Art therapy & anxiety

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Chapter 6

Acceptance of anxiety through art therapy. A case report exploring how art therapy addresses emotion regulation and executive functioning

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Abstract

Anxiety is a major problem for many individuals, causing impairment in daily life. Art therapy is often deployed and although positive results are communicated in clinical practice, its effectiveness and working mechanisms have hardly been studied. Therefore, it is important to systematically describe the intervention process, to detect the working mechanisms to be able to evaluate them. Narrative case studies help to understand the intervention in more depth.

A typical case file was selected for case reporting according to scientific (CARE & CARE-AAT) guidelines, with the aim to explore the therapeutic elements that contributed to the reduction of anxiety. The report describes the intervention process of a 54-year-old female, suffering from anxiety since childhood and diagnosed with panic disorder, agoraphobia, claustrophobia and hypochondria.

After 14 sessions of anthroposophic art therapy, reduction of anxiety was shown, as well as improvements of emotion regulation and executive functioning. The client indicated that she became more tolerant and accepting towards her anxiety. She noted a softened attitude towards herself and her complaints, even one year after art therapy.

The course of treatment suggests that aspects of emotion regulation and executive functioning were addressed through implicit learning processes in different art therapy assignments.

Introduction

Anxiety disorders are one of the most common mental problems in the world (World Health Organization, 2018) and are characterized by convulsive patterns of taking and keeping control over life situations, for instance, avoidance of potentially fearful situations. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) distinguishes different types of anxiety disorders. The most common anxiety disorders are phobias, social anxiety disorders, generalized anxiety disorders and panic disorders (Anxiety and Depression Association of America [ADAA], 2018). People with a panic disorder experience recurrent and unexpected panic attacks, which can occur unexpectedly or can be brought on by a trigger, such as a feared object or situation. Panic attacks, the worry about panic attacks and the effort to avoid attacks, by avoiding places, situations or behaviours, cause significant problems in various areas of a person's life. It may e.g. include the development of agoraphobia: fear for situations outside the home, where leaving might be difficult or impossible (ADAA, 2018).

Spontaneous recovery of anxiety disorders is rare (Van Balkom et al. 2001). However, patients may benefit from treatment. Frequently provided and well-studied interventions are pharmacotherapy (PT) and Cognitive Behavioural Therapy (CBT). CBT aims to change maladaptive beliefs about the probability and magnitude of the anticipated harms by using behavioural (exposure) and various cognitive (e.g. altering dysfunctional thoughts) techniques (Hofmann & Smits, 2008; Smits, Julian, Rosenfield, & Powers, 2012). Despite the proven effectiveness of PT and CBT (Hooke & Page, 2006; Pohl, Feltner, Fieve & Pande, 2005; Hofmann & Smits, 2008; Kjenisted & Bleau, 2004), an estimated 30%–60% of patients do not benefit from these interventions and continue to suffer from anxiety after treatment (Heldt, et al. 2003; Tyrer, Seivewright & Johnson, 2004; Linden, Zubraegel, Baer, Franke & Schlattmann, 2005; Zou, Ding, Flaherty & Dong, 2013; Pelissolo, 2008; Katzman et al., 2014). Additionally, some people don't want to choose these types of interventions. Therefore, other interventions are deployed. One of these interventions is art therapy (AT). AT uses visual art exercises to elicit experiences and new insights and beliefs, with the aim to stimulate personal development and improve mental health (BAAT, 2019). AT has several variants, of which anthroposophic art therapy (AAT) is one. Anthroposophic art therapists work from a specific

holistic vision on the human (Kienle, Albonico, Baars, Hamre, Zimmermann, & Kiene, 2013). The central point in this approach is that the therapist does not focus on the primary symptoms of a person, but considers the individual as a whole of physical, psycho-social and biographical aspects. The therapy is aimed at gaining insight into the processes underlying the primary symptoms and aims to initiate a holistic healing process in which the client is enabled to actively work on his or her wellbeing, including the reduction of primary symptoms.

A common view is that people with anxiety are overwhelmed by their emotions because they cannot neutralize the emotions with helpful thoughts and because the mind is in a hyper-alert state (Beck & Haigh, 2014). Worry and rumination are often present in individuals with anxiety (APA, 2013), which anthroposophic art therapists characterize as 'a dominance of excessive and unproductive thinking', which should be reduced in therapy. According to Borkovec (1994) (as cited in Dar & Iqbal, 2014), worrying and verbal activity interferes emotional processing and prevents adaptive coping in individuals with anxiety.

An explicit goal of AAT is that the anxiety is not 'consciously' or cognitively addressed as this will keep patients in their 'thinking-mode', enabling worry and rumination. This gives rise to the hypothesis that AAT, applied through specific art assignments, may work via an 'unconscious', implicit route, aiming for the profound experience of e.g. colour, atmosphere, shape and dynamics. These experiences are referred to as 'impressions' in AAT and are believed to improve the self-regulating ability of the client (Christeller et al., 2000; Hauschka, 2004; Rolff & Gruber, 2015).

Although AAT is used in Western society and often clinically positively evaluated, hardly any research has been conducted into its mode of action. To date, one RCT on the effectiveness of AAT in women with anxiety disorders has been performed. The results are promising and show a significant reduction in level of experienced anxiety, compared to a waiting list condition (Abbing, Baars, De Sonneville, Ponstein & Swaab, 2019). From this study possible working mechanisms emerged: AAT may act through improvements in emotion regulation (strategies) and through improvement of executive functioning in daily behaviour.

To gain more insight in the AAT therapeutic process leading to the reduction of experience of anxiety and supposed improved emotion regulation and executive functioning, a case of a 54-old female is described in detail. The aim was to describe the AAT therapeutic elements, explore possible connections between these elements and improvements of emotion regulation and executive functioning. The CARE-AAT Guideline (Abbing, Ponstein, Hoekman,

Gruber & Baars, 2016), which is the CARE Guideline (Gagnier et al., 2013) with additional categories for AAT, was used for reporting. The case description is based on a case file filled by the therapist according to a CARE-AAT documentation method (Abbing, Ponstein, Hoekman, Van Hooren & Baars, 2018). This information was supplemented with information from interviews with the therapist aiming for substantiation of certain choices that were made during the process. The client was interviewed twice as well, first about four months after therapy and again one year later. With open questions she was asked to report on her experiences with the therapy, the exercises, the therapist, the process and possible changes that she experienced in health, wellbeing and daily life. Information that was gathered after the process is given in the case presentation in italics and between brackets. Information meant to give background information and or insight in the reasoning of the therapist is presented in italics.

The client agreed to participate in the anonymized description of her treatment. She signed an informed consent to approve of the collection of information during art therapy and approved of description and publication of this article.

Case Presentation

Client information

The case concerns a 54-year-old Dutch woman (referred to as Dewi[3]). Dewi is highly educated and works as an official at a municipality in the Netherlands. She lives together with her husband and their two children. She is neat and punctual (in clothing and time).

Dewi experienced a stressful period in her life around the age of five or six, when she was locked on purpose in a small room several times. In her early twenties, she experienced a panic attack in a train which quickly developed into fear of being trapped. This gradually expanded from just fear for trains, to fear of driving a car, fear of elevators and fear of walking alone outside and losing her orientation. She actively tried to cope with her anxiety by allowing herself a time out, using only slow trains (to be able to get out sooner), and asking somebody to accompany her while she was driving a car. A few years after the onset of the anxiety

[3] Dewi is a fictitious name.

symptoms, Dewi received rational emotive therapy which did not result in improvement, to her opinion.

Over the last 15 years, she also developed fear for becoming ill and not being able to care for her children. Four years ago, she received another treatment for her anxiety, psychotherapy wiith EMDR (Table I, timeline). In her vision, this resulted in more insight in the cause of her anxiety but did not reduce her anxiety symptoms.

On voluntarily application for AAT Dewi suffered from anxiety, which she characterizes as claustrophobia (especially in trains, cars and elevators), tension (distress) and hypochondria. She was looking for relief of these complaints, but had no specific expectations of the therapy.

Table I. Timeline of symptoms and previous treatments

Age	Symptoms and treatments
5/6	Anxious experiences in childhood (being frequently locked-up in a closet).
21 and beyond	Onset of panic attacks on the train, gradually increasing (only taking slow trains), expanding to fear of elevators (avoiding elevators), fear of driving (avoiding driving alone) and walking alone outside (fear of losing orientation and being lost).
23	Rational emotive therapy; no decrease of anxiety symptoms.
38 and beyond	Increase of symptoms after the birth of her children. Also, developing fear for becoming ill and not being able to care for her children.
50	Psychotherapy with EMDR: some improvements (more comprehension of the cause of the anxiety); no decrease of anxiety symptoms.
53	Applying for AAT with the following symptoms: panic attacks (fear of being locked-up and fear of losing orientation), claustrophobia and hypochondria.

Clinical findings and Diagnostic assessment

Symptoms of psychopathology were assessed prior to AAT using the Dutch version of the rater-administered Mini International Neuropsychiatric Interview Plus (MINI-Plus) (Van Vliet, Leroy & van Meegen, 2000). Based on these ratings Dewi met the criteria for panic disorder with agoraphobia and claustrophobia. She also had symptoms of hypochondria, but did not meet the criteria for this classification according to the MINI-Plus.

The Dutch versions of the Lehrer Woolfolk Anxiety Symptom Questionnaire (LWASQ; Lehrer & Woolfolk, 1983; Scholing & Emmelkamp, 1992), the MANchester Short Assessment of QoL (MANSA; Priebe, Huxley, Knight & Evans, 1999; Van Nieuwenhuizen, Schene & Koeter, 2000), the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) and the Behavior Rating Inventory of Executive Function for Adults (BRIEF-A; Roth, Isquith, & Gioia, 2005; Scholte & Noens, 2011) were used to assess Dewi's psychological functioning at the onset of

AAT (Table II). The scores showed high levels of anxiety symptoms (LWASQ) and high levels of difficulties with emotion regulation (DERS). Her quality of life (MANSA) was moderate and her problems in daily executive functioning (BRIEF-A) were in the clinical range; perceived behaviour regulation was in the subclinical range and metacognition was high in the clinical range.

None of these findings were shared with the art therapist as to not to interfere with the usual therapeutic process, which is usually without formal assessment of psychological functioning with questionnaires. The therapist only knew the three main complaints that Dewi shared with her: anxiety, tension and hypochondria. During the treatment the impact of these complaints was scored every week at the start of each therapy session by the client by the use of a visual analogue scale (VAS) (Davey, Barratt, Butow & Deeks, 2007, Figure 14).

Treatment plan

Dewi received 14 AAT sessions in total, of which one was an intake session at the beginning and one was the evaluation session at the end. The weekly sessions took place during a six month period and were approximately 1 hour in length each. Due to summer holidays AAT was temporarily discontinued for 8 weeks. The sessions are described in more detail below. Dewi was not treated with medication or any other form of therapy during AAT.

Treatment goals

The first session was aimed at the collection of personal and medium specific information. The first half of the session involved an intake, in which the therapist verbally assessed symptoms and medical, family, and psychosocial history, in order to gain comprehension of client's symptoms and background. This was followed by the making of a 'free painting', for diagnostic purposes (Huber, van der Elst and Riezebos, 2003, Verhoog, 2006). For the diagnostic painting the aquarelle painting technique (wet paint on dry paper) was used. The therapist presented ready to use suspensions of primary colours (red, yellow and blue) in water. Dewi was given complete freedom to paint, without any instructions. She painted quietly and attentively.

*Image 1. Free aquarelle painting***.** This painting served as the starting point for therapy.

The painting (Image 1) shows precisely and carefully placed stripes. The therapist, based on her education and experience, interpreted this as a 'controlled way of painting'. The controlled way of painting may indicate a dominance of 'thinking' or a hyper-alert cognitive approach to the art work, which is often seen in anxious people (Rümke, 2011; Beck & Haigh, 2014). *[Dewi experienced the assignment as too free and with little structure, which made her feel uncomfortable and a bit insecure about how to make the painting.]* Although Dewi worked in silence, the therapist noticed that the assignment made Dewi a little uncomfortable and decided to provide another exercise, as some session time was left.

For the second exercise, the therapist wanted to provide Dewi with a less control provoking technique and chose a more sensory exercise. She decided to use clay, because of the tactile sense that is addressed in clay work. Dewi had modelled busts and abstract forms before and was more familiar with clay. Now more precise instructions (to mould a sphere, Image 2) were presented. She enjoyed modelled the sphere and indicated that she preferred clay modelling to painting.

Image 2. Clay modelling of a sphere.

Based on the intake and the diagnostic painting (Image 1), the therapist concluded that hyper-alert cognitive schemas probably predominated in Dewi.

Dewi's symptoms indicated that the relation and interaction with the outside world is a source of distress (claustrophobia and agoraphobia). *Developing a realistic perception of the outside world and positive relationship with it, is an important treatment goal in AAT. Hyper-alert cognitive schemas are often present in individuals with anxiety, and hyper-alertness is related to high levels of arousal (Beck & Haigh, 2014). Anxious people often experience high levels of emotional intensity (Mennin, Heimberg, Turk & Fresco, 2005). The view in AAT is that this intensity can be addressed by learning to observe the outside world more objectively by visual and tactile methods. The physiological hyperarousal, that is associated with anxiety (Clark and Watson, 1991), is addressed in AAT by working on relaxation. Next to physiological hyperarousal, anxiety can be characterized by negative affect (Clark and Watson, 1991). People with high levels of negative affect tend to focus on the unpleasant aspects of themselves and the world, have negative expectations of the future and of other people (Watson & Clark, 1984; Jeronimus, Riese, Sanderman & Ormel, 2014).*

Based on the foregoing, the therapist set the following specific treatment goals for AAT:

(1) enhancing (inner) relaxation;
(2) releasing control mode and hyper-alert cognitive schemas;
(3) connecting to feelings;

(4) improving the objective observation of the outside world; and

(5) enhancing the (positive) interaction with the outside world.

Treatment plan

The therapist, based on her experience and observation of Dewi, anticipated that Dewi would be able to perform relatively simple and explicitly outlined art assignments without facing too much difficulty. Especially when known material (clay in this case) was used. In this way Dewi would be able to develop appreciative feelings towards AAT and would have time to positively relate to the therapist and would sooner be able to find relaxation.

Then, the therapist planned to put more emphasis onto treatment goals 2 and 4. The therapist chose to use charcoal for this purpose. *This material is natural in origin and is not suitable for work in much detail (which is believed to stimulate loosening of the 'control mode') and allows for various techniques that can be used to draw to the observation. With charcoal, it is also possible to explore the world of greys, which allows for the inner experience (impression) of grades of light and dark as opposed to the less nuanced mental judgement that anxious people generally have towards themselves, the anxiety symptoms and the outside world (negative affect) (Mees-Christeller, 1997).*

In the final phase of the therapeutic process, the therapist planned to bridge the return to a colorful daily life and to enhance positive interactions with the outside world. For this aim, soft pastels were used, *which allow for experiencing colour and a tactile experience of softness and warmth, because the chalk pastel is whipped out on the paper with the use of the fingers.*

Finally, the therapist wanted to exploit an encouraging and supporting therapeutic attitude. Being open for questions and actively interested in thoughts and feelings of Dewi during therapy but not aiming for the direct expression of emotions, nor for confrontation. The therapist would exploit a silent presence during the art sessions, in order to create circumstances in which Dewi could experiment, practice and experience. Too much talking can stand in the way of experiencing.

Explanations with respect to the choice of material and assignments were not given to Dewi as the therapist wanted to avoid Dewi to become hyper-alert and take conscious control over the therapeutic process. Thus, the therapist replied to Dewi's questions about this matter in terms of: 'this will become clear in a later phase' or 'the experience is more important than

the explanation'. Thus, the explanations given below are solely meant to enhance the understanding of the case and do not reflect conversation with Dewi at the time.

Therapeutic intervention

In the *second session*, again a sphere was modelled (image not shown). This served as a comforting assignment to Dewi as she had done this before. Next, Dewi was invited to transform the sphere into a different form. Emphasis was put on enjoying and experiencing the modelling process rather than aiming for a specific clay form. She was asked to hold the sphere in her left hand whilst gently transforming it with her right hand and modelling the clay near to the location of her heart. *In this way you cannot see what you are doing and you are mainly dependent on touch/ tactile senses. This is believed to prevent excessive mental control over the modelling process* (Hoefsloot, 2007).

At the end of the session, the modelled form was drawn to the observation . Charcoal was used and the emphasis was given to the correct representation of the form, not in detail but in terms of proportions and shades of light and dark. *The aim of this exercise was to invite Dewi to release some hyper-alertness by concentrating on the correct observation in an unfamiliar manner: not looking at details and not using own cognitions (drawing what you think), but looking at the presence of light and dark areas, as shapes of their own.* The therapist provided technical support to reach this way of observation, the way to reach correct proportions and using the continuum between black and white to depict 3D. The resulting drawing is shown in image 3.

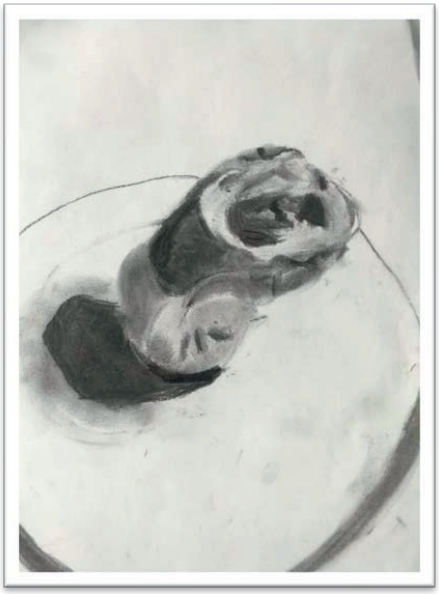

Image 3. Charcoal drawing of the form modelled during session 2.
Emphasis was given to the presence of light and dark, proportions and the correct representation thereof.

In the *third session* the modelled form of session 2 was used again as the object to draw according to observation. This time it was drawn 'in negative': now the form was left out of the drawing and the surroundings were drawn (Image 4). *Thus, a different way of looking at the form/ surroundings compared to the previous time was requested. This was done both to give Dewi comfort (by using known material and her own art object) and to challenge her with a new/ different way of looking at her modelled form, to create the possibility that Dewi could experience different perspectives and different ways of observing.* Dewi drew quietly.

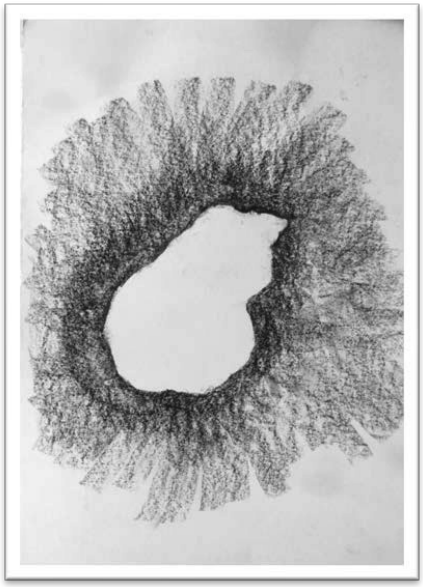

Image 4. Charcoal drawing of 'rest form'.

Some session time was left for another assignment employing charcoal drawing. This time the starting point of the drawing was abstract in nature. Dewi was invited to draw several randomly positioned squares of various proportions on a piece of paper. The squares were subsequently blackened as much as possible. Then two connecting lines were drawn between adjacent squares. Finally, the connecting planes were filled with a continuous gradient from black to white (Van den Berg, 2007).

Dewi liked to work with charcoal and devoted herself to the proper execution of the assignment. She succeeded in gradually changing the dark into the light (Image 5). Charcoal was on her hands and lower arms – much in contrast with her neat and punctual appearance. The therapist interpreted this as that Dewi released some of her control and hyper-alertness, really connected with the charcoal drawing and became in a flow state of mind.

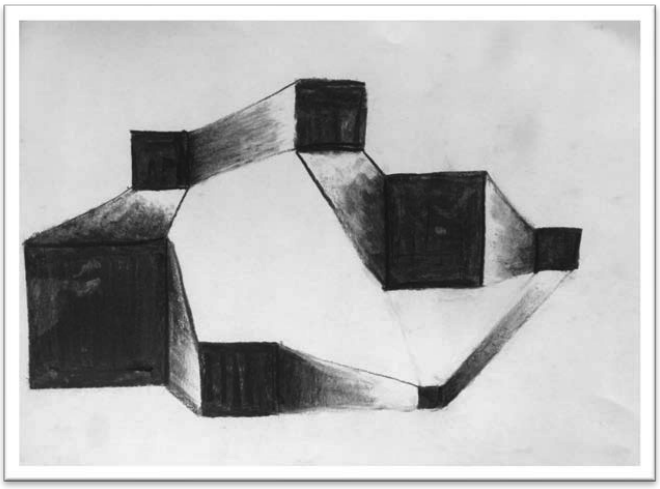

Image 5. Charcoal drawing of interconnected dark squares.
Emphasis was given to darkening of the squares and the gradual enlightening of the connections between the squares.

At the end of the session the upcoming summer break was brought up by the therapist. She asked if Dewi was interested in suggestions for artistic exercises at home. Upon approval, the therapist suggested to continue drawing from observation (and emphasize the correct representation of size, proportions and tones of light and dark) using charcoal, as in therapy. Also, the copying of black and white portrait photographs was suggested and finally, the use of soft pastels in copying impressionistic art (e.g. Monet).

In the *fourth session* the copying of a portrait photograph (from a newspaper) was performed to illustrate an earlier suggestion for the summer break. Dewi was reassured and challenged as well during the art work: the use of known material and working to the observation were to comfort her. Copying the photograph in upside-down position was meant to challenge her and to build further on the process of experiencing new ways of observing (initiated in sessions two and three). The therapist again de-emphasized convulsive detailed drawing and stimulated the observation and representation of the larger image with dark and light areas and shades of grey.
At the end of the drawing process the drawing (Image 6) was turned and compared to the original. Dewi was surprised and thrilled to learn that the copy drawing looked like the original photograph.

*Image 6. Charcoal copy of a photograph***.** Emphasis was given to the observation and drawing of different forms and planes and different shades of grey by turning the photograph upside down.

A summer break of six weeks followed. Dewi bought some art materials, performed some art work and practiced observation of objects.

The therapy was resumed in the *fifth session* with a basic exercise in the field of black and white encounters (Mees-Christeller & Mees, 2005). Dewi was invited to darken the bottom of a drawing paper with charcoal and to 'dissolve' the darkness into the light whilst working upwards. The dark bottom was to be convex in nature. *This was done to give Dewi the (unconscious) feeling of being supported, to further build on a feeling of safety and create circumstances to experience (inner) relaxation*.

Dewi devoted herself to the art work intensely and silently. It was difficult for her to create a black, convex bottom. The therapist noted that it was difficult to get insight in Dewi's experiences during the drawing exercise. The therapist records that she had the impulse to raise questions (which she had not had before) but that Dewi's answers were unclear and not fluently given as if she rejected to the conversation. Dewi didn't finish the drawing.

The *sixth session* was devoted to finishing the drawing. As in the fifth session Dewi experienced difficulties in drawing the bottom dark and diminishing the dark fluently into the light (Image 6). Again, it was difficult for the therapist to get an idea of the inner process Dewi went through as Dewi didn't voluntarily express her feelings and poorly answered questions raised by the therapist.

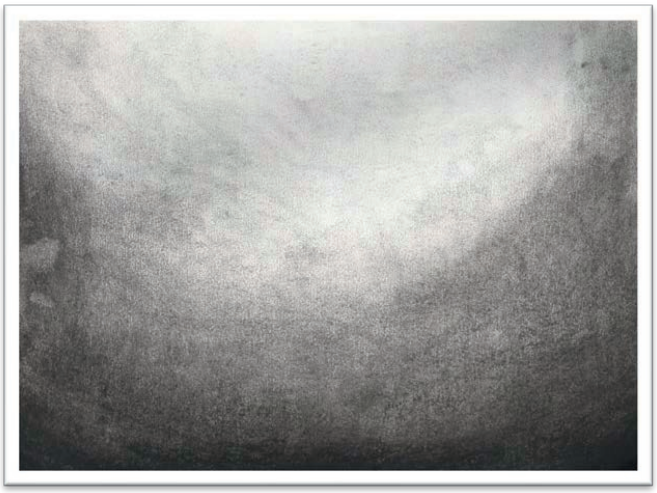

Image 7. Charcoal drawing. Emphasis was given to the fluent change in darkness from the bottom part of the drawing to the upper part.

At the end of the sixth session the therapist noticed that Dewi succeeded in the assignment, she appeared calm and relaxed, which the therapist interpreted as that she was ready for a next step in the therapy. The therapist decided to open up the possibility to address the period with some anxious events in Dewi's early life, although without the desire to openly address Dewi with the experiences. She rather wished to give Dewi the non-verbal possibility of re-engaging in the fear and the longing for comfort during and after the frightening experience (connecting to feelings, treatment goal 3). The therapist asked Dewi to bring a photograph taken in that period to the next session.

Dewi indeed brought a photograph of herself at the age of 6 in the *seventh session*. Without explicitly focusing on the feelings and experiences at that time, Dewi was invited to copy (and enlarge) the photograph in a charcoal drawing. Both the use of charcoal and the copying process were familiar to Dewi and therefore meant to be comforting. The use of a personal photograph was new and addressed the time in which the anxious events occurred. *The implicit purpose of the assignment was to connect with the emotions at the time the photograph was taken, in a safe environment, while feeling the technical and empathetic support of the therapist. Through art work one can distance from memories and emotions, in this case because one focusses on the observation of lighter and darker areas in the picture and tries to copy that as accurate as possible. During this process, it is also possible to gain a*

different connection with the child in the picture, e.g. more empathic, with mildness and understanding.

Dewi's attention was withdrawn from possible negative feelings associated with the photograph by addressing a novel drawing technique using charcoal. She was invited to start the drawing process by darkening the whole drawing paper. Then, she was instructed to use an eraser to give form to the bright spots and planes of the photograph. Shades in black and white were achieved by changing the intensity of erasing. If too much charcoal was removed 'normal' charcoal drawing was used.

The exercise was technically challenging. In the beginning Dewi was unable to concentrate and did not know how to start. The therapist guided and assisted her in the process. She led her through the correct observation of planes and shades in the photograph, towards the correct representation of young Dewi in the drawing. The support helped Dewi to overcome her initial reservation and to engage in the exercise. Slowly but surely, she understood the novel drawing process and started 'to draw with an eraser'. Dewi worked quietly. The therapist experienced Dewi's unspoken wish not to be disturbed whilst working.

At the end of the session Dewi spontaneously told that she experienced focus and flow during charcoal drawing. Negative thoughts diminished during the art work.

The copy of the photograph was not finalized after one session (no picture available) and had to be concluded in the *eighth session*. However, Dewi forgot to bring the original. A different assignment with charcoal and shades of black and white was therefore used instead (Image 8).

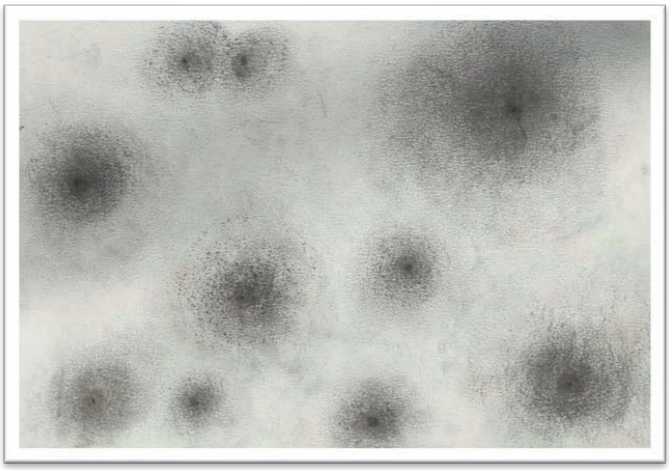

Image 8. Charcoal assignment. Black dots were placed randomly on a sheet of paper and were faded out to the periphery (van den Berg, 2007).

In the *ninth session* Dewi continued the copying process initiated in the seventh session. She was technically more capable of doing so. She succeeded in bringing nuances in the dark and became happy and proud about the result (image not shown due to privacy reasons) and her own drawing skills. Inner feelings were not explicitly expressed, and no conscious attention was paid to the shocking events either. However, the therapist noted that Dewi was at ease emotionally. At the end of the session Dewi comfortably spoke about the importance of being courageous in life.

The therapist then wanted to address Dewi's anxiety further and invited Dewi in the *tenth session* to envision a cave. She verbally described a cave with an opening through which light from the outside world entered, resulting in different tones of darkness in the cave. She invited Dewi to draw this mental picture using charcoal for the inside of the cave and soft pastels for the outside world. She also presented Dewi with photographs from the inside of caves to exemplify the changing light intensity.

During the art work, attention was fully payed to the transition of darkness (inside the cave) to lightness (nearer the opening of the cave and the outside world). Dewi made the dark-light transition before and in this way the assignment was comforting to her. *The theme of the drawing (experiencing the cave as a safe place and looking to (and later on engaging in) the outside world) was meant to (unconsciously) invite Dewi to positively engage in life (Philipse & de Vries, 2012).* This exercise was chosen in connection to treatment goal 4, enhancing the (positive) interaction with the outside world. The outside world appeared calm and still (Image 10).

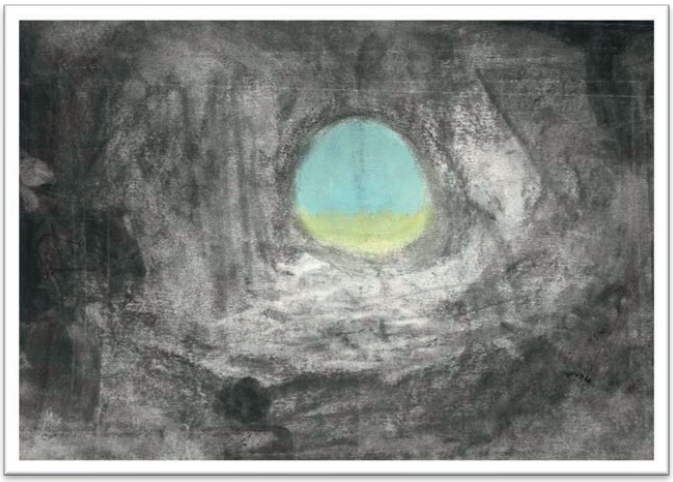

Image 10. Drawing of a cave using charcoal and soft pastels. The cave was drawn according to Dewi's own imagination.

In the *eleventh session* Dewi was invited to further explore the cave and the opening to the outside world by moving towards the cave entrance. Again, charcoal and soft pastels were used and photographs of caves were presented. Dewi could decide how fast she wanted to move from the depth of the cave to the opening. The therapist followed her pace, encouraging Dewi to look around in her cave and indicate exactly what she saw. The transition of dark into light imposed some problems, likewise, the correct use of perspective. The therapist gave technical support to overcome these problems as much as possible.

The outside world looked warm and inviting and Dewi's cave opening was larger than the previous time but she herself appeared to be safely, inside the cave (Image 11).

*Image 11. Drawing of a cave using charcoal and soft pastels***.** The cave was drawn from Dewi's own imagination. At the horizon, trees are visible and birds are present in the sky.

In the *twelfth session* Dewi was invited to even further explore the cave and the outside world by moving closer to the cave entrance (or even beyond). Again, charcoal and soft pastels were used. Again, problems with the dark-light transition and perspective were met which were overcome with technical support of the therapist. At a certain moment Dewi's focus changed from the inside to the outside. Dewi enjoyed the art work and appeared relaxed. Again, a relatively calm, bright and inviting outside world emerged (Image 12).

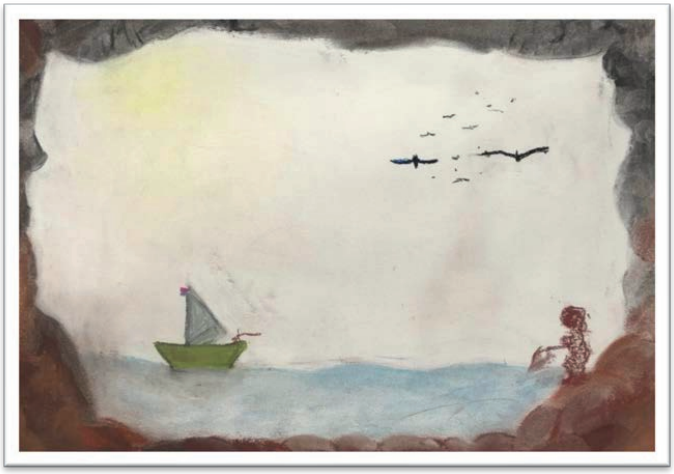

*Image 12. Drawing of a cave using charcoal and soft pastel***s.** The cave was drawn from Dewi's own imagination. Dewi indicated that the person on the righthand side was a fisherman's wife.

In the *thirteenth session* Dewi was invited to draw the outside world with soft pastels. Attention was paid to gradients of colour (lighter sea and sky nearer the horizon).
During art work Dewi focused on the reflection of the sun in the water and enjoyed herself. She admired the drawing and the outside world that she created, the space and the calmness (Image 13).

Image 13. Drawing of the world outside the cave using soft pastels. A sunset in the sea, with birds in the sky.

The *fourteenth and final session* was used to evaluate the therapeutic process. The therapist prepared an exposition of all work Dewi had made during therapy (Images 1 to 13) and used the art work as a starting point for reflection.

Dewi looked back at a process that she experienced as helpful. Working with charcoal had been new to her, but a great experience. She liked to draw and became calm doing so. She had worked with clay, charcoal and soft pastels at home but noted that it was more difficult to work at home than during sessions of art therapy. Art therapy had become a time and place to experience inner peace.

Follow-up and outcomes

Weekly scores of main complaints

Levels of anxiety, hypochondria and tension were measured at the beginning of each therapeutic session (VAS scale). Dewi gave one score for the average of the week (Figure 1). Tension gradually decreased from severe (7-8) in the first four weeks of therapy to mild (2-3) in the last four weeks and fluctuated in between. Hypochondria increased after the first two sessions and dropped after the fifth session to a level slightly lower than at the beginning. Anxiety was moderately severe at the beginning (6) and fluctuated between sessions between 3 and 6 for unknown reasons. In the final weeks of art therapy anxiety diminished to mild (2-3).

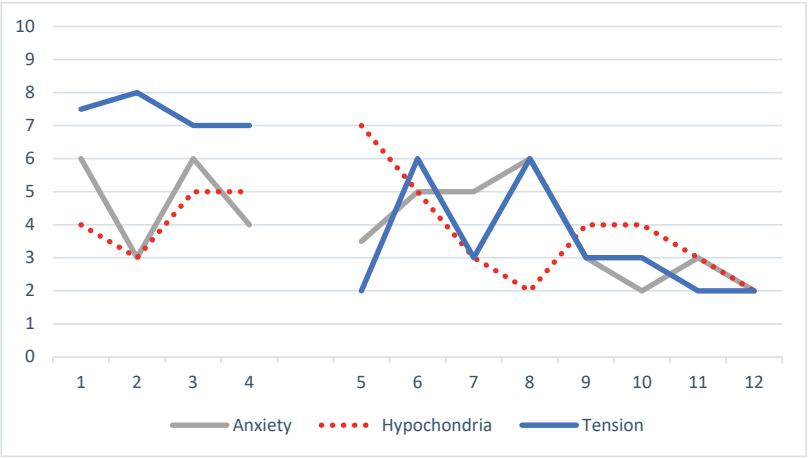

Figure 1. Weekly scores of Dewi's major complaints in time. Scores were given at the beginning of every session with respect to the experienced levels of anxiety, tension and hypochondria the week before scoring. 0: not present, 10: highest level thinkable.

Outcomes of anxiety, quality of life, emotion regulation and executive functioning

After AT (T1) the same measures as those prior to AT (T0) were used to quantify symptom severity. The outcomes are presented in Table II. Graphs for each of the measures were constructed and compared to norm scores (Figure 2) (LWASQ: Scholing & Emmelkamp, 1992; DERS: Gratz & Roemer, 2004). A clear decrease of anxiety symptom severity is shown. On all subscales (somatic, behavioural and cognitive) the scores after therapy approach norm scores in the healthy population (Table II). Subjective quality of life improved only by 2 points and a difference of at least 4 points is considered to be a reliable improvement (Van Nieuwenhuizen, Jansen-de Ruijter, Nugter, 2015). This suggests that the experienced quality of life was apparently not influenced during therapy (Figure 3).

Dewi experienced less difficulties in emotion regulation after AT. The outcomes indicate improvements in *clarity of emotions*, *impulse control*, *acceptance of emotions*, *access to emotion regulation strategies* and *goal oriented action*. *Access to emotion regulation strategies* improved the most and approaches the mean of the normal female population (Table II; Figure 2; 3).

The total score of daily behavioural executive functioning (EF) improved, but remained in the clinical range. All domains of EF improved, except for *task evaluation* which showed no changes (Table II; Figure 4). *Inhibit* and *self-monitor* improved from subclinical to normal scores. *Shift* and *emotion control* improved but were already in the normal range. All other

domains (*initiate, working memory, plan/organize* and *organization of materials*) improved, but these scores remained in the clinical range (Figure 3; 5).

Table II. Outcomes of self-report measures at T0 (prior to art therapy) and T1 (after art therapy)

	T0	T1	Interpretation
			Norm scores [mean (SD)] in adult population (n=103)
Anxiety (LWASQ total)	**82**	**64**	**62.0 (15.9)**
Somatic (physical aspects of anxiety)	33	24	23.5 (7.1)
Behavioural (avoidance)	21	17	16.1 (6.0)
Cognitive (worry and rumination)	28	23	22.4 (6.7)
Quality of life (MANSA)	**63**	**65**	**64/65**
			Norm scores [mean (SD)] in female population (n=260)
Difficulties in emotion regulation (DERS total)	**112**	**87**	**77.99 (20.72)**
*Lack of **clarity** of emotions*: the extent to which individuals know (and are clear about) the emotions they are experiencing	15	13	10.61 (3.80)
*Lack of **awareness** of emotions*: inattention to and lack of acknowledgement and awareness of emotional responses	13	14	14.34 (4.60)
*Difficulty in controlling **impulses***: difficulties remaining in control of one's behaviour when experiencing negative emotions	24	17	10.82 (4.41)
***Non-acceptance** of emotions*: tendency to have negative secondary emotional responses to one's negative emotions, or non-accepting reactions to one's distress	14	10	11.65 (4.72)
*Limited access to emotion regulation **strategies***: belief that there is little that can be done to regulate emotions effectively, once an individual is upset	25	17	16.16 (6.19)
*Difficulties engaging in **goal**-directed action*: difficulties concentrating and accomplishing tasks when experiencing negative emotion	21	16	14.41 (4.95)
Executive Functioning (BRIEF-A total)	**79**	**71**	**T-scores**: <60: normal range 60-65: subclinical range >65: clinical range
Inhibit: ability to control impulses (inhibitory control) and to stop engaging in a behaviour	63	55	idem
Shift: cognitive flexibility, ability to move freely from one activity or situation to another; to tolerate change; to switch or alternate attention	54	46	idem
Emotional control: ability to regulate emotional responses appropriately	59	54	idem
Self-monitor: ability to keep track of the effect of one's own behaviour on other people	65	56	idem

Initiate: ability to begin an activity and to independently generate ideas or problem-solving strategies	80	70	idem
Working memory: ability to hold information when completing a task, when encoding information, or when generating goals/plans in a sequential manner	85	79	idem
Plan/organize: ability to anticipate future events; to set goals; to develop steps; to grasp main ideas; to organize and understand the main points in written or verbal presentations	86	80	idem
Organization of materials: ability to put order in work, play and storage spaces (e.g. desks, lockers, backpacks, and bedrooms)	86	77	idem
Task evaluation: ability to check work and to assess one's own performance	79	79	idem

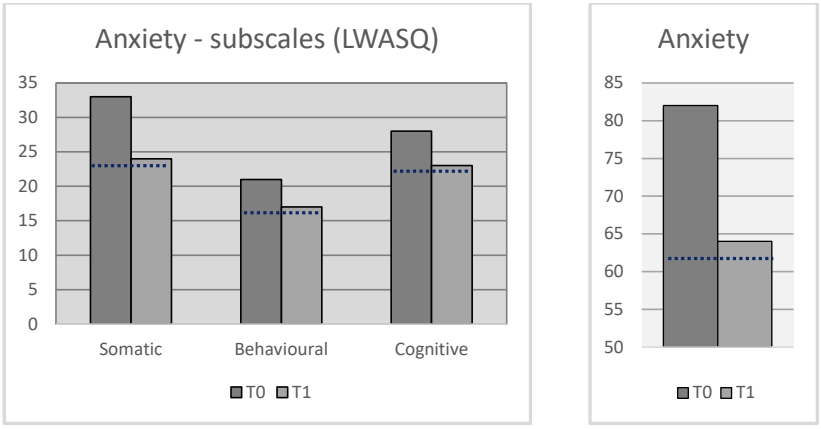

Figure 2. Outcomes of anxiety. Scores of Dewi are shown at T0, prior to therapy; and T1, after art therapy. The dotted black line represents norm scores in healthy population (n=103) (Scholing & Emmelkamp, 1992).

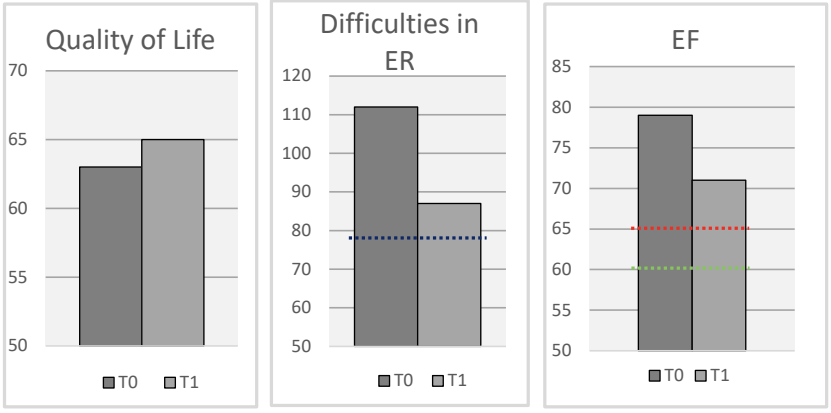

Figure 3. Outcomes of Qol, ER and EF. Scores of Dewi are shown at T0, prior to therapy; and T1, after art therapy. The dotted blue line represents norm scores in in female population (n=260) (Gratz & Roemer, 2004); The dotted green line represents normal T-scores (<60); the dotted red line represents clinical T-scores (>65). Area between the lines is subclinical range (60-65).

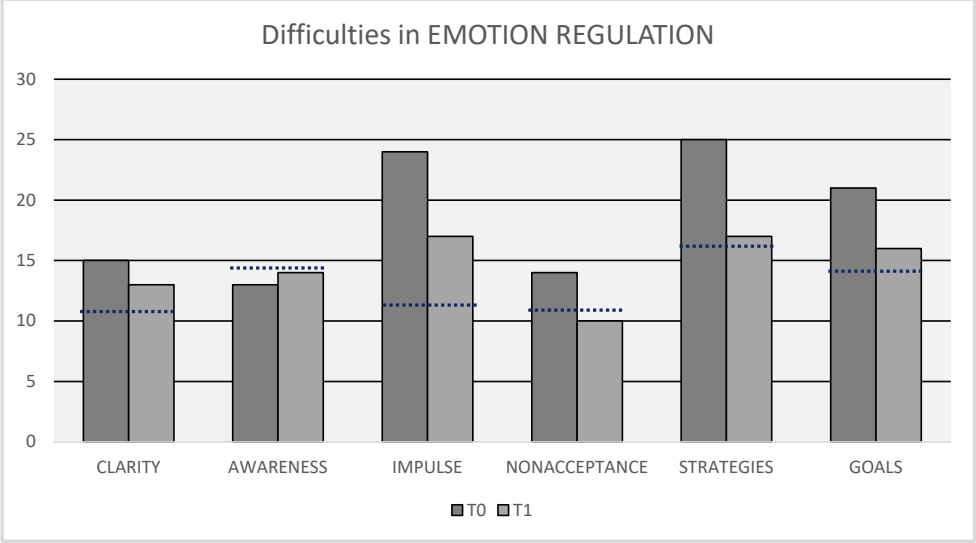

Figure 4. Subscales of DERS. Scores of Dewi are shown at T0, prior to therapy; and T1, after art therapy. The dotted line represents norm scores in female population (n=260) (Gratz & Roemer, 2004).

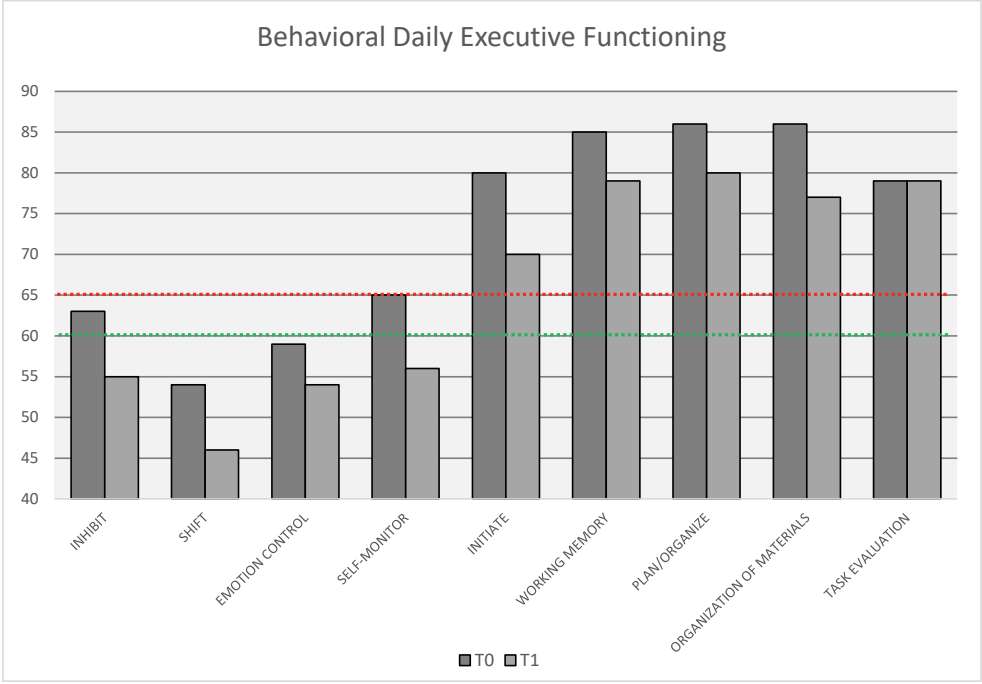

Figure 5. Subscales of BRIEF-A. Scores of Dewi are shown at T0, prior to therapy; and T1, after art therapy. The dotted green line represents normal T-scores (<60); the dotted red line represents clinical T-scores (>65). Area between the lines is subclinical range (60-65).

Therapist perspective on outcome

The therapist noted, next to the above-mentioned themes, that the interaction between Dewi and herself became more and more relaxed during therapy. She is quite confident about the positive effect of the art work on Dewi's health status both from her own observation and Dewi's verbal reflections in sessions and the evaluation.

Client perspective on outcome

About four months after therapy Dewi was interviewed by one of the researchers. With respect to her initial complaints Dewi noted that the intensity of her anxiety was reduced. She was still claustrophobic but was better able to handle it. Hypochondria had improved by 70 to 80%, to her own opinion.

With respect to art work she noted that she had overcome her initial resistance of not being able to draw. She had had some experience with clay work and sculpting, but not with drawing. She enjoyed *"playing with light and dark"* with charcoal. She found it hard to work with her own childhood photo. It brought back feelings of loneliness that she experienced at that age. But "*by drawing it, you distance yourself from it, from the feelings and the meaning. You look at it and draw that*."

She experienced AAT as very pleasant. Working on the art assignments stopped her thoughts. She indicated that she was just busy looking and figuring out what to do. To be present in the moment made her experience peace and concentration, "*it was almost as meditating, and it helped me to relax. In this way it contributed to soften my feelings towards my anxiety".*

Moreover, the different way of looking at/ observing reality, as experienced during AAT, had given her the insight that it is a choice to focus on the shadow instead of the light. In daily life she spent less time anticipating for threatening situations than before AAT. She became less evasive for confrontations with fear or panic.

She experienced AAT as demanding but in a completely different way than verbal therapies: *"Verbal therapy is hard work. You have to dig into yourself so much. You do not always feel like opening up, sometimes you just don't feel like it, or it is quite tough. With art therapy it is also hard work, but in a different way. You can lose yourself for a moment in what you are doing. Art therapy, in my opinion, addressed relaxation. I was not really concerned with my emotions, but much more focused on 'making it flow'."*

AAT did not demand to explore emotions, didn't request correct wording, but gave a sphere of serenity and comforting silence in the presence of a caring, well prepared, to the point and clear therapist, according to Dewi.

A year later (March 2019), Dewi was interviewed again and she indicated that, looking back, her total attitude towards her anxiety had softened. "*I really saw a development in the drawings, working towards something. Working towards myself (child photo), recalling moments. As if it opened. Just like the end of a tunnel. It felt like softening. And cheerful, light-weighted. That there was light at the end of the tunnel. Softening to myself, less hardness to myself. Maybe the fear is not gone and it never goes away completely, but that's okay. Everyone has something, I can take the time. I experienced relaxation through realizing that.*"

The claustrophobic complaints are still present, but to a limited extent. Her judgement about her anxiety changed into a more lenient attitude towards herself and her anxiety, which makes it less stressful and easier to cope with. The hypochondria symptoms are sometimes present, but less overwhelming than before. Sometimes the symptoms occur and then she goes to her GP for reassurance. Also here, she is more able to put experiences in perspective and to accept emotions as being temporarily. She can easily talk about her process and sharing with her husband and other people has proven to help. She asks for support when needed.

Connection of therapeutic elements to improvements of ER and EF

The careful, thorough and empathetic observation of Dewi and the trained individual-oriented decision-making by the art therapist is key to the design of the therapeutic process. The most prominent improvements (Figures 3 and 4) were measured for emotion regulation (ER), of which *acceptance of emotions, access to ER strategies* and *goal-oriented action* approached the norm scores. Executive functioning (EF) did improve as well, but remained overall in the clinical range, except for *inhibition* and *self-monitoring*. The therapist did not explicitly aim for either of the outcomes.

Based on the data, we explore now how the therapeutic elements (techniques, material and or specific assignments) may have contributed to the observed effects. With respect to ER the question is: how did art work improve *goal-oriented action, access to ER strategies* and *acceptance of emotions*?

Goal-oriented action is probably trained as clear goals were set by the therapist at the beginning of all sessions. The art work focused, amongst others, on achieving the goal and had

to be performed in a pre-determined way. It is assumed that this unconscious addressing of goal-oriented action improved during art work through analogue processes (Smeijsters, 2008), the experience of working towards a goal was applied to other situations in life. Analogy is thought to occur between the non-verbal processes in the visual medium and non-verbal psychological regulatory processes (Schweizer, Bruyn, Haeyen, & Henskens, 2009).

The same applies for *access to ER strategies*. This is, in essence, the request of a multitude of ways to respond to a certain situation. In this case it is addressed unconsciously / implicitly by the multitude of ways to work with charcoal (images 3, 4, 6 and the personal photograph) and the different types of assignments (working to the observation in images 3, 4, 6 and the personal photograph; abstract work in images 5, 7 and 8 and visionary work in images 10-13). The experience of using charcoal in different ways is supposed to enhance flexibility and creativity. *Acceptance of emotions* has probably received (in)conscious attention in sessions 7 and 9 and in the cave series (images 10-13). Although it was not explicitly mentioned, it seems likely that Dewi experienced several emotions in the indicated sessions. By focusing on the art work she was able to support herself and accept her emotions.

The content of the therapeutic process can also be linked to improvements in executive functioning. The subscales *inhibit* and *self-monitor* showed improvements from (sub)clinical range to normal range. Overall, specific skills were practiced during the artistic exercises. These exercises were not only intended to provide experiences and insights within a safe environment, but were also intended to practice skills, which are related to aspects of executive functioning: e.g. practicing observation, concentration and restraint. *Inhibition* is presumably trained in the various assignments in which gradual changes from black to white were explicitly made (images 4, 7, 8, 10) and the various assignments that aimed for the correct presentation of reality (images 3, 4, 6 and the personal photograph). These exercises require focus and inhibition of impulses, because strict rules must be followed to accomplish the art exercise. Dewi experienced focus and concentration during the assignments. *Self-monitor* is defined as the ability to keep track of the effect of one's own behaviour on other people. A connection between working on this skill and the content of the therapeutic process is not obvious in the description of the sessions, and therefore cannot be hypothesized from these data.

Conclusions on outcomes

The therapeutic process consisted of a specific series of technical steps and assignments that were thought to be both therapeutically meaningful and interesting (comforting and challenging in an acceptable balance) to Dewi, to allow her to accomplish the tasks and gain self-confidence. The consequent use of charcoal was meant to give support and a feeling of safety (predictability) in the therapeutic setting. The different techniques were chosen to challenge Dewi leading to a feeling of confidence when mastered. The treatment goals were not verbally or consciously addressed, but implicitly through the art assignments.

The first treatment goal - enhancing (inner) relaxation - was achieved. Dewi indicated in the interviews that she experienced peace and relaxation during art work, and relaxation in general. The second treatment goal - releasing control mode / hyper-alert cognitive schemas – seems to be achieved as well, because Dewi indicated that she could lose herself in the art work. The third treatment goal – connecting with feelings – was addressed through the series of 'cave in landscape' drawings, by which Dewi could experience a dark, small place as a (inner) safe place in connection to a bright, calm and friendly outside world by Dewi's own imagination, as a gentle, 'exposure'-like experience. The outcomes of the questionnaires show improvements in emotion regulation, of which *acceptance of emotions* improved into the normal score range. For accepting emotions, it is needed to be connected to the emotions first. This suggests that the third treatment goal was achieved as well.

The fourth and fifth treatment goals - improving the objective observation of the outside world and enhancing the (positive) interaction with the outside world - were achieved through (subconscious) training of objective observation skills during art work. Drawing from observation is thought to improve more objective observation in everyday life. This may have resulted in this case in a more objective observation of situations causing panic, more confidence that these situations can be handled and consequently a more open mind towards potentially anxious situations and subsequent behaviour.

Discussion

The aim of this case report was to describe a typical AAT intervention process and to explore possible connections between therapeutic elements and improvements of emotion regulation and executive functions, contributing to anxiety reduction.

The specific case of Dewi suggests that AAT resulted in anxiety symptom reduction and improved emotion regulation and executive functioning. The description of the process, combined with the client perspective indicates that Dewi was treated in a safe and supporting environment allowing for relaxation and pleasure during art work whilst using and improving emotion regulation skills and executive functions. The description of the process illustrates that this learning process happened subconsciously (implicit) and not through conscious processes as in CBT.

Anxiety is known to be associated with poor emotion regulation (e.g. Mennin et al., 2005; Ziv, Goldin, Jazaieri, Hahn & Gross, 2013; Jazaieri, Morrison, Goldin & Gross, 2014; Diefenbach, Assaf, Goethe & Guerorguieva, 2016). Improving emotion regulation is connected to reduction of anxiety symptoms (Cisler & Olatnuji, 2012). Emotion regulation can be explicit or implicit (Gyurak, Gross & Etkin, 2011). The explicit process, demanding conscious effort and awareness (Gyurak et al., 2011) can be consciously influenced. AAT appears to have a different approach. The emphasis in AAT not on consciously addressing the cause(s) of the anxiety but on initiating a guided, implicit learning curve by experience, instead of guided, conscious reflection. The focus is more on improving implicit emotion regulation, which is thought to occur automatically in response to stimuli (Gyurak et al., 2011). The stimuli in AAT are the specific art assignments, aiming for the profound experience of colors, shapes and atmospheres and dynamics.

Our hypothesis is that this implicit route towards improving ER may lead to strengthening of implicit ER skills, but may evolve into explicit ER as well, through a cognitive process that is set in motion within the client. Further studies are needed to explore these hypotheses.

It is important to note that the content of this AAT treatment process is specific for this one client. Exercises are not to be generalized to other cases with comparable complaints by (untrained) therapists as differences between clients with respect to personality, personal

experiences, coping strategies, comorbidity, social support, personal preferences for materials and assignments will influence the effect of each AT exercise.

To further substantiate the role of the therapeutic elements that were identified in this case, more case reports are to be studied. This will lead to more insight in the relations between art work and alterations in aspects of emotion regulation and executive functioning and hence to a better understanding of the mechanisms, and thus the art therapy specific factors by which the therapy exerts its effects. As a result, the construct of AAT will become more clear and comprehensible, and subsequently the specific factors can be tested in effectiveness studies.

Strengths and limitations

This case report is the first to describe an AT treatment process based on prospective data collection and according to scientific guidelines (Gagnier et al. 2013, Abbing et al. 2016). It provides a detailed insight in the treatment process of AAT for anxiety, for the first time supplemented by outcomes of pre- and post-measurements, and an exploration of possible connections between therapeutic elements and improvements of emotion regulation and executive functions.

The quantification of complaints allowed for the comparison of the severity of complaints before and after AAT and thus for more precise judgement of therapeutic effects than earlier AAT case reports (e.g. Solheim, 2002a, 2002b). The quantification of ER and EF opened the possibility to compare improvements with therapeutic elements (material, technique, assignment etc.) and to start studying the (or a) mode of action of AAT (2.3.6). This has not been possible earlier due to the lack of data.

Unfortunately, it was not possible to create a complete description of the process. Although the therapist was requested to carefully document all stages in the process (Abbing et al. 2018; Abbing et al. 2019), some information was lacking from the therapist file. For instance, arguments that were used to select the specific assignments were not provided, the professional attitude per session was not documented and notes on Dewi's daily life experiences (between sessions) were not present in the case file either. It is therefore recommended to interview the therapist after each therapeutic session and or video-tape all sessions. However, this will not be possible in all cases and may also influence the normal course of therapy.

Takeaway message

This case report provides insight in the route along which AAT may have led to anxiety reduction through specific art assignments. By implicitly addressing aspects of ER and EF, ER and EF were improved and anxiety symptom severity was reduced. The process by which AAT improves ER and EF may differ from the process by which verbal therapies, such as CBT, exert its actions. Future studies should address the question whether AAT may complement or may be an alternative to CBT in specific patient subgroups, or may be suitable for patients that do not (sufficiently) respond to CBT.

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