 2007).

In Norway, two RCTs are currently being carried out, in which group ST in day treatment is compared with the usual treatment, for subjects with borderline personality disorder on the one hand, and subjects with an avoidant personality disorder on the other (Fosse, in progress). There are 48 subjects in each study group. The first outcomes are promising. In the Netherlands, a pilot study into group ST for borderline personality disorders is being carried out, in which there are two sessions a week – one group session and one individual session (Dickhaut and Arntz, in progress). Intermediate outcomes show large effect sizes. Positive elements in a group treatment can be: great involvement of other group members, the possibility for recognition, and actual setting for direct practice (Thunissen and Muste, 2002).

Schema Therapy for Axis I Problems

Initially, ST was developed for treatment of people with personality disorders, in which underlying schemas are very rigid, implicit, and extremely dysfunctional. Because of the success with Axis II problems, interest rose to study the relevance of this therapy method for various Axis I problems. Relatively little high quality scientific research has been conducted in this field. The publications thus far are described as complete as possible below. After a summary in Table 1.3, both strong and weak points of the studies are described.

Schema Therapy for substance dependency and abuse

A variation of ST that is implemented in substance abuse and comorbid personality disorders, is Dual Focus Schema Therapy (DFST) (Ball, 1998). This treatment

Table 1.3 Evidence for the efficacy of Schema Therapy in Axis I problems

Authors	*Year*	*Target Group*	*Design*	*Outcome*
Ball and Young	2000	Substance abuse and at least one PS	Case study, $N = 10$ Duration: 24 sessions	Reduction of substance abuse, psychiatric symptoms, and negative affect
Ball, Cobb-Richardson, Connolly, Bujosa and O'Neall	2005	Substance abuse in homeless people with personality problems	RCT, $N = 52$ DFST compared with standard group counseling Duration: 24 sessions	DFST dominant on almost all outcome measures However, more severe personality problems profit more from counseling
Ball	2007	Substance abuse with personality problems	RCT, $N = 30$ DFST compared with standard group counseling Duration: 24 sessions	Faster reduction of substance abuse in DFST condition Faster reduction in the degree of dysphoria in group counseling Stronger therapeutic alliance in DFST
Ball 2011		Substance abuse with personality problems	RCT, $N = 105$ DFST compared with individual group counseling	Equal symptom reduction in both conditions, individual drug counseling resulted in more sustained reduction in several symptoms
Morrison	2000	Depression and anxieties	Single-case design Duration individual therapy 3 years and 6 months, 73 sessions	Fluctuation in mood during the treatment Reduction of depression, anxieties, and maladaptive schemas to a normal clinical level at the end of treatment and after one-year follow-up
Hoffart, Versland and Sexton	2002	Panic disorder agoraphobia with comorbid Cluster C problems	$N = 35$ Duration: 11 weeks	Obvious change in Cluster C features, interpersonal problems, awareness of affect
Gude and Hoffart	2008	Agoraphobia with comorbid Cluster C problems	$N = 44$ Standard compared with cognitive ST Duration: 12 weeks	Strong reduction in interpersonal problems in ST condition
Ball, Mitchell, Malhi, Skillecorn and Smith 2006		Bipolar symptoms	RCT Individual CT with ST elements compared with TAU Duration: 6 months, 20 sessions	Depression scores and dysfunctional attitudes diminished more in CT condition Greater time to relapse in CT condition

Table 1.3 (*Continued*)

Authors	*Year*	*Target Group*	*Design*	*Outcome*
Cockram, Drummond and Lee	2010	PTSD	$N = 54$ PTSD with ST group compared with cognitive behavioral therapy group Duration: 190 hours, 12 weeks	Stronger reduction of anxiety, PTSD, and depression complaints in PTSD ST group Strong reduction of maladaptive schemas
De Keijser	2004	Mourning problems	$N = 1$ Duration: individual therapy: 3 years, 60 sessions	Decrease in the mourning questionnaire scores
Ohanian	2002	Bulimia nervosa	$N = 1$ Duration: individual therapy: 8 sessions CBT, 1 session rescripting	Binge-eating and purging stopped completely after imagery rescripting Results continued until follow-up
George *et al.*	2004	Eating disorders	$N = 8$ Motivating day treatment with SFT elements	Improved mood, increased will to change, physical improvement
Jakes and Rhodes	2003	Psychotic symptoms	$N = 5$ Single-case design, individual therapy	Significant reduction of belief in the illusion, increase of self-image

method simultaneously focuses on dealing with the Axis I symptomatology and on changing maladaptive schemas and assumptions. Schemas frequently found in substance abusers are Insufficient Self-Control, Mistrust and Abuse, Self-Sacrifice, Abandonment, and Emotional Inhibition. Although addiction is the primary focus of the treatment, schema conceptualization and mapping maladaptive coping mechanisms are considered to be essential items of therapy in order to reduce the risks of relapses.

DFST consists of two phases: 1) early relapse prevention, schema case conceptualization and training; and 2) change of maladaptive schemas and coping styles.

Ball and Young (2000) completed a case-study report of 10 patients with a substance abuse diagnosis and one or more personality disorders. In addition, patients received a 24-session during DSFT treatment, in which the focus was on standard schema work, but with the possible addition of a schema mode module. Positive results were described in the analyses (see Table 1.3). Eight of the 10 patients described DFST as the best and most useful treatment method they had ever received.

Table 1.3 also describes the results of the effectiveness of DFST in two small-scale RCTs. It is remarkable that DFST appeared to be dominant in the therapeutic alliance (Ball, 2007). This is important because substance abusers are usually characterized by a high dropout rate.

However, caution is in order: although most outcome measures provided better results in DFST, it seemed that dysphoria was strongly reduced by the other treatment method (12 step facility therapy in Ball, 2007a) and patients with more severe personality disorders gained more benefit from group counseling (Ball, Cobb-Richardson, Connolly, Bujosa and O'Neall, 2005).

An RCT for 115 adolescents and adults with substance abuse and criminal problems also produced mixed findings. Patients were assigned at random to DFST or to individual substance counseling. Although symptoms reduced in both groups, individual counseling was dominant over DFST regarding sustained reduction of psychiatric symptoms and dysphoric affect. These data suggest that PD patients with significant affect instability, impulsivity, and avoidance might have more stabilizing benefit from addiction-focused treatment than from insight- and change-oriented therapies (Ball, Maccarelli, LaPaglia & Ostrowski, 2011).

A critical comment on the outcomes of the studies mentioned above is the difficult comparison between treatment conditions: individual vs. group treatment, differences in frequency of sessions and supervision of clinicians. These are some uncontrolled nonspecific studies which may influence the outcomes.

Schema Therapy in mood and anxiety disorders

Although there is no scientific evidence, several authors have described how schema mode work can have a positive influence on depression (e.g., Young and Mattila, 2002; Bordelon, 2007).

In a single-case study by Morrison (2000), the positive outcomes for a patient who struggled with severe depression and anxieties at the beginning of the therapy are described. The treatment consisted of a combination of standardized cognitive behavioral therapy and ST.

Throughout the treatment, strong mood swings were observed, probably the result of schema activations. The positive outcomes at the end of treatment – a decrease in symptoms to a normal clinical level – were repeated at the follow-up monitoring after a year. Offering booster sessions on a regular base after an intensive treatment seemed to have a positive effect on learning how to let go of the therapeutic alliance and to take more personal responsibility.

Ball, Mitchell, Malhi, Skillecorn, and Smith (2003) propose a modified ST specifically focused on the treatment of subjects with bipolar mood disorders. By focusing on early childhood experiences, personality, and the nature of a patient, ST provides additional value to the traditional treatment method for bipolar mood disorders, which is based on the role of genetic and biological risk factors in combination with stressful life-events. In the modified ST, three phases are described:

1. *Sickness phase*, in which the focus is on reducing prominent symptoms and the experience of the diagnosis by the patient.
2. *Schema phase*, in which core schemas are detected. Frequent schemas in bipolar mood problems are: shame, failure, subjugation. After the patient learns, through emotional empathy and validation of the schemas, that his behavior and emotions are understandable, further treatment reveals whether the current schemas are adaptive or not.

3. *Sickness and schema phase*: this last phase works on assimilation of the patient with the mood disorder diagnosis (focusing on the past, and plans for the future). Building up a healthy self-concept is the main focus.

Recently, an RCT has been carried out in Sydney, Australia. In this study, the ST modification, is compared with TAU, while both treatment groups also received mood stabilizers. Outcomes are in favour of the ST modification (see Table 1.3), especially immediately after treatment, and indicate a further reduction of symptoms in the following months (Ball *et al.*, 2006).

A recent study by Cockram, Drummond, and Lee (2010) of 54 war veterans showed the superiority of ST for treatment of subjects with post-traumatic stress disorder (PTSD). The subjects followed a PTSD group program in which ST was integrated, and were compared with 127 veterans who received a cognitive behavioral program (see Table 1.3). In addition to a stronger reduction of anxiety, PTSD, and depression measures within the ST group, a significant weakening of maladaptive schemas was seen. It is important to note that this study was not a RCT but a historical comparison between groups within the same center.

Axis I and II problems often coexist. Gude and Hoffart (2008) found that agoraphobic patients with a Cluster C personality disorder showed a larger reduction in interpersonal problems than patients who received TAU after a cognitive ST program. In a study by Hoffart, Versland, and Sexton (2002), 35 patients were treated for panic disorder and/or agoraphobia, and a comorbid Cluster C personality disorder. During the first half of the treatment, the focus was on the cognitive model of panic and agoraphobia. In the final six weeks, ST, in combination with individual and group sessions, was offered. Outcomes are summarized in Table 1.3. The effect size of the change between baseline assessment and follow-up was medium to large (0.65). However, because of the lack of an adequate control group and the exposure to other therapeutic influences between sessions, it cannot be stated that the outcomes are a result of the treatment.

This study also shows that the power of the therapeutic alliance is equally important in Axis I symptoms. The degree of intimacy and common engagement was scored by independent raters. A better therapeutic alliance during the first session predicted a larger reduction of the degree of maladaptive beliefs in later phases (Hoffart, Sexton, Nordahl and Stiles, 2005).

Schema Therapy in mourning problems

De Keijser (2004) describes a case study with positive outcomes in which ST aspects are integrated into the three phases model of psycho-trauma in the treatment of a complicated mourning process. Maladaptive schemas regarding saying goodbye and extricating oneself are detected and changed into more adequate schemas.

Schema Therapy for eating disorders

The effectiveness of cognitive behavioral therapy in certain eating disorders is often declared by the focus on negative automatic thoughts or dysfunctional assumptions regarding weight, food, and self-image (Waller, Kennerly and Ohanian, 2007).

However, it appears that not only eating-related cognitions but also cognition and emotions in general vary between women with bulimia and a healthy control group. A comparison between 50 women with bulimia and 50 women without an eating disorder showed that the groups could be divided based on four central maladaptive schemas: Defectiveness/Shame, Emotional Inhibition, Failure, and Insufficient Self-Control (Waller, Ohanian, Meyer and Osman, 2000), which were significantly more present in women with bulimia. Waller and colleagues (2001) postulated a model in which beliefs and maladaptive schemas function as mediators in the relationship between early child abuse and the development of bulimia nervosa.

In a group of 60 women with bulimia, 21 with a history of child abuse reported significantly higher maladaptive tendencies and more psychopathology. A recent study showed that women with eating disorders used more behavioral-somatic avoidance compared to a control group of women without eating disorders (Sheffield, Waller, Emanuelli, Murray and Meyer, 2009).

These studies plead for adding schema therapeutic elements to treatment, with a focus on basic cognitive and emotional factors. A six-month motivational day treatment with additional ST elements in eight women with an eating disorder showed promising results, with a low dropout rate, improved mood, physical improvement, and an increased desire to change (George, Thornton, Touyz, Waller and Beumont, 2004). There are some case descriptions in which the effect of a schema-focused approach is shown (e.g., the effect of imaginary rescripting; see Ohanian, 2002). However, these have to be looked at critically: the research population consists nearly exclusively of women and the outcomes are based on self-reports (Waller *et al.*, 2007). Waller and colleagues advise the use of traditional cognitive-behavioral techniques at the start of the treatment, and a shift to ST if the treatment doesn't achieve the desired results. ST for eating disorders is probably most effective when eating disorders are comorbid with dissociation, personality disorders, (very) low self-esteem, and/or prior trauma.

Schema Therapy for psychotic disorders

In a single-case study, a psychological treatment for subjects with delusions was divided into several phases, one of which was ST (Jakes and Rhodes, 2003). In the ST phase, they worked on identifying negative schemas and developing positive alternative schemas. Positive outcomes were described.

Other studies

Nordahl, Holthe, and Haugum (2005) examined whether change in maladaptive schemas had an influence on symptom reduction at the end of treatment, for 82 subjects in outpatient treatment. Diagnoses within the population comprised both Axis I problems and Axis II disorders. This study supported the schema model by showing that the strength of early maladaptive schemas was related to personality pathology. Furthermore, changes in all early maladaptive shemas predicted the reduction of general psychological dysfunctioning.

The possible effectiveness of ST has also been observed for less clear psychopathological domains (e.g., ST elements in problems at work, such as stress and burn-out; see Bamber, 2006).

Conclusion

This chapter describes research on the effectiveness of ST. The existing literature reveals two striking findings: an obvious faith in the effectiveness of ST, but a paucity of strong methodological scientific studies.

Several case descriptions have been published, in which the effectiveness, pitfalls, and methodologies are described. The many books regarding this treatment method that have been published recently highlight the urgent need for guidelines and research focus.

However, empirical research with strong designs remains scarce. So far, only some large-scale controlled trials into borderline personality disorder, and the few RCTs in which dual-focused ST is investigated, provide evidence for the effectiveness of Schema Therapy. Furthermore, many of the research that has been conducted is based on the original schema model, and not on the model in which the mode work is added. Evidence for effective working with schema modes is, with a few exceptions, only available for borderline disorders (Nordahl and Nysaeter, 2005; Giesen-Bloo *et al.*, 2006; Nadort *et al.*, 2009). The conceptualization in "modes" is nevertheless described by patients as one of the most useful elements on the way to real change. This evidence pleads for adding the schema mode work to studies in the future.

Pitfalls and Tips

The need for well-designed scientific research is clear. There are some points that researchers should take into consideration when setting up a trial on the effectiveness of ST.

When conducting scientific research, the research population is often described as specific and detailed as possible (for example, subjects with a borderline personality disorder). This can, however, be a pitfall in the study of personality disorders, because Axis II problems often occur with Axis I symptoms. This can result in problems for both the treatment itself and the interpretation of the study results.

When choosing the research design, the following factors have to be taken into account: provide an adequate control group, work with psychometrically sound instruments, and try to make generalizations as broad as possible. It is noteworthy that a number of currently running RCTs are comparing ST with TAU, but not with other protocols. When comparing standardized protocols with TAU, the influence of non-specific factors (e.g., frequency of sessions) increases. It is, however, still justifiable to compare ST with TAU because effectiveness studies into ST are still at an early stage. The typical first step, when the effectiveness of an experimental treatment is being investigated, is to make comparisons with TAU.

The Future

Despite the popularity of ST, it is too early to describe it as evidence-based. For this purpose, more randomized effectiveness studies are needed to compare ST with other protocols and TAU. Also, the natural development of psychological syndromes,

should be investigated. In addition to the frequently studied borderline PD, the implementation of ST should also be studied in other target groups (both in other personality problems and Axis I symptoms) and in combination with other treatment methods (e.g., pharmacotherapy). Studies should be replicated in other countries. The area of research should be enlarged to ST for children, adolescents, and seniors.

As described in this chapter, there is a lot going on in this field. The combination of these research efforts on the one hand, and the strong belief in ST on the other, could add to the further development of this treatment method in the near future.

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