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Case Report

Case report: Schema therapy for a case of treatment resistant schizotypal and paranoid personality disorder with a trauma history

Stine Bjerrum Moeller [a,b,1,*], Ida-Marie T.P. Arendt [a,b,1], Jacob Stig Jarnot Meline [a], Randi Øibakken [c]

[a] Department of Psychology, University of Southern Denmark, Campusvej 55, 5230 Odense, Denmark
[b] Mental health services in the Region of Southern Denmark, Department of Trauma- and Torture Survivors, Vestre Engvej 51, 7100 Vejle, Denmark
[c] Psykologkonsulenterne/v Randi Øibakken - Clinic for Cognitive and Schema Therapy, Sankelmarksvej 10N, 1. floor, 4760 Vordingborg, Denmark

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ABSTRACT

Introduction: Currently, limited evidence exists for any psychotherapeutic treatment for schizotypal or paranoid personality disorders (SPD; PPD). However, schema therapy (ST) seems a promising candidate, focussing on ameliorating the consequences of childhood trauma through building a healing personal relationship and working on the integration and regulation of the total range of emotions with experiential exercises, e.g., imagery work.

Method: The current case report presents a 38-year-old male with SPD, PPD, comorbid substance abuse, and an extensive trauma history. He initially presented with pronounced social isolation, emotional inhibition and avoidance, and a persistent sense of being different than other people. The patient received 63 sessions of individual ST over a course of 20 months.

Results: Limited reparenting and empathic confrontation were the primary interventions, as the patient found it hard to engage in experiential exercises and activate emotion. When engaging with difficult emotions, the patient would often exhibit a swift sequence of schema modes, or even dissociate. This meant that the therapist would hold back in challenging or confronting the patient to more emotionally intensive work. The effect of therapy resulted only in small changes in schemas and modes during therapy, and some changes in the expression of anger, but no effect on personality disorder or symptom levels at the end of treatment and follow-up. However, the patient was adherent to the treatment and did not exhibit exacerbation of his condition.

Conclusion: ST seems safe and acceptable for this case of SPD and PPD. Should the treatment have been more effective, it might have been beneficial to insist on experiential work. We recommend extensive support and supervision when treating SPD and PPD. Further work is needed to adapt and handle the specific challenges this patient group poses, as well as studies on the effect of ST for these disorders.

1. Introduction

Schizotypal personality disorder (SPD) and paranoid personality disorder (PPD) are both associated with significant functional impairment, affecting 0.6 %- 4.6 % (SPD), and 1.2 %−4.4 % (PPD) of the population (Kirchner, Roeh, Nolden & Hasan, 2018; Lee, 2017; Pulay et al., 2009). SPD and PPD have previously been conceptualized as closely related to schizophrenia, but newer data find SPD associated with childhood trauma (Velikonja, Fisher, Mason & Johnson, 2015), and PPD related to childhood trauma, attachment difficulties, and social stress (Bierer et al., 2003; Grover et al., 2007; Hugill, Fletcher & Berry, 2017; Johnson, Smailes, Cohen, Brown & Bernstein, 2000; Lee, 2017; Tyrka, Wyche, Kelly, Price & Carpenter, 2007). Both have only received limited attention in research, resulting in various challenges when it

Abbreviations: AC, angry child mode; CM, coping modes; EMS, early maladaptive schema; HA, healthy adult; PPD, paranoid personality disorder; VC, vulnerable child mode; SMI, Schema Mode Inventory; SPD, Schizotypal personality disorder; ST, schema therapy; YSQ, Young Schema Questionnaire.

* Corresponding author.
E-mail addresses: stinebm@health.sdu.dk (S.B. Moeller), imarendt@health.sdu.dk (I.-M.T.P. Arendt), jacobsjmeline@gmail.com (J.S.J. Meline), randi@psykologkonsulenterne.dk (R. Øibakken).

[1] These authors share first authorship.

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comes to evaluating and treating them (Kirchner et al., 2018), including scarcity of evidence for the effectiveness of psychotherapeutic treatments for SPD (Cheli et al., 2023; Nielsen, Hovmand, Jørgensen, Meisner & Arnfred, 2023), and that no specific type of therapy can be recommended over another at this point (Nielsen et al., 2023).

However, schema therapy (ST) has shown promise in the treatment of SPD and PPD: For PPD as seen in the randomized controlled trials by Bamelis, Evers, Spinhoven and Arntz (2014) and Bernstein et al. (2023), and for SPD in a small case series involving individuals with both SPD and substance abuse (Ball & Young, 2000). In the study by Bamelis and colleagues comparing ST and clarification-oriented psychotherapy with treatment as usual for cluster C, paranoid, histrionic, and narcissistic personality disorders, ST consistently showed superior effectiveness in achieving greater recovery from personality disorder, as well as improved functioning and lower depressive disorder rates at follow-up. Additionally, ST demonstrated higher acceptability with a lower dropout rate compared to treatment as usual, highlighting its efficacy in improving outcomes for individuals with these personality disorders. However, the trial included only fourteen patients with a primary diagnosis of PPD and ten with a secondary diagnosis of PPD out of a total of 323 patients (about 4 % and 3%, respectively). Also, from the Bernstein study treating violent offenders with personality disorders, it was observed that ST exhibited notably faster improvements compared to Treatment as Usual (TAU) across primary outcomes, encompassing rehabilitation (e.g., supervised/unsupervised leave) and six out of nine secondary outcomes. Moreover, ST displayed superior retention rates over TAU. Again, however, the conclusions regarding treatment of PPD are limited, as the trial only had about 4 % (4 randomized patients out of 103) with a diagnosis of PPD.

Regarding other types of psychotherapy for SPD and PPD, the pilot inferiority trial by Cheli, comparing the Evolutionary Systems Therapy for Schizotypy (ESTS) to standard psychiatric management for Schizotypal Personality Disorder, could be mentioned (Cheli et al., 2023). Interestingly, the trial sample likely also included features and facets of PPD, as the trial employed Module III of the Structured Clinical Interview for DSM-5 Alternative Model of Personality Disorders (SCID-5-AMPD) (First M. B., 2018) to confirm the SPD diagnosis, as this instrument includes all former Cluster A PDs. The trial showed promising results with no significant differences between treatments in personality pathology. In addition, secondary outcomes in the study suggested potential ESTS superiority in remission, symptomatology, and metacognition. Feasibility and efficacy of ESTS as a novel treatment for PPD were promising, with all participants completing the intervention, six out of seven experiencing remission from the diagnosis, and reliable improvements in personality pathology and paranoid ideation were maintained at the 1-month follow-up. However, conclusions are limited by a small sample size, and the authors emphasize the necessity for larger trials to confirm ESTS efficacy.

In relation to the current study, itshould be noted that trauma and early maladaptive schemas (EMS – cognitive and emotional maladaptive patterns originated in childhood experiences) have been associated with schizotypal (Khosravani, Mohammadzadeh & Oskouyi, 2019) and paranoid traits (Corral & Calvete, 2014; Nordahl, Holthe & Haugum, 2005).

On the basis of the aforementioned evidence, the current study therefore wished to investigate if ST could be applied to a patient with SPD, PPD, substance abuse, and a trauma history. The study was a practice-based, single case, feasibility study conducted in a naturalistic setting.

2. Core features of schema therapy

ST integrates elements of cognitive, behavioral, psychodynamic, and humanistic psychotherapies, and is marked by the pronounced experiential work evoking emotions and facilitating emotional change (Young, Klosko & Weishaar, 2003). ST focuses on changing maladaptive EMS and schema modes (a range of emotional and behavioural reactions and coping strategies to activated schemas), taking into account the impact of adverse childhood experiences, including trauma (Bachrach, Rijkeboer, Arntz and Huntjens (2023). A range of methods and approaches are characteristic of ST: Emotional difficulties and insecure attachment are addressed via *'limited reparenting'*, where the therapist acts as the "good enough parent" in order to establish contact with the patient's vulnerable side, provide for the patient́s unmet emotional needs, and function as a role model for the patient's own 'Healthy Adult' (HA) (Young et al., 2003). However, when contact with vulnerability is blocked by maladaptive coping modes (CM), *empathic confrontation* is used to bypass the modes. The therapist will need to first validate the CM, explore the function, and finally point out negative consequences of the CM, emphasizing the need for change. When the patient behaves in a way that harms or disrupts the therapy process, *limit setting* enforces boundaries on maladaptive modes in a clear, firm, and consequential, but non-punitive manner, using self-disclosure where appropriate (e.g., "I notice that I'm getting frustrated with you not emotionally engaging in our work. I want to work with you, but not in this way.")(Behary & Dieckmann, 2011). Another important aspect of ST is the experiential work, primarily in the form of *chair work* (ad modum gestalt therapy) which facilitates exploration and integration of different aspects of the personality functioning roleplays, and, finally, *imagery rescripting* which allows for emotional processing and direct modification of adverse childhood experiences (Arntz & Jacob, 2017).

3. Psychotherapeutic treatment

The treatment in this study was conducted over a period of 20 months (September 2019 – May 2021) by a female therapist (RØ), who is certified in ST on advanced level. Sessions were about 60 min in duration. The treatment site was the therapist's private clinic, about 2½ hours from the patient's home by public transport. The therapy was given free of charge as part of the study. The treatment was principle-driven schema therapy based on individual case formulation and four guiding phases (modelled after (Arntz, 2012). Duration of treatment was limited to maximum two years due to practicality. The treatment resembles the treatment in the Bamelis study (Bamelis et al., 2014) which was also structured in four phases with similar target objectives, however their treatment duration was limited to 50 sessions.

4. Case description

Adam (fictional name) was a 38-year-old, heterosexual male. He had no formal education, worked intermediate jobs in bars and restaurants, and lived a solitary life. Adam met criteria for SPD and PPD (as formally assessed with the Structured Clinical Interview for DSM-V Personality Disorders interview (SCID-5-PD; First, Williams, Benjamin & Spitzer, 2016). He also presented with comorbid alcohol dependence and, periodically, daily cannabis abuse.

Adam had received extensive psychiatric treatment for 15 years prior to this project due to SPD, suicidal thoughts, anxiety, anger arousal and depressive symptoms. During the project, an out-patient psychiatric clinic treated him with quetiapine and mirtazapine. 15 months into receiving ST, the clinic terminated treatment due to improvement of Adam's general condition.

In a former research project, he received 25 sessions of Rumination-Focused Cognitive Behavioural Therapy over a 10-month period, which reduced his anger and rumination but had no effect on depression or anxiety (S. B. Moeller, Kvist, Jansen & Watkins, 2021).

4.1. Patient's report about upbringing

Adam was raised with limited warmth and an emphasis on manners and etiquette, particularly upheld by his father, who continued to be Adam's prime adult role model. Adam's father was frequently stationed

in different countries due to his job, leading Adam to spend more time with his mother. She belonged to a South American family with ties to the mafia. Her frequent aggressive episodes made Adam perpetually on edge around her. While his mother exhibited an excess of emotions, his father demonstrated a constrained emotional expression. The regular disputes between his parents felt to Adam like he was always `walking through a minefield`. Outside of this unstable home setting, Adam often found himself at the receiving end of bullying at school, amplifying his feelings of isolation and loneliness. As he grew into adulthood, Adam underwent several traumatic events, including being threatened with a weapon and witnessing the violent demise of relatives and a close friend.

4.2. Diagnostic assessment

We assessed the patient with the Stressful Life Events Screening Questionnaire (SLESQ; Goodman, Corcoran, Turner, Yuan & Green, 1998) before treatment, and with the Mini International Neuropsychiatric interview (M.I.N.I.;Lecrubier et al., 1997), and the SCID-5-PD interview before and after treatment.

Furthermore, a self-assessment battery was administered with three baseline measurements before initiation of therapy (their average is reported in Table 1), six assessment points during the therapy course (of which T4 and T6 is reported here), one immediately post-treatment, and a three month follow up, with the Novaco Anger Scale (NAS (Novaco, 2003)) and Hopkins Symptom Checklist (SCL-92 (Olsen, Mortensen & Bech, 2004)) (see Table 1). Additionally, the Level of Personality Functioning - brief form (LFPS; Weekers, Hutsebaut & Kamphuis, 2019), Difficulties in Emotion Regulation Scale (DERS; Bjureberg et al., 2016); World Health Organization Five Well-Being Index (WHO-5; Topp, Østergaard, Søndergaard & Bech, 2015), Perseverative Thinking Questionnaire (PTQ; Ehring et al., 2011), and Dimensions of Anger Reactions (DAR; Novaco, 1975) were administered.

Schemas and modes were assessed at the same time points with the Young Schema Questionnaire (YSQ-S3; Young & Brown, 2005) and the Schema Mode Inventory (SMI; Young et al., 2007). Unfortunately, a technical problem causing data loss meant that only the baseline and mid-therapy (T4 – 5 months into treatment) measurements for the YSQ and SMI were accessible (Table 1 and 2).

Table 1
Scores on the Schema mode Inventory (SMI), Novaco Anger Scale-Total (NAS and Hopkins Symptom Checklist Global Severity Index (SCL-92 GSI).

SMI*	Clinical (SD)	Baseline**	T4	T6	Post	FU
Bully & Attack	2.2(0.8)	2.5	2.1	–	–	–
Self-aggrandizer	2.6(0.8)	3.2	2.9	–	–	–
Detached Protector	3.1(0.9)	3.7	3.5	–	–	–
Detached self-soother	3.4(0.9)	3.6	3.7	–	–	–
Compliant surrender	3.7(0.9)	3.4	3.7	–	–	–
Lack of Happy child	2.6(0.8)	1.2	1.2	–	–	–
Undisciplined child	3.4(1.0)	**3.4**	**2.8**	–	–	–
Impulsive Child	2.8(0.9)	**3.6**	**2.4**	–	–	–
Enraged Child	2.1(1.0)	**1.6**	**1.1**	–	–	–
Angry Child	3.1(1.0)	**2.8**	**2.3**	–	–	–
Vulnerable Child	3.6(1.0)	**5.7**	**4.9**	–	–	–
Punitive Parent	2.9(1.0)	4.5	3.0	–	–	–
Demanding Parent	3.7(0.9)	3.5	3.2	–	–	–
Lack of healthy adult	3.4(0.8)	2.4	3.0	–	–	–
NAS Total	86.6 (16.5)***	112	103	107	111	104
SCL-92 GSI	2.3(0.8)****	1.0	0.8	0.9	1.2	1.3

*Numbers derived for SMI from mixed clinical patients (N = 266) (Reiss, Krampen, Christoffersen & Bach, 2016).
**Baseline is the mean score of the 3 measurement points before initiation of therapy.
***Numbers derived for NAS Total from mixed clinical patients (N = 88)(Stine Bjerrum Moeller, Novaco, Heinola-Nielsen & Hougaard, 2016).
****Numbers derived for SCL-92 from participants on a waiting list for treatment who had experienced interpersonal trauma (N = 82) (Karatzias, Jowett, Begley & Deas, 2016).

5. Results

5.1. Symptom, schema and mode change

No effects on symptom levels were achieved at the end of treatment, nor at follow-up. Overall symptom load (SCL-GSI) increased slightly but remained lower than in the comparison clinical norm data. Further, a small decrease in anger (NAS Total) appeared (Table 1). Scores on the LFPS, DERS, WHO-5, PTQ, and DAR remained stationary (they are available for inspection in the Supplementary Material but will not be discussed further in this paper as they are not directly targeted by schema therapy). Adam still endorsed the criteria for SPD, PPD, and alcohol dependence at the end of treatment.

As mentioned, post-treatment scores for the YSQ and SMI were unfortunately missing. However, the patient already had a slight decrease from baseline to mid-therapy on the YSQ, with the largest reductions on the schemas Abandonment, Mistrust/abuse, Defectiveness/shame, and Insufficient Self-control/self-discipline. On the SMI, all child modes, including the VC, improved except Happy Child Mode. Of the CM, only the Bully & Attack Mode score decreased, while for parent modes, the patient had a large reduction in the Demanding Parent Mode and a small reduction in the Punitive Parent Mode (Table 1).

5.2. Course of therapy

Adam attended 63 out of 70 offered sessions and had seven cancellations during the therapy course. Some sessions were conducted online due to Covid. No severe adverse events were reported. A description of the course of the therapy, structured in four phases with identified overall objectives and focused interventions, is presented in Table 3. Overall, socializing to and educating about the schema model, limited reparenting, and empathic confrontation were the primary interventions

Table 2
Scores on the Young Schema Questionnaire (YSQ).

YSQ	Clinical (SD)*	Baseline**	T4	T6	Post	FU
Abandonment	19.2 (8.2)	11	6	–	–	–
Mistrust/abuse	22.8 (7.0)	21	17	–	–	–
Emotional deprivation	22.6 (6.8)	25	24			
Defectiveness/shame	20.7 (7.5)	24	19			
Social isolation/ alienation	21.4 (7.5)	23	23			
Dependence	16.4 (6.7)	13	10			
Vulnerability to harm or illness	19.1 (7.1)	16	19			
Enmeshment/ undeveloped self	9.8 (6.9)	8	7			
Failure to achieve	19.5 (8.6)	16	16			
Entitlement/grandiosity	9.7 (4.7)	8	9			
Insufficient self-control/ self-discipline	17.1 (6.9)	13	9	–		
Subjugation	18.4 (7.4)	13	10			
Self-sacrifice	22.1 (6.6)	8	7			
Approval–seeking		9	7			
Negativism/pessimism		24	22			
Emotional inhibition	17.0 (6.8)	20	18			
Unrelenting standards/ hypercriticalness	18.4 (6.7)	17	15	–	–	–
Punitiveness		17	13	–	–	–

* Numbers derived for YSQ from participants on a waiting list for treatment who had experienced interpersonal trauma (N = 82)(Karatzias et al., 2016), and mixed clinical patients (N = 266) for SMI (Reiss et al., 2016).
** Baseline is the mean score of the 3 measurement points before initiation of therapy.

Table 3
Course of treatment and main interventions according to phase (modelled after (Arntz, 2012).

Session #	Target objectives and main interventions (modelled after Arntz, 2012)	Therapist's comments
Phase 1: Assessment and case-conceptualization		
1–15	Socialize to and educate about schema model and emotional needs Limited reparenting and empathic confrontation Diagnostic Chair-work and Imagery work Mode mapping	Patient struggled to accept the concept of basic needs Difficulties accessing vulnerable child modes (e.g., he initially did not want to show picture of himself as a child; he had trouble connecting to the emotions and needs of his Vulnerable Child)
Phase 2: Beginning of therapy – increase mode awareness & repair childhood trauma		
16–30	Imagery rescripting of trauma experiences Mode dialogue Limited reparenting and empathic confrontation	Difficulties conducting imagery rescripting (dissociation) Engaging with vulnerable child (VC) felt dangerous, however the patient agreed to naming the VC and look at childhood photos. It was awkward, but also vaguely pleasant, for the patient to accept validation of the VC. Challenging to bypass coping and parent modes. More indirect methods were used.
Phase 3: Middle phase – process anger & present time behavior change		
31–52	Imagery work allowing anger Therapist modelling of HA	Difficult for patient to access and accept HA Happy Child mode blocked
Phase 4: End phase – consolidate HA		
53–63	Imagery work - HA – internalize therapist as a safe protector, process ending therapy Strategies for life without therapy	Patient worried about ending therapy Attempts to active patient's own HA and nurture his VC were successful mostly on an intellectual level. Increase of Detached and Angry Protectors

throughout the course of therapy, with some attempts at experiential work.

5.2.1. *Assessment and case-conceptualization*

During the assessment and case-conceptualization phase, central schema modes were identified. On the YSQ, the most prominent schemas were Mistrust/abuse, Emotional deprivation, Defectiveness/shame, Social isolation/alienation, Negativism/pessimism, and Emotional inhibition. On the SMI, prominent coping modes were Detached Protector, Detached self-soother, and Bully & Attack, although other modes such as Self-aggrandizer and even Compliant Surrender could also activate (see Fig. 1). The Vulnerable Child (VC) and Punitive Parent modes scores were very high, and the Undisciplined and Impulsive Child mode scores a little above the clinical mean.

Initially in therapy, important modes were named: VC was called "Little Adam", and the Angry Child mode (AC) "Angry Little Adam", while the Detached Protector Mode was named "Exile Mode", or "The Wall", and Bully & Attack Mode the "On guard-Mode". The patient received psychoeducation about the child's basic emotional needs, and it was attempted to access the patient's Vulnerable Child through diagnostic imagery and chair-work.

However, Adam struggled to accept the concept of basic emotional needs and seemed scared of feelings, wishing to "become a machine" so he did not have to deal with emotions at all. In his view, vulnerability was a sign of weakness. When accessing emotional material (e.g., in imagery work, but also during other less emotion-intense interventions), Adam would often switch into coping modes. As a result, accessing vulnerable child modes proved difficult. The therapist tailored empathic

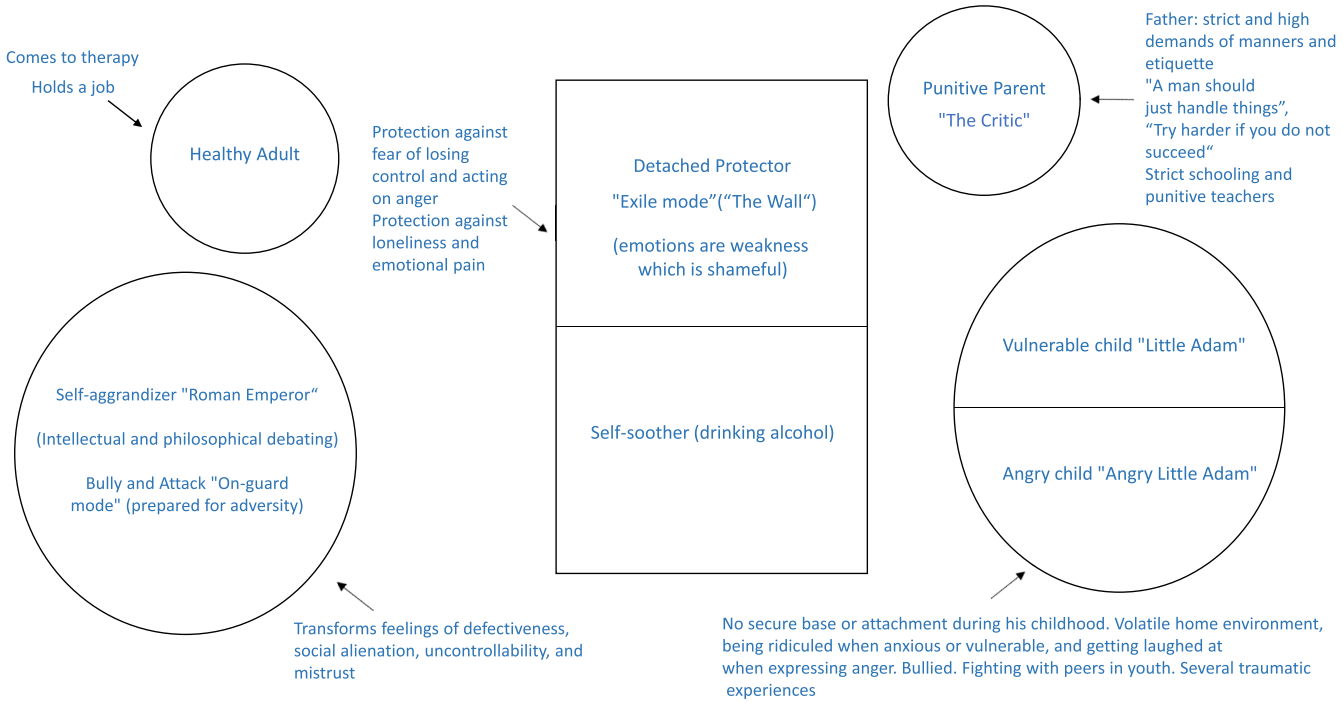

Fig. 1. Schema Mode map for Adam.

confrontation to Adam in various ways: E.g., by developing a shared image of a tower with a thick wall where little Adam sat in the dungeon, with the therapist expressing understanding for the wall (Detached Protector Mode) but empathically confronting that little Adam (VC) was left behind and not having his needs met, and that she wanted to connect with that little child. Another example was when Adam had activated the Bully & Attack Mode at work, the therapist would confront by expressing understanding for the experiences leading to the mode's existence, but at the same time insist that the mode maintained the loneliness of little Adam as other people were pushed away, and that she wanted little Adam to have his need for connection and love met.

5.2.2. Beginning of therapy – increase mode awareness & repair childhood trauma

Moving into the beginning of therapy, the therapist attempted to identify and bypass the Detached Protector Mode and the Punitive Parent Mode to gain access to the child modes. Since Adam found the VC mode too dangerous, awkward, and unfamiliar to engage with, emphasis was instead put on validating the AC without pushing too hard to access the VC. Imagery rescripting of childhood traumatic memories was difficult to utilize successfully, as seen in the following example (Example 1 below). Consequently, emotional trauma was targeted more indirectly. Feelings and needs were explored with other creative methods more acceptable to Adam, including writing exercises such as writing letters from one mode to another, nurturing a plant as a model for nurturing oneself, and relating to photos of Adam as a child.

Example 1 – coping mode activation following an attempt at accessing traumatic memories

Adam recalled how his mother would laugh at him and use demeaning language. Talking about this evoked anger in him. He remembered being frequently angry as a child and that his mother would laugh at him for getting angry.

When attempting to access a related memory in an imagery exercise, Adam felt intense anger. The therapist then validated the presence of the AC, assuring him that healthy anger can be a necessary survival strategy and that she did not want Little Adam (VC) to be alone in experiencing these strong emotions (limited reparenting). Adam found the validation difficult and switched to Detached Protector mode, making him unable to recall any concrete memory to relate to and to fully accept. However, he felt relief in being met in another way than what he was expecting based on his strong Mistrust/abuse schema.

5.2.3. Middle phase - process anger & present time behavior change

In the middle phase, focus was on processing anger, and present time behavior change by modeling HA. The therapist would work with anger by allowing, understanding, normalizing, and validating anger as a natural response to maltreatment, such as experiencing betrayal or ridicule.

However, during this period, Adam struggled with negative symptoms (i.e. the schemas Social Isolation/alienation, Emotional Inhibition) and paranoic thoughts, and the overcompensating CM became increasingly prominent and could activate in rapid succession.

Example 2 – Mode dialogue – rapid change of modes

Adam had been given homework which he did not manage to complete, and this activated his Demanding Critic as well as the AC. The therapist initiated a chair dialogue with the AC to circumvent the Demanding Critic's voice ("you are not allowed to show anger") to process anger and gain access to VC. The validation and invitation to the expression of the AC, however, activated the patient's Mistrust/abuse schema, and he flipped into "On-guard mode", interpreting the therapist's validation as having ulterior motives. The activation of the On-guard mode then became the focus of the therapeutic dialogue.

3.2.4. End phase – consolidate healthy adult mode

In the final phase of therapy, the therapist attempted to gradually step back in order to foster the patient's autonomy and independence (Fassbinder & Arntz, 2019). As mentioned, Adam had only limited role models representing the HA during his upbringing. Attempting to activate HA and healthy behaviors, "being his own big brother", he would draw on loving experiences with his younger brother, caring for plants, and an experience of connecting with his ex-girlfriend's son. However, the idea of emotional needs was still strange for Adam to take in, and the HA behavior was somewhat instrumental, being intellectually and ethically guided rather than founded in emotionality. He remained unable to emotionally activate HA and provide comfort to his own VC.

Adam continued to have difficulties accessing emotional material in experiential exercises in a constructive manner. Below is an example of a typical response to intense emotional material, entailing first a sequence of modes, and ending in dissociation.

Example 3 (end phase of therapy) – rapidly shifting modes ending in dissociation.

An imagery exercise was initiated to access Adam's Defectiveness/shame and Social Isolation/alienation schemas connected to experiences with being ridiculed in school, and to provide a correctional emotional experience with the presence of a HA. Adam began to visualize his old classroom where he was sitting in the back. Suddenly, he switched to visualizing a bare landscape with dead trees (Detached Protector) and seemed to mentally drift away from the therapy room. The therapist then terminated the exercise, deeming it unsafe for Adam to pursue the image further.

When debriefing the experience, Adam remembered feeling disgust, followed closely by anger (AC), then a feeling of superiority (CM self-aggrandizer), and finally of shutting down (CM Detached Protector labelled "Exile mode") after which he could only remember feeling numb and disconnected, as if not really present.

6. Discussion

While there was no treatment effect on the overall psychopathological presentation of the patient, the quantitative assessment showed some, albeit relatively small improvements on a range of symptom and schema related measures (with the caveat that end of treatment and follow-up outcome scores for the latter were missing). For example, there were improvements in his issues with anger, impulsive reactions, and the tendency to respond critically, as seen already mid-therapy in the related schemas and modes. Also, an overall bettering of the patient's state could be interpreted from the discharge from psychiatric treatment during the therapy course.

Regarding patient adherence, it is worth noting that the patient attended 63 of 70 proposed sessions despite a very long commute. This points to the therapy probably having at least some meaningfulness to the patient as well as being acceptable to him, as he was motivated to continue in the prolonged treatment course. In examining the literature, documenting that dropout rates in psychotherapy for individuals with SPD range from 14 % to 55 % (Nielsen et al., 2023), the significance of successfully maintaining patient engagement throughout the course of therapy could be highlighted.

Because the Evolutionary Systems Therapy for Schizotypy (ESTS) is a novel treatment for SPD which has shown promising results, an inspection is warranted of similarities and differences between Schema therapy and ESTS in addressing the challenges faced by individuals with SPD. Overall, both approaches offer a distinct approach to key challenges for people with SPD. Schema therapy focuses on identifying and addressing maladaptive schemas developed during early attachment experiences and interpersonal interactions. These schemas often contribute to feelings of distance, alienation, and disconnection from others. Through schema therapy, patients explore and heal these underlying schemas. On the other hand, ESTS approaches SPD from an evolutionary perspective, considering how it has emerged in the context of our complex social brain. It acknowledges that clinical manifestations of SPD can be exacerbated by difficulties accessing care-based social mentalities, such as compassion, leading to heightened threat responses and diminished soothing mechanisms. In ESTS, patients learn to

differentiate experiences related to threat defense and self-soothing, with the aim of promoting social safeness. Experiential techniques like soothing breathing and compassionate imagery are utilized to cultivate adaptive strategies for self-reflection and interpersonal engagement. While both schema therapy and ESTS address the challenges of SPD, they differ in their theoretical frameworks and therapeutic techniques. Schema therapy focuses on modifying maladaptive schemas rooted in early attachment experiences, whereas ESTS integrates evolutionary principles to address difficulties accessing care-based social mentalities. Ultimately, both approaches work to promote adaptive intrapsychic strategies, including using experiential techniques, in order to improve social functioning and interpersonal relationships in individuals with SPD, offering tailored interventions to meet their specific needs.

When examining the therapy process in detail, the rather modest treatment effects could be connected to a multitude of factors, most importantly the limited possibilities for conducting core ST interventions in an adequate manner. We will discuss this in the following:

As previously mentioned, limited reparenting, empathic confrontation, and limit setting to interfering or destructive behaviour are vital parts of ST. Keulen-de Vos, Bernstein, and Arntz (2013) even argue that these techniques must be used together in order to address difficulties in forming secure attachment and ensure a good treatment response. The treatment in the current case was heavily based on limited reparenting and to a lesser extent empathetic confrontation and limit setting and might have benefited from more extensive use of all three components working together to limit dysfunctional coping behaviour and assess the vulnerable child modes to secure processing emotional trauma. Empathic confrontation integrated in chair work could also be used as a relevant strategy for bypassing the Detached Protector, as for Adam, it was often the Detached Protector Mode in relation to the Mistrust/abuse schema (Gross, Stelzer & Jacob, 2012).

Another factor in understanding the course and effect of this case could be that the blunted emotional life, so typical for SPD patients, could hamper the use of emotionally focused interventions which are fundamental to schema therapy. In comparison with the clinical norm data, Adam scored particularly high on the core schemas Emotional deprivation, Emotional inhibition, Defectiveness/shame, and Social isolation/alienation. This is in line with research connecting Emotional inhibition and Social isolation/alienation with SPD (Bach, Simonsen, Christoffersen & Kriston, 2015). In theory, ST, which specifically targets emotional trauma and promotes healthy attachment, would therefore seem relevant for these inherent difficulties in SPD. Especially, its experiential techniques should be effective in getting in contact with emotions and needs and thus alleviate emotional inhibition (Fassbinder & Arntz, 2019). However, Adam's ability to process emotional material and circumvent the CM did not improve during therapy. This was reflected in the lack of improvement in the SMI Detached Protector, and in the examples from sessions, where the patient emerged into rapid sequences of modes, including dissociation, during attempts at engaging with emotion. Indeed, emotion regulation abnormalities and deficits in SPD have also been found a complicating factor in psychotherapeutic treatment for SPD (Hoid, Pan, Wang & Li, 2020; Rosell, Futterman, McMaster & Siever, 2014).

Additionally, Adam's tendency to dissociate when working with processing of adverse and traumatic childhood experiences meant that the therapist often stopped experiential exercises prematurely to ensure the safety of the patient. The lack of successful experiential interventions was of course problematic, since particularly imagery work is a well-researched and effective method for targeting unmet emotional needs, emotional inhibition, and experiential avoidance (Fassbinder, Schweiger, Martius, Brand-de Wilde & Arntz, 2016; Morina, Lancee & Arntz, 2017). Extensive processing of negative childhood experiences (including trauma) with specific techniques (e.g., imagery rescripting) was also emphasized in the protocol for cluster C, paranoid, histrionic, and narcissistic personality disorders (Bamelis et al., 2014), Further, trauma work with patients in risk of psychosis is well-established as both safe and beneficial (van den Berg et al., 2016), including good tolerability for experiential techniques such as imagery rescripting for treating emotional trauma in people with psychosis (Clarke, Kelly & Hardy, 2022; Ison, Medoro, Keen & Kuipers, 2014; Newman-Taylor, 2020; Paulik, Steel & Arntz, 2019). It is advised to consistently apply experiential techniques when working with traumatized psychotic patients (Paulik, Newman-Taylor, Steel & Arntz, 2022), and with Dissociative Identity Disorder (DID) patients (Huntjens, Rijkeboer & Arntz, 2019), despite risk of dissociating. Furthermore, it is worth noting that ESTS, the novel treatment with promising results for SPD, also relies on experiential techniques as an essential change agent. It is therefore possible that a more direct and persistent focus on emotional processing through imagery work on trauma experiences, despite the risk for dissociation, would have been both safe, feasible, and would have given better treatment results.

Adapting experiential work to manage and prevent dissociation includes additional preparation to reduce anxiety, using safe-place imagery, pacing the rescript faster than usual to reduce emotional intensity, taking more lead as a therapist, using grounding techniques, and more sessions (Paulik et al., 2022). Recently, a proposition has been made, and is being empirically tested, to make experiential work with trauma more tolerable by applying non-ST techniques, such as art therapy and dream work, in the preliminary stages before embarking on ST-hallmark experiential techniques (Lian & Bono, 2023). However, as these alternative therapeutic approaches will require extensive, additional training, it might be worthwhile to first try adaptation within the schema model. For instance, in a case series with DID, Bachrach et al. (2023) recommended to start imagery work with neutral experiences building towards more adverse negative experiences, and initially short duration of trauma processing (5 min) with gradual increase similar to working with an anxiety hierarchy. From a clinical textbook, Arntz and Jacob (2017), offered procedures to scaffold the implementation of imagery rescripting focused on emotional processing of trauma when a patient refuses to do imagery work, and van der Wijngaart (2021) provided clinical roadmaps and guidance in fine-tuning imagery rescripting skills.

With the above obstacles in mind, it remains to be investigated further in which way experiential techniques should be adapted to be feasible with SPD and PPD.

The specific challenges that we uncovered with this case report call for a recommendation for specialized support and feedback in supervision, even for experienced schema therapists (similar to the recommendations when treating severe personality disorders in forensic settings (Bernstein, Clercx, & Keulen-De Vos, 2019; Keulen-de Vos et al., 2013)). The supervision should provide knowledge about the possibilities for trauma work with this particular target group. A focus on circumventing the challenges in conducting imagery rescripting seems warranted, as well as guidance for bypassing parent and coping modes. Importantly, encouragement and guidance for using empathic confrontation and limit setting seems necessary, as these interventions can feel quite challenging and unnatural for the therapist.

Even with the high dose of the therapeutic intervention (63 sessions), the patient did not meet the objectives for progressing through any of the treatment phases (Arntz, 2012), including being able to activate the HA and provide comfort for the VC. Although his VC score slightly diminished already mid-therapy, it remained high compared to the general clinical population. His-attempts at activating his HA remained highly intellectualized, possibly due to the difficulties with accessing and connecting to emotional material. It cannot be ruled out that the patient could have progressed successfully through all stages of therapy with further sessions, or as mentioned, with a more direct trauma- and experiential focus. It could be argued that the mentioned obstacles in the patient's emotional capabilities and potential necessitate even longer treatment to modify severe personality traits, similar to when treating severe personality disorders in forensic settings (Bernstein et al., 2019).

A major limitation for drawing conclusions about the therapy's

quantitatively observed effect on schemas and modes is the data loss of the follow-up measurements. This means that even when the mid-therapy measurements at T4 suggest some alleviation of schemas and modes, we cannot be sure if problematic schema and mode presentations were in fact diminished by the end of therapy. However, the fact that Adam was concomitantly remitted from out-patient psychiatric treatment due to bettering of his overall condition could point to at least some effect of therapy.

Another limitation is the patient's ongoing substance abuse, which may have affected the treatment course and outcome, as proposed by Clark (2009). It is not possible to accurately discern the negative effects of substance abuse on mental health and the effect of treatment. However, it is probable that the treatment might have benefited from more explicitly addressing the schemas and modes (e.g., Detached Self-soother) related to the patient's substance abuse, as dual focus has been shown effective in previous ST trials (Ball & Young, 2000; Boog, Goudriaan, Wetering, Franken & Arntz, 2023). The current case does represent the complexity in the presentation of many similar patients with personality disorders and childhood trauma.

In conclusion, ST was acceptable for treating the current patient with SPD and PPD. While previous research has shown promise of ST for this target group, the case points to possible challenges in accessing emotional material, particularly during experiential work, which could potentially diminish the effectiveness of the treatment, especially when implemented in a practice setting. It is recommended to provide specialized supervision and support when implementing ST for SPD and PPD, ensuring implementation of the full range of ST techniques. Further research, uncovering which adjustments are necessary in ST for SPD and PPD, seems warranted.

7. Clinical recommendations when treating patients with SPD and PPD with ST

1. Enhance emotional processing techniques: Focus on refining experiential interventions to manage emotional inhibition and facilitate emotional processing, such as imagery rescripting. Consider incorporating a more direct trauma-focused approach to address emotional capabilities and facilitate schema change effectively. Consider adapting experiential work to minimize the risk of dissociation and ensure safety.
2. Provide specialized supervision: Offer specialized support and feedback in supervision, even for experienced therapists working with SPD and PPD. Supervision should address challenges in conducting imagery rescripting, managing parent and coping modes, and implementing empathic confrontation and limit setting.
3. Extend treatment duration if necessary: Acknowledge that severe personality traits may require longer treatment duration for meaningful progress.

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CRediT authorship contribution statement

Stine Bjerrum Moeller: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing. **Ida-Marie T.P. Arendt:** Formal analysis, Writing – original draft, Writing – review & editing. **Jacob Stig Jarnot Meline:** Formal analysis, Writing – review & editing. **Randi Øibakken:** Resources, Supervision, Writing – review & editing.

Declaration of competing interest

RØ is the owner of a psychotherapeutic clinic, offering schema therapy for private clients. However, the therapy in this study was provided free of charge. All other authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary materials

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