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ORIGINAL PAPER

Video-facilitated Group Schema Therapy for Borderline Personality Disorder: a Feasibility Study

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Abstract
Group Schema Therapy is an effective option for the treatment of Borderline Personality Disorder but many still fail to benefit. Video Facilitation is explored in our study as an addition to develop this treatment to better fit the needs of the patients. We carried out a pilot study in a Finnish naturalistic sample of eight borderline patients using standard Group Schema Therapy complemented with the Video Facilitation method (previously named VideoTalk). Mixed method approach was used in data gathering and analysis: quantitative data on schemas, schema modes, and psychiatric symptoms were gathered at baseline and post-intervention. Also, there was a semi-structured interview at post-intervention. Therapy method was safe and well tolerated. Schema mode activity transformed towards a more healthy profile and borderline symptoms decreased. During post-intervention interviews use of video was found to enable bringing more emotionally intensive material into the group. Group sessions were perceived as highly important. Changes in self-perception and behavioural skills were reported frequently. Video Facilitation format was suitable and showed promise in intensifying and augmenting the therapy process. Further research is needed to make video-assisted work methods evidence-based therapy.

Keywords Group schema therapy · Video-assisted · VideoTalk · Borderline personality disorder · Pilot study · Video Facilitation

Introduction

Group Schema Therapy was first shown to be an effective treatment for Borderline Personality Disorder by Farrell et al. (2009). The original format included 30 group sessions and evidence suggests that a 20-session version is insufficient (Hilden et al., 2021). Outcomes also appear to improve when number of individual sessions in increased (Arntz et al., 2022). Additional studies support the effectiveness of Group Schema Therapy, though many are limited by inconsistent delivery and the absence of control groups (Tracy et al., 2025).

More novel effective treatment strategies are still needed to improve outcomes (Woodbridge et al., 2022). Video

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Facilitation (previously named VideoTalk) is a promising new therapy method to facilitate change in schema therapy (Koffert et al., 2019). Video offers the patient new kind of additional sensory information (Nordström et al., 2021) and increases the intensity of ongoing psychotherapeutic processes through emotional activation (Nordström et al., 2024), whereas emotional expression during psychotherapy is associated with better outcomes (Peluso & Freund, 2018).

Changes in schema modes are central to treating personality pathology in schema therapy (Yakin et al., 2025). Experiential exercises are vital for achieving this change (Kellogg & Young, 2006), yet clients often struggle to engage because dysfunctional modes become activated (Josek et al., 2023). We hypothesized that Video Facilitation could ease this difficulty by offering adaptively both emotional activation and distancing (Koffert et al., 2019). To explore this, we conducted a mixed-methods pilot study.

Methods

Sample

Study was implemented at Turku University Hospital, Finland. Participants were recruited from a waiting list and gave written informed consent. By chance, all the participants ($n=8$) were female, between ages 21 to 40 years. All the participants in the study group were diagnosed with Borderline Personality Disorder by a psychiatrist (first author or treating clinician) using structured clinical interview (SCID-II), (First et al., 1997).

Exclusion criteria were the clinical criteria in place at the clinic: psychosis, unstable bipolar disorder, untreated substance abuse, current therapy, low cognition, poor adherence, untreated ADHD, language issues, suicidal crisis, or violent behaviour.

Clinical features were assessed from patient records. These included socioeconomic factors, comorbid psychiatric conditions, previous suicide attempts, hospitalizations, and psychotherapies. Medication use was also charted.

Treatment Protocol

Experienced psychotherapists with schema therapy training (ISST) carried out the treatment of 30 group sessions and seven individual meetings. Group sessions were recorded with two separate cameras. No session rated assessment of therapist adherence by an independent observer was done.

Key elements of schema therapy for Borderline Personality Disorder include limited reparenting, experiential exercises, cognitive work and behavioural pattern change (Kellogg & Young, 2006). Experiential exercises have previously included methods such as visual imagery work and chairwork (Farrell et al., 2012). In this study experiential exercises were replaced with video tasks.

Participants recorded videos at home based on instructions tailored to each schema mode. They were asked to describe on camera a situation they felt shaped the schema mode and the emotions this situation brought up. These videos were later viewed in session to bring the schema-mode–related feelings directly into the group for processing.

The Video-Viewing protocol *first, the video was watched without interruption; second, the presenter shared the thoughts and feelings it elicited; third, group members offered their own observations; fourth, the presenter identified her childhood and current needs related to the video; and fifth, the group explored those needs and possible childhood scenarios as therapists guided in building more adaptive schemas. Participants recorded their observations from each phase in the workbook.*

Quantitative Measurements

Participants were assessed before treatment and after 30 sessions with the following instruments:

Young Schema Questionnaire (YSQ-L3a) is the long form version (Young & Brown, 2003) of this questionnaire that measures the activity of early maladaptive schemas (EMSs) using 232 items.

Schema Mode Inventory (SMI) has been developed to detect and measure the schema modes which are changing cognitive and emotional states coupled with certain coping strategies becoming active in certain points in time (Lobbestael et al., 2010). This questionnaire includes 118 items.

For both YSQ-L3a and SMI, each item is scored on a scale from 1 to 6. The score for each EMS and schema mode is an average score of the relevant items.

Borderline Symptom List (BSL-23) is a self-rating tool to assess Borderline Personality Disorder symptoms (Bohus et al., 2009) during the previous week including 23 items. Each item is rated on a scale from 1 to 4 (sum score range 0−92) a higher score indicating more impairment.

Patient Health Questionnaire (PHQ-9), a questionnaire including nine items to assess for DSM classification criteria for major depression (score range 0−27), has been found to be suitable for the measurement of depression severity and mapping of diagnostic symptoms (Kroenke et al., 2001).

*Overall Anxiety Severity and Impairment Scale (*OASIS) is a short self-rating questionnaire with five items to measure general anxiety levels (score range 0−20) (Norman et al., 2006). It can be used in different anxiety disorders, which increases its applicability.

Alcohol Use Disorders Identification Test (AUDIT) is a 10-item widely used and extensively studied measurement scale to assess for alcohol use disorders (score range 0−40) (Reinert & Allen, 2002) that was used in this study to detect potential significant changes in alcohol consumption habits.

McLean Screening Instrument for BPD (MSI-BPD) is a simple 10-item screening instrument for Borderline Personality Disorder (score range 0−10) (Zanarini et al., 2003). It has been developed to measure symptom areas that are diagnostic criteria according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification.

Sheehan Disability Scale (SDS) is used to assess general functioning and potential functional impairment without lengthy questionnaires (Sheehan & Harnett-Sheehan, 1996). It comprises three items that are scored on a 0 to 10 scale (score range 0−30).

Regarding the YSQ-L3a and SMI scales, for each participant, a minimum of 4/5 (80%) of the items for each EMS or schema mode had to be answered for it to be included in the analyses. The mean value of the individually competed items for the same EMS or schema mode was used as an estimate for the missing items. For the symptom questionnaires, response was defined as at least 50% symptom reduction from baseline to post-intervention.

Statistical Analysis

The distributions for the continuous variables were analyzed graphically and with the Shapiro-Wilk test. They were non-parametric and thus, are characterized with medians and interquartile ranges (IQR). The internal consistency for the measures was analyzed using Cronbach's alpha. With the questionable score for MSI-BPD (0.626) as an exception, the scores for the other scales showed good internal consistency: BSL-23 0.940, PHQ-9 0.906, OASIS 0.844, AUDIT 0.856, and SDS 0.861.

To assess the significance of the differences in the rating scale scores from baseline to post-intervention, related samples Wilcoxon signed-rank test was used. Due to the non-parametric distributions of the variables, Z/sqrt(n) was used as an estimate for effect size for the score differences (Fritz et al., 2012). These estimates correspond to Cohen's d values of ≥0.20 for small, ≥0.50 for medium, and ≥0.80 for large effect size. In all analyses, p-values < 0.05 were considered statistically significant. The analyses were carried our using the IBM SPSS software, version 29.0.

Qualitative Methodology

Participants were individually interviewed at the end of the study. A question list (see Supplement 1) was used as an interview aid but it was not rigorously followed. Interviews lasted 30–45 min and were recorded and transcribed of all study participants. Group meetings were recorded with two videocameras, but in this article we focus only on the semi-structured interviews that were carried out at study completion.

Data analysis was done using content analysis (Krippendorff, 2018; Neuendorf, 2017) by two separate researchers. Both made a content analysis of the full interview data separately identifying essential themes. This was carried out by manually reading all interview transcripts The first writer created a preliminary thematic structure that was discussed and edited with the second writer. We made an effort to categorize relevant themes in interviews that would most authentically reflect the information value of the interviews. This was done by detecting relevant topics, words and themes that came up repeatedly in the interviews. Nvivo data analysis software was used as a digital tool in the process. The goal was to create a deeper understanding of how Video Facilitation -method was experienced and how it affected the treatment process.

Results

Clinical Characteristics

Participants in the study came from varying socioeconomic situations, with high occupational activity and versatile educational backgrounds. Seven participants (87.5%) had at least one psychiatric comorbidity and psychoactive medications were common. None were using benzodiazepines or antipsychotics. No medication changes were done during the therapy. Detailed clinical characteristics are presented in Supplement 2.

Treatment Attendance, Dropout and Serious Adverse Events

There were no drop-outs from the study. On average, only 3.1 group sessions were missed. Participants used remote video call possibility on average on 2.6 sessions. Potential serious adverse events were searched from the medical records using an unstructured assessment. There was one parasuicidal event that led to an emergency room visit. Otherwise, no serious adverse events were detected from the patient records. However, many participants had long-term self-harming behaviour, but there was no escalation in these activities observed by therapists. One patient had functional seizures that led to emergency room visits. The medication status was stable throughout the treatment.

Quantitative Analysis of Symptom Change

Both the EMS and schema mode scores showed marked decreases (Table 1). For three EMSs, the score decreases were statistically significant with medium to large effect sizes: *Vulnerability to harm* ($p=0.028$, $r=0.78$), *Insufficient self-control* ($p=0.018$, $r=0.89$), and *Approval-seeking* ($p=0.017$, $r=0.90$). However, for two EMSs, increases in the median scores were observed: *Emotional deprivation* and *Mistrust/Abuse*. Regarding the schema modes, *Healthy adult* ($p=0.043$, $r=0.90$) and *Happy child* ($p=0.046$, $r=0.82$) mode scores significantly increased.

Borderline Personality Disorder symptoms assessed using BSL-23 showed a significant ($p=0.012$) decrease in the sample with large effect size ($r=0.89$). Half of the participants had ≥50% symptom reduction. The results are presented in detail in Table 2. Both the PHQ-9 and OASIS scores also decreased in the whole sample, but the differences were not statistically significant. For 25.0% participants, the symptom reduction was ≥50% for the PHQ-9 scores and for 37.5% participants, for the OASIS scores. However, for both measures, two participants reported increased symptoms. For 75.0% participants, the AUDIT scores decreased or remained the same, while for the rest,

Table 1 Young Schema Questionnaire (YSQ) and Schema Mode Inventory (SMI) scores for the participants

YSQ					SMI				
	Baseline	Post-intervention				Baseline	Post-intervention		
Schema	Median (IQR)	Median (IQR)	p[a]	Z/sqrt(n)[b]	Schema mode	Median (IQR)	Median (IQR)	p[a]	Z/sqrt(n)[b]
Emotional deprivation	2.33 (2.00–4.25)	2.83 (2.33–3.53)	0.57	0.20	Healthy adult	3.30 (2.75–4.16)	4.10 (3.50–4.70)	0.043	0.90
Abandonment	2.85 (2.22–4.31)	2.79 (1.93–3.51)	0.11	0.57	Demanding parent	4.29 (3.25–4.82)	3.57 (3.14–4.43)	0.59	0.24
Mistrust/Abuse	2.50 (2.10–3.85)	2.53 (1.78–2.81)	0.58	0.20	Punishing parent	2.90 (2.00–3.93)	2.60 (1.70–2.80)	0.14	0.67
Social isolation	2.80 (1.98–4.48)	2.60 (1.95–3.93)	0.16	0.50	Bully and attack	1.87 (1.75–2.31)	1.63 (1.50–2.13)	0.28	0.48
Defectiveness	2.33 (1.70–3.75)	2.13 (1.71–2.90)	0.14	0.53	Self-aggrandizer	2.78 (2.48–3.45)	2.45 (2.27–3.18)	0.59	0.24
Failure to achieve	4.11 (2.36–4.97)	2.56 (1.72–4.69)	0.050	0.69	Detached self-soother	2.67 (1.89–3.42)	2.75 (2.2–3.50)	0.89	0.06
Dependence/ Incompetence	2.77 (1.40–4.08)	2.17 (1.25–2.95)	0.091	0.60	Detached protector	4.25 (2.75–4.63)	2.89 (1.78–3.11)	0.080	0.78
Vulnerability to harm	2.63 (2.15–3.21)	1.50 (1.42–2.73)	0.028	0.78	Compliant surrender	2.64 (2.25–5.61)	2.71 (2.18–3.82)	0.068	0.75
Enmeshment	1.09 (1.00–1.64)	1.32 (1.00–1.45)	0.75	0.11	Happy child	3.05 (2.48–3.75)	3.45 (2.83–4.10)	0.046	0.82
Subjugation	1.85 (1.35–4.48)	1.50 (1.15–3.23)	0.075	0.63	Undisciplined child	3.83 (2.71–5.00)	3.08 (2.70–3.92)	0.25	0.47
Self-Sacrifice	3.04 (2.19–4.77)	2.76 (2.47–3.79)	0.21	0.45	Impulsive child	3.43 (2.46–3.79)	2.50 (2.04–3.14)	0.14	0.61
Emotional Inhibition	3.17 (1.56–3.81)	1.67 (1.31–3.14)	0.21	0.45	Enraged child	2.17 (1.50–2.64)	1.65 (1.47–2.08)	0.22	0.50
Unrelenting standards	4.16 (2.73–4.94)	2.78 (2.23–3.52)	0.050	0.69	Angry child	3.00 (2.33–3.83)	2.45 (2.03–2.73)	0.12	0.64
Entitlement	2.14 (1.89–2.70)	2.09 (1.45–2.36)	0.40	0.32	Vulnerable child	3.40 (2.60–4.75)	2.65 (2.33–3.50)	0.075	0.73
Insufficient self-control	3.43 (2.98–4.47)	2.53 (1.60–3.20)	0.018	0.89					
Approval-seeking	3.75 (3.11–4.27)	2.93 (2.71–3.21)	0.017	0.90					
Negativity/ Pessimism	3.50 (2.84–4.50)	2.55 (2.00–3.82)	0.27	0.42					
Punitiveness	3.29 (2.64–4.48)	2.64 (1.86–3.43)	0.075	0.67					

[a]Related samples Wilcoxon signed-rank test

[b]Estimate for effect size; ≥0.20 small, ≥0.50 medium, and ≥0.80 large effect size

IQR Interquartile range

Table 2 Rating scale scores for the participants at baseline and post-intervention

	Baseline	Post-intervention		
	Median (IQR)	Median (IQR)	p^a	Z/sqrt(n)[b]
BSL-23	43.00 (21.50−55.00)	16.00 (10.25−28.50)	0.012	0.89
PHQ-9	13.50 (5.00−18.50)	7.00 (3.50−12.25)	0.15	0.51
OASIS	10.00 (6.75−16.25)	8.00 (4.25−9.00)	0.068	0.65
AUDIT	10.50 (1.25−13.00)	7.00 (2.00−11.50)	0.21	0.45
MSI-BPD	7.00 (6.00−8.00)	3.00 (1.25−4.75)	0.042	0.77
SDS	17.50 (8.75−21.50)	6.00 (2.75−15.25)	0.017	0.84

[a]Related samples Wilcoxon signed-rank test

[b]Estimate for effect size; ≥0.20 small, ≥0.50 medium, and ≥0.80 large effect size

BSL-23 Borderline Symptom List, *PHQ-9* Patient Health Questionnaire, *OASIS* Overall Anxiety Severity and Impairment Scale, *AUDIT* Alcohol Use Disorders

Identification Test, *MSI-BPD* McLean Screening Instrument for BPD, *SDS* Sheehan

Disability Scale, *IQR* Interquartile range

the score increased. All but one of the participants improved functionally and 62.5% ($n=5$) reported ≥50% decrease in functional impairment.

Qualitative Analysis of the Interviews

End-of-study interviews included several areas of interest that we identified. We divided these into three main categories and in total nine subcategories. The first main category was named *Video Facilitation – process and method* and it encompassed the different ways that the use of video recording affected the participants' experience of the therapy process. The second main category was *Individual and group dimensions of therapy*. This included themes that were important for participants involving the role of the group and individual sessions. The third main category was *Outcomes and change* and included the participants' reports on how they saw the therapy helping them with their challenges. Participants are marked: P3 means Participant 3.

Video Facilitation – Process and Method

Video as an Accelerator of the Therapy Process During the end-of-study interview, the study participants gave several comments about how the videos facilitated constructive discussion and gave the "spotlight" for a particular participant in turn. Participants told that the videos help them to process and organise their thoughts:

For me, it was like, hey, this is the moment when I can say what I wanted to say. It sort of gave one a spot light, one knew that the whole group will focus on the video, they will focus for the duration of the video. (P1)

Watching the videos together at the sessions was good, because at times I felt that I could not remember all the things I was supposed to talk about at the session, but then the video made me recall the things so we could discuss them together after the video. And it also opened up lots of new things. (P7)

Video as an Enabler of Sharing in the Group Each participant also experienced that the use of video helped bring important material into the group. This effect seemed to remove obstacles that prevented sharing important topics in the group and therefore can be seen to intensify the process:

If I had thought of the same thing in the group situation, there could have been some sort of a barrier that would have prevented me from saying it. But when it was already there on the video, it at least got exposed. (P3)

Schema Modes in Videos Participants firstly noticed schema modes in themselves and secondly experienced strong emotions when sharing them. Participants found that seeing themselves or another group member in a mode state made it easier to understand themselves better:

I made a video about the critical mode, and in the video I had anxiety. And there I could see it, see how I am like when I am anxious, when I just repeat the same things over and over. And when I get stuck, and that sort of things. So after seeing that I maybe started to understand what it is that I do. (P2)

Negative Experiences Use of the videos was also experienced as challenging by some of the participants. Some participants felt a lot of pressure about making the video beginning with what to say during it:

Making the videos was awful. I just could not do it. Even when I thought about the things in advance, when I was supposed to record them, they just disappeared from my head. (P2)

Individual and group dimensions of therapy

Individual Meetings: Advantages and Disadvantages Individual sessions gave more space to personal attention but

these sessions did not always otherwise seem helpful to all participants. Part of the participants experienced that the individual sessions focused too much on homecare advice:

Sometimes one could feel like an outsider in the group or did not feel like talking. But in individual meetings one sort of has to talk, so then one will talk a lot. And one can focus more on their self. (P7)

The meetings revolved around the same topics quite a lot, for example, how to relax one's body and how to do breathing exercises. (P5)

Role of Group Functioning Many participants brought up as a positive notion the functioning of the group, especially the shared understanding of similar difficulties. However, there were notions that the size of the group was too big and it did not allow enough time for each participant:

I quickly realized that we all have borderline personality, so they will know exactly what I am talking about. (P1)

Sometimes the time per person for going through their things was very short. (P8)

Outcomes and change

Increased Self-Awareness and Understanding There were developments in perceiving and understanding psychological difficulties, identifying unmet needs, and adapting new less guilt-provoking vocabulary to face them:

I had not realized that there is a sad little child there first, and the angry child is protecting the sad child. Even if the sad or scared feeling is only there for a fraction of a second, it is there. And it was exciting to get to explore that. Like hey, am I scared of something now. (P1)

New Behavioral Skills and Self-Care Methods Also, many participants noted new behavioural skills to cope with strong negative emotions such as intentionally distancing oneself from the painful emotion and looking at it from another perspective allowing for more autonomy in chosen actions:

If, for example, I lost my nerve, I could sort of take a step back. Like, okay, now this is what happened to me, why did this happen? What was it about the situation that made me feel like I had to defend myself or something? And I could go through these questions pretty much right away. And on some occasions I could even prevent my reaction. (P4)

Elements of Change: Outside Perceptions and Need of Further Mental Health Care Regarding area of self-efficacy, some were worried about how they would cope in the future but others felt ready to continue without further treatment. Many reported comments about positive change from people in their lives:

It was a relief that I could arrange to see the person I went to before this therapy, that I was not signed out. And I can still contact them. (P2)

They have pointed out that I seem to be doing a lot better and they feel that I am also behaving a lot better. And they also said that I am more adult-like, so to speak. So I kind of grew up in the therapy. (P7)

Discussion

In this pilot study, Video Facilitation appeared safe and therapeutic, with no drop-outs. Study participants found the use of video to mostly have a positive effect on the therapy process. This happened through multiple pathways including facilitation of conversation, helping to share difficult topics and better understanding different emotional states. The positive effects of Video Facilitation can be understood through a mode-state lens. Firstly, during standard experiential exercises, the *Punitive Parent* mode or *Coping* modes often become activated and block emotional engagement (Josek et al., 2023). By creating the video at home during a suitable moment, patients are less likely to have these modes interfere with sharing in session. Secondly, when in the *Vulnerable Child* mode during a group session, patients need affirming, nurturing care (Kellogg & Young, 2006), which can be hard to receive directly. Watching their own video provides a bit of distance, making it easier to accept the group's warmth and support.

Although individual sessions alongside group therapy have been suggested to lower drop-out risk (Arntz et al., 2022), our participants viewed these sessions more critically than in previous research (Tan et al., 2018). In contrast, they valued peer support and opportunities for personal sharing in the group. Our use of mode videos may have shifted group dynamics by deepening emotional sharing and connection, which could explain why individual sessions felt less important.

Across the study, no broader psychopathology worsening was observed, despite the video element having the capacity to intensify emotional experience (Nordström et al., 2024). This is consistent with the group therapy interviews at the end, in which most participants described psychological benefits potentially explaining the lower symptom scale points at the study end point. Many reported new capacity to both observe the dysfunctional emotional dynamics, and to choose a new way of acting in the situation, which was facilitated by the use of mode videos. Participants described

more self-reflective thinking and less impulsive behaviour. These changes are in line with the significant reductions of the EMSs *Insufficient self-control* and *Vulnerability to harm*. The changes were often also noticed by other people. Constructive new social activities were undertaken, and schema modes of *Healthy adult* and *Happy child* increased, which may also be seen to reflect this prosocial change.

Strengths and Limitations

Our study used a novel method, which is a significant strength and the sample of the study came from naturalistic clinical settings reflecting real world feasibility. Monitoring of symptoms at different timepoints was done in order to address potential complications. Significant effort was made to depict participants' clinical characteristics using patient records.

Limitation of the study is potential selection bias. Firstly, clinic guidelines meant that patients offered schema therapy represented the less severe end of the borderline pathology spectrum. This was in line with the finding that participants did not use benzodiazepines or antipsychotics. Also, half of the group therapy participants had previous psychotherapy, which in the Finnish system means that they had very likely had individual long-term psychotherapy (Leppänen et al., 2022). These factors are important to note when considering the generalizability of the findings.

Another limitation is the high number of statistical tests conducted, potentially resulting in false positives. However, the symptom reductions aligned with interview responses, supporting their significance. More studies are needed to understand the potential and pitfalls of video-assisted psychotherapy.

Conclusions

Video-facilitated group schema therapy was a safe and effective treatment option in our pilot study. Video Facilitation shows great promise as a therapy intensity facilitator potentially improving and accelerating recovery. Further research is needed in other patient groups and in larger trials.

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Data Availability No datasets were generated or analysed during the current study.

Declarations

Competing Interests The authors declare no competing interests.

Ethical Approval The Ethics Committee of the Hospital District of Southwest Finland gave a favourable statement on the study and the Turku University Hospital gave the research permission.

Consent to Participate All study participants gave written informed consent to take part in the study.

References

Arntz, A., Jacob, G. A., Lee, C. W., Brand-de Wilde, O. M., Fassbinder, E., Harper, R. P., Lavender, A., Lockwood, G., Malogiannis, I. A., Ruths, F. A., Schweiger, U., Shaw, I. A., Zarbock, G., & Farrell, J. M. (2022). Effectiveness of Predominantly Group Schema Therapy and Combined Individual and Group Schema Therapy for Borderline Personality Disorder: A Randomized Clinical Trial. JAMA psychiatry, *79*(4), 287–299. https://doi.org/10.1001/jamapsychiatry.2022.0010

Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R. D., Domsalla, M., Chapman, A. L., Steil, R., Philipsen, A., & Wolf, M. (2009). The short version of the Borderline Symptom List (BSL-23): development and initial data on psychometric properties. Psychopathology, *42*(1), 32–39. https://doi.org/10.1159/000173701

Farrell, J. M., Shaw, I. A., & Webber, M. A. (2009). A schema-focused approach to group psychotherapy for outpatients with borderline personality disorder: a randomized controlled trial. Journal of behavior therapy and experimental psychiatry, *40*(2), 317–328. https://doi.org/10.1016/j.jbtep.2009.01.002. https://doi-org.ezproxy.utu.fi/

Farrell, J. M., Shaw, I. A., & Shaw, I. (2012). Group schema therapy for borderline personality disorder: A step-by-step treatment manual with patient workbook. Wiley.

First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., & Benjamin, L. S. (1997). Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II). American Psychiatric Press, Inc.

Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: current use, calculations, and interpretation. Journal of experimental psychology General, 141(1), 2–18. https://doi.org/10.1037/a0024338. https://doi-org.ezproxy.utu

Hilden, H. M., Rosenström, T., Karila, I., Elokorpi, A., Torpo, M., Arajärvi, R., & Isometsä, E. (2021). Effectiveness of brief schema group therapy for borderline personality disorder symptoms: a randomized pilot study. Nordic journal of psychiatry, 75(3), 176–185. https://doi.org/10.1080/08039488.2020.1826050. https://doi-org.ezproxy.utu

Josek, A. K., Schaich, A., Braakmann, D., Assmann, N., Jauch-Chara, K., Arntz, A., Schweiger, U., & Fassbinder, E. (2023). Chairwork in schema therapy for patients with borderline personality disorder-A qualitative study of patients' perceptions. Frontiers in psychiatry, 14, 1180839. https://doi.org/10.3389/fpsyt.2023.1180839. https://doi-org.ezproxy.utu

Kellogg, S. H., & Young, J. E. (2006). Schema therapy for borderline personality disorder. Journal of clinical psychology, 62(4), 445–458. https://doi.org/10.1002/jclp.20240

Koffert, T., Luutonen, S., Niemi, P. M., Tiuraniemi, J., Nordström, E., Keinänen, M., & Hietala, J. (2019). Patient-made videos as a tool of self-observation enhancing self-reflection in psychotherapy: Description of the method and a clinical case. Journal of Contemporary Psychotherapy, 49, 187–195.

Krippendorff, K. (2018). Content analysis: An introduction to its methodology. Sage.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. Journal of general internal medicine, 16(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x. https://doi-org.ezproxy.utu.fi/

Leppänen, H., Kampman, O., Autio, R., Karolaakso, T., Näppilä, T., Rissanen, P., & Pirkola, S. (2022). Socioeconomic factors and use of psychotherapy in common mental disorders predisposing to disability pension. BMC health services research, 22(1), 983. https://doi.org/10.1186/s12913-022-08389-1. https://doi-org.ezproxy.utu

Lobbestael, J., van Vreeswijk, M., Spinhoven, P., Schouten, E., & Arntz, A. (2010). Reliability and validity of the short Schema Mode Inventory (SMI). Behavioural and cognitive psychotherapy, 38(4), 437–458. https://doi.org/10.1017/S1352465810000226. https://doi-org.ezproxy.utu

Neuendorf, K. A. (2017). The content analysis guidebook. Sage.

Nordström, E., Luutonen, S., Paananen, J., Koffert, T., Keinänen, M., & Hietala, J. (2021). Facilitating psychotherapy with patient-made videos: A qualitative study of patient experiences. European Journal for Qualitative Research in Psychotherapy, 11, 130–142.

Nordström, E., Luutonen, S., Paananen, J., Koffert, T., Keinänen, M., Suomalainen, K., & Hietala, J. (2024). Interaction between multisensory information and emotional activation in video-facilitated psychotherapy. Counselling and Psychotherapy Research, 24(2), 793–804.

Norman, S. B., Cissell, S. H., Means-Christensen, A. J., & Stein, M. B. (2006). Development and validation of an Overall Anxiety Severity And Impairment Scale (OASIS). Depression and anxiety, 23(4), 245–249. https://doi.org/10.1002/da.20182. https://doi-org.ezproxy.utu

Peluso, P. R., & Freund, R. R. (2018). Therapist and client emotional expression and psychotherapy outcomes: A meta-analysis. Psychotherapy (Chicago Ill), 55(4), 461–472. https://doi.org/10.1037/pst0000165

Reinert, D. F., & Allen, J. P. (2002). The Alcohol Use Disorders Identification Test (AUDIT): a review of recent research. *Alcoholism clinical and experimental research*, *26*(2), 272–279.

Sheehan, D. V., Harnett-Sheehan, K., & Raj, B. A. (1996). The measurement of disability. *International clinical psychopharmacology*, *11*(Suppl 3), 89–95. https://doi.org/10.1097/00004850-199606003-00015. https://doi-org.ezproxy.utu

Tan, Y. M., Lee, C. W., Averbeck, L. E., Brand-de Wilde, O., Farrell, J., Fassbinder, E., Jacob, G. A., Martius, D., Wastiaux, S., Zarbock, G., & Arntz, A. (2018). Schema therapy for borderline personality disorder: A qualitative study of patients' perceptions. PloS one, 13(11), e0206039. https://doi.org/10.1371/journal.pone.0206039. https://doi-org.ezproxy.utu.fi/

Tracy, M., Penney, E., & Norton, A. R. (2025). Group schema therapy for personality disorders: Systematic review, research agenda and treatment implications. Psychotherapy research: journal of the Society for Psychotherapy Research, 35(6), 884–903. https://doi.org/10.1080/10503307.2024.2361451.

Woodbridge, J., Townsend, M., Reis, S., Singh, S., & Grenyer, B. F. (2022). Non-response to psychotherapy for borderline personality disorder: A systematic review. The Australian and New Zealand journal of psychiatry, 56(7), 771–787. https://doi.org/10.1177/0004867421104689 3. https://doi-org.ezproxy.utu

Yakın, D., Uijttewaal, J., Plooij, P., Jacob, G. A., Lee, C. W., Brand-de Wilde, O. M., Fassbinder, E., Harper, R. P., Lavender, A., Lockwood, G., Malogiannis, I. A., Ruths, F. A., Shaw, I. A., Zarbock, G., Farrell, J. M., & Arntz, A. (2025). Schema modes as mechanisms of change in treating borderline personality disorder: A model replication study. Journal of behavior therapy and experimental psychiatry, 90, 102074. https://doi.org/10.1016/j.jbtep.2025.102074. Advance online publication.

Young, J. E., & Brown, G. (2003). Young Schema Questionnaire-S3. Cognitive Therapy Center of New York.

Zanarini, M. C., Vujanovic, A. A., Paracwoodbridgehini, E. A., Boulanger, J. L., Frankenburg, F. R., & Hennen, J. (2003). A screening measure for BPD: the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD). Journal of personality disorders, 17(6), 568–573. https://doi.org/10.1521/pedi.17.6.568.25355. https://doi-org.ezproxy.utu