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Measuring the contribution of art therapy in multidisciplinary treatment of personality disorders: The construction of the Self-expression and Emotion Regulation in Art Therapy Scale (SERATS)

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ABSTRACT

Despite the use of art therapy in clinical practice, its appreciation and reported beneficial results, no instruments are available to measure specific effects of art therapy among patients with personality disorders cluster B/C in multidisciplinary treatment. In the present study, we described the development and psychometric evaluation of the Self-expression and Emotion Regulation in Art Therapy Scale (SERATS). Structural validity (exploratory and confirmatory factor analysis), reliability, construct validity and sensitivity to change were examined using two independent databases (n = 335; n = 34) of patients diagnosed with personality disorders cluster B/C. This resulted in a nine-item effect scale with a single factor with a high internal reliability and high test–retest reliability; it demonstrated discriminant validity and sensitivity to change. In conclusion, the SERATS is brief and content-valid and offers objective and reliable information on self-expression and emotion regulation in art therapy among patients with personality disorders cluster B/C. Although more research on construct validity is needed, the SERATS is a promising tool to be applied as an effect scale and as a monitoring tool during art therapy treatment.

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Introduction

Patients diagnosed with personality disorders (PDs) have significant impairments in self-functioning

(identity of self-direction) and interpersonal (empathy or intimacy) functioning and have one or more pathological personality trait domains (i.e. negative affect, detachment, antagonism,

disinhibition and psychoticism.^{1,2} Personality pathology is characterized by a pervasive pattern of emotional instability, impulsivity and disturbed relationships.^{1,3} These patients are among the most challenging patients to treat and are often referred to specialized inpatient settings that often concern intensive multidisciplinary treatment programmes.⁴ Art therapy often contributes in such programmes because art therapy provokes experiences and feelings (mental states) by the targeted therapeutic use of various art materials (e.g. clay, drawing and painting material and wood), techniques and forms of work (individual and in collaboration) in which material-interaction and personal expression are central.⁵⁻⁷ Patients appreciate art therapy and experience beneficial results.⁸⁻¹⁰ Group (art) therapy may address important avoidant interpersonal strategies of PD or that the ability to tolerate, mentalize and manage social interactions can be improved by dealing with interpersonal challenges and encounters within the group in the long run.^{11,12}

Despite its use in clinical practice, its appreciation by patients and its reported positive outcomes, very little empirical studies substantiate this intervention. The studies on effects of art therapy are poor at best.¹³ Several reasons could be brought forward to enable understanding of this lack of evidence: art therapy hardly has a research tradition and is offered mostly in combination with other forms of therapy, making it complex to isolate its effects.¹⁴ Moreover, empirical studies examining the effects of art therapy or treatments that include art therapy use instruments focusing on symptoms, personality or coping skills that do not yield much information on its specific effects. To our knowledge, no instruments are available to isolate and measure the effects of art therapy in multidisciplinary treatment programmes. The few available diagnostic scales in art therapy, such as the Diagnostic Drawing Series¹⁵ or the Art-based Intervention Self-report Questionnaire on the art-making experience,¹⁶ are assessment tools and not specifically suited to measure the effects of art therapy treatment. In general, there is need for further evaluating treatment approaches for patients with

PDs.¹⁷ To do so for art therapy, what it is needed are specific scales for monitoring and measuring the contribution of art therapy in multidisciplinary programmes.^{16,18} Such scales will stimulate the quality of art therapy and stimulate insight in the contribution to the treatment process as such.

Our aim is to develop an instrument to measure perceived effects of art therapy among PD patients with emotional and self-regulation problems. The instrument should be short so as not to become a burden for the patient. A short easy-to-use instrument to be completed repeatedly is not expected to be of great interference on the often unstable therapeutic relationships with PD patients. The instrument should have adequate psychometric qualities, i.e. internal reliability, clear construct validity; further, it should be able to measure changes over time. In this article, we describe the development of the Self-expression and Emotion Regulation in Art Therapy Scale (SERATS).

Study 1: Scale development and confirmation

In this first study, our aim was to construct an instrument measuring specific effects of art therapy on patients with a PD cluster B/C. We focused on patients with PD cluster B and/or C, because these PD clusters are the most prevalent¹ and common group-based treatment programmes for PD often recruit poorly functioning patients covering a range of personality pathology.¹¹ A large part of the art therapists work with this target group, and despite the consensus on this, there is little evidence about the added value. On the basis of the result of a previous study on the perceived effects of art therapy,⁹ we constructed an item pool, with as goal to develop an instrument with an adequate internal structure and a small number of items. Internal structural validity was analysed by exploring the factor structure as described in the consensus-based standards for the selection of health-measurement instruments.¹⁹ In a second analysis, we tried to confirm this structure.

Method

Participants and procedure. A total of 335 adult patients with at least one diagnosis of a PD cluster B/C from five different mental health centers in the Netherlands participated in this study. All patients were from specialized PD services. Main diagnoses were borderline PD (16.9%), unspecified PD (41.4%) and avoidant PD (16.5%). Less frequent diagnoses were dependent PD (4%), obsessive–compulsive PD (3.2%) and narcissistic PD (0.7%). The age of the participants varied from 18 to 61 years with a mean of 34.5 years (SD = 9.8 years); 251 participants were female (75%) and 84 were male (25%). All participants received art therapy as part of a multidisciplinary treatment programme of PD. Besides art therapy, this programme consisted of cognitive-based therapy, individual as well as in a group, sometimes psychomotor therapy, music therapy and/or rehabilitation counselling. All patients who agreed to participate signed an informed consent form, and they were asked to fill in the questionnaire.

Materials. In a previous study, the authors explored the perceived effects of art therapy in the treatment of PDs, cluster B/C.⁹ In this qualitative study, we applied the method of grounded theory, e.g. by applying unstructured interviews and focus groups, to assess what PD patients experienced as a result of art therapy. On the basis of this study, a conceptual framework on art therapy effects among patients with PD was constructed. This conceptual framework incorporated improved sensory perception, personal integration, improved emotion regulation, behaviour change and insight/comprehension. On the basis of this framework, content-valid statements were formulated, resulting in an initial pool of 26 items.

An evaluation of this set was performed in two feedback panels with the aim to assure content validity and usability. The first panel consisted of seven experts working with the patients with PD (i.e. four art therapists and three psychologists).

This panel was asked to evaluate the possible ambiguities in the items, as well as the readability, comprehensiveness and relevance for art therapy evaluation. As a result, we decided to re-word five items, by changing statements from negative to positive and removing multi-interpretable wording. The revised set of items was presented to the second panel that consisted of nine persons (i.e. two research professionals, one professional test designer and six patients, four female, two male, aged 22–55 years, from the intended target group). This panel was asked to evaluate the items with the focus on usability in clinical practice, readability and clarity of formulation. This resulted in small grammatical changes to three items, making them more clear and unambiguous. Both panels shared the opinion that the items sufficiently represented the perceived effect of art therapy. On the basis of the advices of the feedback panels, we had a pool of 26 items with a five-point Likert scale defined as 1 (*Never true*), to 5 (*(Almost) always true*) with positive and negative formulated items.

Analysis. We performed factor analysis out of the pool of 26 items. The analysis consisted of two steps: exploratory and confirmatory factor analyses. Because carrying out exploratory factor analyses (EFA) and confirmatory factor analysis (CFA) on the same data is not appropriate, we randomly split the sample ($n = 335$) in two sets of approximately 50% of the cases. Random selection was performed without replacement; hence, there was no overlap in the two sets.

In step 1, we performed EFA to find out how many factors were present in the data and to limit the amount of items. The model was estimated with SPSS 22 (Chicago, IL, USA)²⁰ with as method VARIMAX rotation. We performed three analyses. First, we tested for the number of factors by inspection of the scree plot; second, we forced that number of factors on the data. Items with factor loadings below 0.7 were deleted to develop a short instrument with a small number of items and an adequate internal structure. Third, we analysed the subset of items again, to find out whether all

factor loadings were above 0.7 and whether we could maintain the original factor structure.

In step 2, we performed a CFA using LISREL 9.2 (Skokie, IL, USA)²¹ in order to test the conclusions from the EFA. The model parameters were estimated with the full information maximum likelihood method in LISREL. The factor models were evaluated with the chi-squared test (χ^2) and the root mean square error of approximation (RMSEA). A model with a p -value, for the χ^2 , higher than 0.05 was considered to be a suitable model. In addition, a model with RMSEA less than 0.08 is generally regarded as an acceptable model.^{22,23} If a model did not fit, we searched for the model modification that improved the fit most, using the modification index. We modified the factor model, until an acceptable—in terms of fit—model was found. When an item had a factor loading less than 0.7, the item was removed and the CFA was started from scratch.

Results

Exploratory factor analysis. The sample of 335 patients was automatically at random divided into two sets. In dataset 1 ($n = 159$), the first EFA (performed on 26 items) resulted in a scree plot that showed a breaking point at the second component. The eigenvalue of the first component was 11.9, while the five subsequent components had an eigenvalue of respectively 1.5, 1.2, 1.0, 1.0 and 0.9. This indicated one underlying component, which accounted for 45.93% of the variance. Selection of items with a loading higher than 0.7 resulted in 10 items. We performed a second EFA on these items. Again, the scree plot indicated one underlying component. This component explained 64.6% of the variance. The lowest loading was 0.72, and the highest loading was 0.86.

Confirmatory factor analysis. For the CFA, we used the other random half of patients ($n = 176$). We estimated a single factor model with the 10 items, assuming a simple structure (no correlated

errors). We rejected this model on the basis of the fit measures, χ^2 ($df = 35$) = 102.25, $p = 0.000$, RMSEA = 0.105. Next, we ran three models and added the following correlated errors (one-by-one): between items 9 and 10, between items 2 and 8, and between items 2 and 4. Despite its poor fit, χ^2 ($df = 32$) = 57.27, $p = 0.004$, RMSEA = 0.067. We accepted the third model, because the poor fit was probably due to the high power to detect misspecifications. Saris, Satorra, & van der Veld²⁴ showed that the power to detect misspecifications in factor models with high factor loadings (i.e. >0.8) was high with a larger chance to be rejected. The factor loadings in the estimated model ranged from 0.58 to 0.84. We removed item 10 because the factor loading of this item was lower than 0.7 (0.58). Next, the analysis was repeated. That fit of the third model was acceptable²⁴: χ^2 ($df = 24$) = 24.75, $p = 0.022$, RMSEA = 0.062. The item names, item formulations and the estimated standardized factor loadings are shown in Table 1. The factor loadings ranged from 0.71 to 0.90. The correlated errors were all small, the largest being 0.12.

It followed from the EFA and CFA that the scale had nine items with one underlying factor; see Table 1 for item formulations and loadings for this factor.

Discussion

On the basis of the EFA and the CFA, we have constructed a brief nine-item scale with one underlying dimension. The content of the final items is focused on experiencing, becoming aware and expressing feelings, regulating emotions/feelings (letting out, making fall into place or holding on to) by applying new behaviour and gaining insight, all in relation to the art therapy experience. These items are linked to important difficulties of PD, e.g. identity of self-direction, emotional instability, impulsivity and pathological personality trait domains such as negative affect, detachment or disinhibition.^{1–3} Because the main focus of the scale is self-expression and

Table 1: Results of the final¹ CFA on nine items of the Self-expression and Emotion Regulation in Art Therapy Scale²

Item	Item formulation ²	Loading
01	I get in touch with my feelings through the process of making art	0.83
02	I am able to depict my feelings in art therapy	0.84
03	Through the process of making art, I am able to discover what is at play within me	0.79
04	I am able to express my feelings through the process of making art	0.90
05	I am able to make things fall into place in the art	0.79
06	Making art is a kind of outlet for me	0.72
07	A piece of art I have created can help me hold on to a particular feeling	0.73
08	I apply the new behaviour I have been experimenting with in art therapy outside of the therapy setting	0.71
09	I gain greater insight into my psyche through art therapy	0.86

Note: CFA, confirmatory factor analysis.

¹This model had three correlated errors: between items 2 and 8, between items 4 and 9 and between items 6 and 9.

²The instrument translation process included back-translation.²⁵

emotion regulation, we named the scale the SERATS.

Study 2: Scale reliability and validity

In study 2, we assessed the internal consistency, the test–retest reliability and the construct validity of the nine-item SERATS. In the exploration of construct validity, we focused on a general questionnaire of mental health complaints (Outcome Questionnaire 45 (OQ45)) and a specific outcome questionnaire on acceptance and experiential avoidance (Acceptance and Action Questionnaire-II (AAQ-II)). Art therapists consider both outcome measures as relevant. However, if the SERATS has adequate construct validity, its scores should not be identical to the outcomes of the OQ45 and the AAQ-II. The choice for the OQ45 was based on the fact that it is one of the 10 instruments most frequently used by practitioners in the USA to measure clinical outcomes²⁶ and is often used in clinical outcome research for a broad target group for measuring general symptoms and distress.²⁷ The AAQ-II seemed an interesting measure because of its possible link between the unique experiential situation in art therapy and the

concept of experiential acceptance (vs. avoidance). Experiential avoidance is considered to play a central role in the course and development of psychopathology, including PDs.^{17,28}

Method

Participants and procedure. We used the original sample from study 1 ($n = 335$) and constructed two subsamples (selection on base of sequence of entry). The first subsample consisted of 75 patients who were invited to complete the same questionnaire twice within a short period of 1–3 weeks to examine the test–retest reliability. The age of these participants varied from 19 to 61 years with a mean of 36.03 years ($SD = 11.4$ years); 62 participants were female (83%), 13 were male (17%). The second subsample consisted of 64 participants. This subsample of patients completed not only the SERATS but also the OQ45 and the AAQ-II (construct validity). The age of these participants varied from 19 to 55 years with a mean of 32.9 years ($SD = 8.69$ years); 45 participants were female (70%), 19 were male (30%). These data were collected during a 4-month period.

Instruments. The AAQ-II²⁹ is a self-report questionnaire used to measure acceptance and experiential avoidance. Experiential avoidance is avoiding unpleasant inner experiences, such as thoughts, feelings and physical sensations. Psychological flexibility is the current and overarching term to describe this model, defined as the ability to contact the present moment and the thoughts and feelings it contains without needless defence, and, depending upon what the situation affords, persisting or changing in behaviour in the pursuit of goals and values.³⁰ The AAQ-II consists of 10 items (e.g. 'I'm afraid of my feelings' or 'I am in control of my life') with a Likert scale from 1 (*never true*) to 7 (*always true*), with higher scores indicating greater levels of psychological flexibility. The internal consistency is good.^{29,31,32}

The OQ45 (^{27,33};) was used to measure general mental health functioning with a total score (0–180) and four subdomain scores: 'symptom distress', 'interpersonal relations', 'social role' and 'anxiety and somatic distress'. The OQ45 consists of 45 items (e.g. 'I get along well with others' or 'I blame myself for things') scored on a five-point scale. A high score suggests a high degree of symptoms. Reliability and validity estimates are good.²⁷

Analysis. The nine-item SERATS was evaluated on the internal consistency (i.e. Cronbach's alpha and the test–retest reliability using Pearson's *r* correlation coefficient). Next, the sum scores of

the SERATS were correlated to the total scores on the AAQ-II and the OQ45. These analyses were performed with SPSS 22.

Results

Reliability analysis. We evaluated both the internal consistency (with Cronbach's alpha) and the test–retest reliability. For the estimation of the internal consistency, we used the total sample ($n = 335$). Cronbach's alpha of the nine items was 0.94. This could not be improved by removal of one of the items. The test–retest correlation ($n = 75$) was $r = 0.96$.

Construct validity. The correlations between the SERATS on the one hand and the AAQ-II and the OQ45 total score on the other were small ($n = 64$) (Table 2).

The overall small correlations indicated that the SERATS measured something else than the OQ-45 as well as the AAQ-II. The only significant correlation concerned a negative correlation between the SERATS and the OQ45 'social role' subscale ($r = -0.398$, $p < 0.00$). Higher scores on the SERATS correlated with lower scores on social role, meaning less difficulty in social roles.

Discussion

The SERATS had a high internal consistency and high test–retest reliability and demonstrated adequate construct validity in relation to the AAQ-II and the OQ45, meaning it demonstrated

Table 2: Pearson correlations between the SERATS, the AAQ-II and the OQ45

	AAQ-II		OQ45			
	Symptom distress	Interpersonal relations	Social role	Anxiety and somatic distress	Total	
SERATS	0.136	-.212	-.015	-.398	-.147	-.224
Sig. (2-tailed)	0.28	0.09	0.90	0.00	0.25	0.08

Note: AAQ-II, Acceptance and Action Questionnaire-II; OQ45, Outcome Questionnaire 45; SERATS, Self-expression and Emotion Regulation in Art Therapy Scale.

discriminant validity with the AAQ-II and the OQ45 total score. This indicated that the SERATS has added value; it seems to measure a concept with only some similarity. The SERATS does not measure exactly the same as general mental health functioning nor 'acceptance and experiential avoidance'. A possible explanation for this is that the OQ45 items focus on general mental distress that the AAQ-II items focus mainly on cognitive processes (negative thoughts, worries, remembrances, felt control in life and reactions to feelings), whereas experiential activity in art therapy is much less cognitive; it is often less conscious and focused on acceptance of feelings as well as here-and-now awareness.^{5,9,34}

The comparison between a specific measure (linked to the intervention of art therapy) and a more general measure can be complicated.

The only significant correlation found between the SERATS and the OQ45 'social role' subscale. Less difficulty in social roles correlated to a higher score on the SERATS. This could mean that improved self-expression and emotion regulation are related to fewer conflicts, a more balanced regulation of stress in social roles.

The main finding here is that the SERATS measured something unique. More research is needed to examine the exact spectrum of the SERATS and its specific aspects of mental health.

Study 3: Sensitivity to change

The objective of study 3 was to evaluate whether the SERATS is sensitive to monitor individual changes over time in individuals who participated in art therapy.

Method

The design of the study was a pre-test–post-test design without control group. In between the pre-test and post-test, participants received art therapy, lasting for 13 weeks. The art therapy intervention programme consisted of a weekly session of art therapy of 1–1.5 h, described in an

art therapy manual: 'Don't act out, live through'.³⁵ This art therapy programme was based on dialectical behaviour therapy³⁶ and schema focused therapy.³⁷ To test the hypothesis that scores on the SERATS changed over time, a paired samples *t*-test was performed in SPSS 22.

Participants and procedure. Thirty-four patients diagnosed with (at least one) PD from the B/C cluster agreed to participate in this study (informed consent). Recruitment took place in an expert centre for treatment of PDs. All patients whose treatment would last at least another 3 months were asked to participate. These patients were either involved in day-clinic treatment or outpatient treatment, which involved art therapy. Six patients dropped out during this study, only two of them with reasons related to the questionnaire itself: not willing to fill in or did not return the questionnaires. The age of the participants ($n = 28$) varied from 20 to 60 years with a mean of 37.1 years ($SD = 12.68$ years).

Results. The difference between the pre-test ($M = 3.42$, $SD = 0.59$) and the post-test ($M = 3.72$, $SD = 0.51$), was $t(27) = 3.13$, $p < 0.004$. The effect size ($d = 0.60$) was large.³⁸

Discussion

The SERATS was sensitive to change. Patients in art therapy reported at the start of their treatment poorer scores than after 12 weeks. Moreover, the results showed a large effect size, suggesting that the change is reliable. The sensitivity to change indicated that this scale can monitor art therapy over time. On the basis of this finding as well as on this first experiences in practice, the timing of when to ask patients to complete the SERATS would be at the start of art therapy (session 1–3) and then with terms of 12 weeks each until finishing art therapy treatment. The full clinical relevance has yet to be evaluated because patients in this sample had been exposed to art therapy previously, and art therapy was part of a larger

treatment programme that both may have influenced the results. Nevertheless, this analysis examined the sensitivity to change of the SERATS and not the effect of art therapy. Further research will be needed to fully explore the clinical utility of this scale.

General discussion

In a series of analyses, we have developed and tested the psychometric properties of the SERATS. The focus of the scale is on self-expression and emotion regulation. The SERATS appears to be a brief, content valid, unidimensional nine-item scale with high internal consistency and high test–retest reliability. The SERATS could be completed at the start of art therapy (session 1–3) and then with terms of 12 weeks each until finishing art therapy treatment. The SERATS demonstrates adequate construct validity and is sensitive to change. All the statistics are promising: the SERATS could be potentially a powerful instrument in measuring and monitoring perceived effect of art therapy during treatment.

The items of the SERATS are explicitly related to art therapy in order to isolate perceived effect of art therapy with this questionnaire. The focus of the scale on self-expression and emotion regulation is relevant for PD patients as these are the main difficulties for these patients who have significant impairments in self and interpersonal functioning and have one or more pathological personality trait domains.^{1,2} Self-expression concerns the authentic expression of one's own personality and feelings, in painting, poetry or other creative activity.³⁹ Art therapy for PD patients is focused on discovering, improvising and intuitively acting during the art process, envisaging the own artwork as self-product and active reflection on the art process and product.^{40,41} The analogy between the art process and product with functioning in daily life can be examined,⁴² and a mindful self-dialogue can be stimulated by self-expression in art.^{43,44} Emotion

regulation implies the recognition and acceptance of emotions, problem solving and reappraisal, which appear to be protective against psychopathology (opposite of dysregulation: suppression, avoidance and rumination).^{45–47} The regulation of emotion in art therapy is partly intentional and explicit because cognitive control and reflection can take place during and after the art-making process. At the same time, the process is also implicit and less conscious because unintended personal themes are being triggered in the process of art making. Material interactions can bring up emotional responses on often less-conscious levels. Contradictive feelings and ineffective modes can become visible in the artwork, after which the artwork is replaced or edited according to preferred feelings and effective modes, giving meaning through objects in the form of pieces of artwork and explicitly reflecting on it.^{5,9,48} These strategies stimulate reappraisal, acceptance and integration of these feelings, corrective experiences, increased insight and decision-making.^{12,49,50} The added value of art therapy in multidisciplinary treatment programmes may be especially this *implicit* self-expression and emotion regulation process.

This study has several limitations. First, the exploration of the construct validity of the SERATS is rather weak because we compared our results only with the OQ45 and the AAQ-II. We presume that the SERATS measures something else and that changes over time on the SERATS are an indication of the progress the patient has made in art therapy. Both assumptions need more research. Second, the SERATS does not offer a zero measurement: the patient is questioned about his or her experiences in art therapy and has to experience this at least during one or two sessions. Also, the SERATS cannot be used among patients not receiving art therapy, because the items refer to art therapy. The strength of this study is that we developed and tested our scale in and with the effort of the target group of patients with PD in specialized mental healthcare practice. Experienced effects

of art therapy as reported by patients are present and recognizable in the content of our scale, and this makes it usable and promising in art therapy research and practice.

Concerning the content of our instrument, some questions need further exploration. Future research should examine whether the SERATS indeed measures self-expression and emotion regulation in art therapy, as main difficulties for PD patients.² We have to determine whether changes during therapy imply real and wanted treatment effects, distinguishable from satisfaction or the experienced quality of the therapeutic relation. It is also possible that the scale is measuring attitudes or experiences regarding art making. To initially explore these first questions about what the SERATS is measuring, we performed some additional analyses. We examined correlations between the SERATS and specific items of the former item pool with content related to experienced benefits of art therapy (overall benefit and daily, emotional and social functioning), relationship with the therapist and the familiarity with the art media. The SERATS correlated most with overall benefit of art therapy and improvement of emotional functioning. There was no correlation between the SERATS and the items about the relationship with the therapist and the familiarity with the art media. The nine items of the SERATS seem to be focused on getting in touch with feelings, to learn to express these feelings, to gain insight and understanding, and developing and practicing new behaviour. In the SERATS, the patient scores the level to which he succeeds to express, understand and regulate emotions and behaviour through art therapy. The question remains if the SERATS functions as an effect measure or as an evaluation of art therapy. We need to examine whether the SERATS indicates changes unique to art therapy. Finally, more research is needed to set up standards indicating whether individual scores should be considered high or low and whether those scores have clinical relevance, helping therapist and client

to monitor the course of therapy. If all the mentioned questions will obtain positive and empirically straightforward answers, we may conclude that the SERATS is relevant to be used to evaluate progress in art therapy in multidisciplinary treatment programmes and identify aspects in therapy that need amelioration and to improve the quality of the treatment programme as a whole.

The implications and considerations for practitioners in PD services for the use of the SERATS can be found on different levels. For the art therapist, it can be a tool for reflection on his/her therapeutic efficacy and discussing the outcomes and the progress with the patient. The use of feedback in treatment can empower patients because of an increased sense of ownership of their own change process, and it may result in faster progress, or may be especially effective for 'not on track' patients.²⁷ Discussing the results with the patient may stimulate the therapeutic relationship and have a positive impact on the insight of his or her own problems. This might be of importance for PD patients who often lack a sense of ownership due to self, emotion and behaviour regulation problems. For PD patients, discussing results with their therapist may stimulate self-insight and 'reframing' their very often-negative self-image.⁵¹ Therapist alliance, engagement and confidence within the group setting are basic elements in a group therapy process. Monitoring therapy experience is a central issue in PD treatment.¹¹ Poor treatment adherence is an often described central challenge of Borderline PD.⁵²

Using the SERATS promotes the participation of the patient and can lead to adjustment and acceleration of the therapy.^{53,54} Some of the patients and art therapists involved in these studies shared their first experiences with the use of the SERATS through a survey. They mentioned that the SERATS meets the standards of clarity, readability, specific for PD and art therapy and its usability in practice. The preferred frequency of using this instrument was 3 months;

both groups of users stated that more frequent use would interfere with the therapy and less frequent seemed less useful. The art therapists mentioned that the SERATS was helpful in the evaluation of their patients. Discussing the results with patients was most helpful with patients who did not speak out easily or with who the therapeutic relationship was difficult. Art therapists mentioned that it stimulated awareness and reflection in the PD patients that matched well the treatment goals of the PD patients. A possible limiting factor therapists mentioned was the involved time investment. We stress the need for future research on the SERATS. When art therapists want to use the SERATS in PD treatment, we recommend to discuss the result with the individual patient to stimulate the therapeutic relationship and to stimulate PD patients in healthy interpersonal functioning and cooperation in decision-making concerning their own treatment process.

In short, we developed the SERATS as a specific art therapy instrument measuring self-expression and emotion regulation in patients with PD cluster B/C. Measuring outcomes of art therapy is important for several reasons and the SERATS offers objective, reliable and valid information, although more research is needed. As an external assessment on art therapy, it offers an therapeutic value in practice when making use of the feedback in the therapeutic relationship, it makes it possible to monitor art therapy and contribute to quality improvement of art therapy. Doing so, the SERATS contributes to the improvement of mental health care aimed at a healthy emotional functioning for patients with severe self-expression and emotion regulation problems.

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