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*A feasibility study*

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**SPECIAL ISSUE**

Guided Imagery and Music: Contemporary European perspectives and developments

## Article

## Trauma-focused group music and imagery with women suffering from PTSD/complex PTSD: A feasibility study

Gabriella Rudstam, Ulf Elofsson, Hans Peter Søndergaard,  
Lars Ole Bonde & Bolette Daniels Beck

**ABSTRACT**

Women who have been exposed to physical, psychological and/or sexual abuse, often with a history of childhood abuse and neglect, frequently suffer from post-traumatic stress disorder (PTSD) or complex post-traumatic stress disorder (CPTSD). However, the evidence-based treatments recommended for this population help only 50%, so there is a need to investigate complementary methods. In this study one such promising method has been explored: trauma-focused Group Music and Imagery (GrpMI). In a non-randomised clinical setting the feasibility of GrpMI and the suitability of chosen measurements were explored. Ten participants with PTSD/CPTSD were enrolled in the pilot study, five in each group. All participants completed the treatment. The primary outcome was symptoms of PTSD measured at pre-, post- and follow-up. The secondary outcomes were dissociation and quality of life. The results showed a decrease in PTSD and dissociative symptoms, and an increase in quality of life following treatment. This tendency was maintained at follow-up. An analysis of individual, semi-structured interviews with the participants after the termination of the treatment showed that the participants found the group treatment helpful and acceptable. Since the findings indicate that trauma-focused GrpMI has a positive effect on the psychological health of the women, a larger randomised controlled study is needed.

**KEYWORDS**

group music and imagery, expressive arts, post-traumatic stress disorder (PTSD), complex PTSD, treatment

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## INTRODUCTION

According to guidelines from the Swedish National Board of Health and Welfare (2016) and the World Health Organization (2013), evidence-based methods should be used with clients suffering from PTSD, i.e. primarily cognitive-behavioural therapy (CBT) and alternatively eye-movement desensitisation and reprocessing (EMDR). These approaches seem to be helpful for clients suffering from single-trauma PTSD, but for those who have been exposed to prolonged trauma, often from early childhood, there seems to be a need for complementary methods. Meta-analyses reveal that around half of PTSD patients make a recovery after treatment using one of these methods, but approximately 40% retain their PTSD diagnoses after having completed the treatment, and even those who no longer have a PTSD diagnosis still suffer from residual symptoms (Bradley, Greene, Russ, Dutra & Westen 2005).

Cloitre (2015) states that the 'one size fits all' approach to trauma treatment commonly suggested by guidelines is problematic. To help the patient groups that do not find improvement through the aforementioned therapy methods, including multiple-traumatised patients suffering from CPTSD, there is a need for development of, and research on, other treatment modalities. Indeed, in a recent meta-analysis of eight randomised controlled trial (RCT) treatment studies on PTSD in adult survivors of childhood sexual abuse, larger effect sizes were found in the sequenced,

multicomponent therapies (such as stabilisation followed by trauma-focused exposure), compared to the ones with TF-CBT only (Cloitre 2015). Furthermore, although the focus of the PTSD treatment research has mainly been on individual treatment, the effectiveness of group therapy for PTSD has also been demonstrated in a few studies (Watts et al. 2013). However, the number of group therapy studies is limited, and the effect sizes differ according to approach (Watts et al. 2013).

The need for further research regarding methods better suited for traumatised individuals not fully helped by CBT and EMDR approaches, and the specific need for group therapy research, are important impetuses for this pilot study of Group Music and Imagery (GrpMI) and expressive arts therapy in the treatment of adult women suffering from PTSD/ CPTSD.

## Clinical and theoretical background

### *PTSD and complex PTSD*

The criteria for PTSD, according to the DSM-V (APA 2013), are: The subject has been exposed to death or threat of death, serious injury, or sexual violence. These events occurred via (1) direct exposure to the event, or (2) witnessing the event, or (3) getting knowledge about an event involving family members or close friends, or (4) repeated or extreme exposure to aversive details surrounding the event. Persons afflicted with PTSD have not

integrated the experience; instead, they are in a state of cycling between hyper- and hypo-arousal, with intrusive re-experiencing (flashbacks) and avoidance/numbing. They have elevated arousal levels in the autonomic nervous system (ANS) and suffer from nightmares as well as concentration and memory disorders.

In instances of CPTSD, individuals have been exposed to prolonged, repetitive traumatic experiences - often from early childhood - with emotionally deficient care from parents or other guardians (Courtois & Ford 2009; Herman 2001). This implies more profound deficits in the personality structure, with difficulties in interpersonal relationships, changes in self-image, attention span and consciousness (dissociation), affect-regulation problems, impaired self-regulation (leading to medically unexplained somatic symptoms, somatisation), and deficits in systems of creating meaning (Van der Kolk 2015; Van der Kolk, McFarlane & Weisæth 1996). In the DSM-V, the CPTSD diagnosis is not yet included. The features that are proposed for the diagnosis of CPTSD are instead included in the PTSD diagnosis, thus expanding the diagnosis, "leading to a single disorder with multiple potential symptom profile types" (Karatzias et al. 2017: 186). CPTSD may also be diagnosed with PTSD plus a dissociative diagnosis: "dissociative subtype of PTSD" (Lanius et al. 2010). The International Classification of Diseases, ICD-11 (WHO), which is expected to be published in 2018, will include the diagnosis CPTSD (Karatzias et al. 2017).

Amongst patients referred for treatment to specialised units, CPTSD seems to be a common group (one quarter to one half of those with PTSD meet the criteria for CPTSD) (Karatzias et al. 2017).

### *Guided Imagery and Music*

In the 1970s, the American musician and music therapist Helen Lindquist Bonny developed a specific receptive music therapy model called the Bonny Method of Guided Imagery and Music (BMGIM). The client (also called 'traveller') listens to programmes of carefully sequenced selections of classical music for 30 to 50 minutes, while in an altered state of consciousness, with the aim of evoking and processing spontaneous inner imagery shared with a therapist (also called a 'guide'). The therapist carefully supports the client by asking open, non-directive questions to help the client stay

with, explore, and deepen the experience of the imagery. Simultaneously the therapist makes notes of the client's experiences during the music travel. The music-listening phase is usually followed by drawing (Bonny 2002; Bruscia 2002). Bonny also developed a group format where participants listen to a shorter piece (or sequence) of music without dialogue. The experience is then shared and processed in the group.

### *Modifications of GIM for trauma treatment*

BMGIM is often too powerful for a number of clinical populations (especially clients with PTSD that could be re-traumatised), so over time different modifications and adaptations have been developed (Grocke & Moe 2015; Meadows 2002). Modifications relevant for this study and their use in different research projects will be presented below.

### *Individual treatment*

Blake (1994) developed an individual modification of GIM for Vietnam veterans with combat-related PTSD in an inpatient program for PTSD at VA Medical Center. She called the approach Directive Imagery and Music, DIM. She described how she used directive guiding to help her clients to stay in the combat memory. After a specific traumatic memory was selected to be worked on, three to four pieces of music that matched the traumatic memory were selected. The music was chosen to accompany the experience and to build to a peak in line with the trauma memory. Blake preferred using 'new-age' music in the postlude; she found that new-age music allowed more separation from the emotions evoked by the traumatic memory than structured classical music. The purpose of music in DIM was to work through the specific memory and not to facilitate spontaneous imagery. In line with Blake, Gao (2013) presented a method of EMDR-based receptive music therapy that had a more direct trauma-processing approach, with directive guiding and focus on the traumatic event. He called it Music Entrainment and Reprocessing (MER). The method combined the framework of EMDR with the ideas of musical entrainment and imagination. The basic premise for the intervention was that traumatic information stored in separate neuronal networks needed to be connected with more adaptive neuronal networks in the individual's memory in order to promote integration and healing. In Gao's study with 56 clients suffering from PTSD, 19 reported no relapse at all. Most of

the clients in the study had single trauma. Maack (2012) compared treatment effect between the following four groups: women with CPTSD who received 50 hours of individual psychodynamic imaginative trauma therapy (PITT), women with CPTSD who received 50 hours of individual Bonny Method of Guided Imagery and Music (BMGIM), one waiting-list control group, and one group of women who had finished their GIM trauma therapy treatment at least one year before. The participants filled in questionnaires regarding: dissociation; PTSD symptoms; interpersonal problems; and sense of coherence before treatment, after 25 therapy hours, and after 50 therapy hours. The participants in the GIM group showed significantly better outcome than the PITT group, with very large effect sizes. Both groups had significantly better results in all scores than the waiting-list group. Another recent study that also showed promising results is a pilot study where 16 adult refugees with PTSD participated in 16 sessions of individual trauma-focused modified GIM (Beck et al. 2017). Results documented significant changes, with large effect sizes on PTSD symptoms, sleep quality, well-being, and social functioning.

### *Group treatment*

Like Goldberg (1994) and Blake and Bishop (1994), Körlin (2005) worked with groups within general psychiatry. These studies documented that GIM could be effective in addressing PTSD symptoms such as hyperarousal, intrusion and constriction, as well as in fostering empowerment and reconnection. Goldberg developed a method called Music and Imagery (MI) and the group format was called Group Music and Imagery (GrpMI). She shortened the music-listening phase and used much more structured and supportive music than in ordinary BMGIM (Goldberg 1994). Blake and Bishop developed a similar group format with short relaxation; participants remaining in a sitting position, with a short duration of music-listening without guiding. The participants could listen with eyes open, and draw, write or move while listening to the music. Körlin (2005) studied a specific group therapy format in an outpatient setting. The programme, named Spectrum, developed a multimodal creative-arts group format consisting of GIM, art, body awareness, psychodynamic, and occupational therapy groups. A variation was shown in the treatment results in the diagnostic subgroups; interestingly, the traumatised clients

showed better results in all the outcome measures compared to the non-traumatised patients (Körlin 2005).

Based on the assumption of the importance of breathing for dealing with too much arousal or dissociation, Körlin developed a method for dissociative clients called Music Breathing (MB). MB consists of four components: (1) Silent breathing for grounding, (2) MB for grounding where music was introduced as a support for the breathing, (3) MB for dissociation where dissociation and flashbacks that interfered with the breathing were addressed, and (4) MB for Integration (Körlin 2009). Rudstam (2010a, b) used MB together with GrpMI in a qualitative study with stabilisation groups for severely traumatised refugee women. The results showed that music helped the participants in regulating excessive arousal levels and building safety. The women continued to use the music at home for self-care.

Wärja and Bonde (2014) developed a taxonomy of therapeutic music, categorising types of music used in receptive music therapy. In Wärja's adaptation of GIM called 'Korta Musikresor' (KMR, Short Music Journeys), short pieces of music (two-six minutes long), both non-classical and classical, are used. The music in KMR belongs to the three supportive music subgroups of the music taxonomy presented by Wärja and Bonde (2014): (1) the secure and holding field, (2) the secure and opening field, (3) the secure and explorative field. The music was intended to provide holding, support and safety, however with some dynamic variation and vitality to allow the development of imagery and body sensations (Wärja 2015). Bonde and Pedersen (2015) presented a study with GrpMI in the rehabilitation of adult psychiatric outpatients. They used more challenging music from the second group of the taxonomy, namely music with a 'mixed-supportive-challenging' profile (Wärja & Bonde 2014). The study showed that the more challenging music could be used with relatively well-functioning psychiatric outpatients (Bonde & Pedersen 2015).

Koelsch (2009) stated in a review of studies using functional neuroimaging that music can modulate activity in limbic and paralimbic brain structures involved in the initiation, generation, maintenance, termination and modulation of emotions. These findings have implications for the use of music in the treatment of PTSD where there is a dysfunction of limbic structures such as the amygdalae, and paralimbic structures such as the



orbitofrontal cortex. The rewarding effects of music are reflected in responses in the nucleus accumbens (NAc) and ventral tegmental area (VTA) with the release of dopamine (Menon & Levitin 2005). Listening to pleasant music seems to evoke physiological reactions and feelings of reward that can have effects on PTSD symptoms where there is a need for regulation of negative affects and excessive arousal levels and for building resources and safety. In order to understand how music can be effective in helping a trauma population, a theory of arousal is needed.

### *Polyvagal theory*

Steven Porges provided a theoretical background for this study with his polyvagal theory (Porges 2011). The polyvagal theory proposes that the autonomic nervous system (ANS) in mammals and humans consists of three branches: the sympathetic branch, the ventral vagal parasympathetic branch, and the dorsal vagal parasympathetic branch. The ventral vagal complex is active when we are socially engaged and feel safe. The sympathetic branch stimulates mobilisation for fight-or-flight. The dorsal vagal complex helps in shutting down the system to use immobilisation as defence, such as in playing dead/total submission. To help reduce the dorsal vagal influences, which are accompanied by feelings of helplessness and powerlessness, the client needs help to slowly release the active defences (such as fight and flight), and to stimulate the social engagement system (i.e. the ability to relate to self and others, feeling safe, calm, curious, and playful) (Levine & Mate 2010). As intrusive memories (flashbacks) often are perceived as happening in the here and now, the client needs help to get unstuck from and to clear the traumatic memory, thus starting to understand that it happened in the past and not in the here and now. In order to facilitate this process, the music used in GrpMI sessions has the potential to create safety and to build strength, thus helping the client to access and tolerate feelings.

Inspired by Porges, physiological measurements were applied in this study to try to identify any changes in the flexibility of ANS, and to measure whether the activity in the ventral vagal (social engagement) had increased. One way to explore the client's ability to recover and to access the ventral vagal complex is to analyse the heart-rate variability (HRV) (Porges 2007). Physiological

measurements were included to complement and triangulate the self-report questionnaires and interviews.

### **The aim**

The aim of the study is to explore the feasibility of GrpMI together with expressive arts in a trauma-focused group therapy for adult women suffering from PTSD/CPTSD. The study investigated and explored the suitability of the treatment for this population, and whether it could result in any decrease of PTSD symptoms and an improvement of health. Group treatment for this population has been questioned due to the risk of re-traumatisation (re-experiencing trauma with uncontained hyperarousal or hypoarousal, thus experiencing all the terror, hopelessness, and desperation first tied to it) (Rothschild 2000), or thought to be less helpful than individual therapy (Bisson, Roberts, Andrew, Cooper & Lewis 2013; Boon, Steele & Hart 2011). Therefore participants' experiences of the group treatment were also explored.

### **Research questions**

The following research questions were formulated for the pilot study:

1. What is the feasibility of using GrpMI and expressive arts in group treatment for women diagnosed with PTSD/CPTSD?
2. What are the effects of the treatment intervention on PTSD symptoms, dissociation, and quality of life?
3. Is it possible to assess the capabilities for regulating ANS in this population through psychophysiological measures?
4. How do the participants experience the GrpMI and expressive arts sessions?

## **METHOD**

### **Design**

In order to answer the research questions, a mixed-method study in a Convergent Parallel design was applied (Creswell 2014). The pilot study recruited two therapy groups (ten participants, five in each group) to test the feasibility of trauma-focused GrpMI in a population of traumatised women. Restricting the participants to women enabled the

participants to feel safe (since the abusers often had been men), and to be able to mirror each other in accordance with current and emerging gender discourse. Self-rating scales were administered before and after treatment and at a follow-up, together with a physiological measurement during a script-driven imagery test in a pre-/post- and follow-up assessment.

## Setting

The two pilot groups were run at a trauma centre in Stockholm, Sweden (*Kris- och Traumacentrum Sverige AB, KTC*); one during autumn 2015 and the other during spring 2016. The study was approved by the regional institutional Ethics board, 1<sup>st</sup> July 2015.

## Participants

### *Recruitment*

The study recruited adult women diagnosed with PTSD/CPTSD who had a background of psychological, sexual and physical abuse, often from early childhood. They were selected from a database of individuals referred to the KTC for trauma-focused psychotherapy. KTC gets referrals from various sources; GPs, psychiatry, social services, and other practitioners. KTC takes in around 500 clients per year, of whom the majority (around 300 clients) are refugees with traumatic experiences (for example war, torture, or rape), others are Swedish citizens with experiences such as different forms of childhood abuse, sexual/physical abuse, domestic violence, car accidents, robbery, disasters, or traumatic losses. The typical treatment offered is exposure-based individual therapy (i.e. CBT, EMDR, and affect-focused psychodynamic therapy (PDT)) with psycho-educative features. Sometimes sessions are more supportive. The length of treatment is usually around 15-20 sessions and there is no payment. There is also an art therapy group and a yoga group at the centre.

The women recruited for this study were given information about the study and asked if they were interested in participating. Interested participants were diagnosed and screened for PTSD, CPTSD and dissociation, using interviews and the same scales as in the outcome-measures sections. A cut-

off of 10 on the SDQ-5 (see evaluation tools) was used to identify individuals that had too many dissociative symptoms to participate in the group treatment. The participants were then assessed for suitability by asking them to draw a lifeline, describe some of their positive and negative experiences in life, and participate in a short GIM session. This helped to assess if they were able to experience spontaneous imagery during music-listening, share these with the therapist, and process the imagery via drawing. It also helped indicate whether they were able to tolerate being exposed to trauma treatment and listening to other subjects' stories. The assessment was done by one of the two female group therapists. The participants signed informed consent at inclusion. Participants who were not included in the study were offered individual standard treatment at the clinic.

### *Inclusion criteria*

In order to be accepted into the study, potential participants should: (1) be suffering from PTSD/CPTSD, (2) be sufficiently stabilised to tolerate being exposed to trauma treatment and listen to other subjects' stories, (3) be able to speak good enough Swedish to express themselves without an interpreter, (4) have an interest in working with their problems using artistic languages, and (5) have an ability to work with symbolism and inner images.

### *Exclusion criteria*

The exclusion criteria were: (1) difficulties in understanding or making themselves understood in Swedish, (2) severe personality disorder or neuropsychiatric disorder, (3) ongoing alcohol or drug abuse, (4) psychotic disorder, (5) suicidality, (6) serious ongoing medical condition(s), or (7) serious psychosocial problems. If the participants were found to be potentially vulnerable or disruptive according to the exclusion criteria, or not interested in participating in group therapy with music and expressive arts, they were offered treatment as usual at the clinic.

The inclusion and exclusion criteria were assessed through the self-rating questionnaires, interviews (with the drawing of lifelines and short music journeys), and the presentation of the client in the assessment sessions.

## The intervention

### *Trauma-focused GrpMI*

The intervention, trauma-focused GrpMI, is a group adaptation of the original BMGIM designed to suit more vulnerable clients suffering from PTSD or CPTSD. The group met weekly for 12 sessions of 2½ hours' duration. The session protocol followed a flexible manual with different themes according to the process of the group. There were short psycho-educative elements around post-traumatic stress, dissociation, breathing, the triune brain, and inner images; i.e. the course of therapy was formed in a phase-oriented way (Hart, Nijenhuis & Steele 2006; Herman 2001; Van der Kolk 2015). The phases were: (1) stabilisation, (2) trauma-processing, and (3) integration (mourning the past and orientation towards the future). In all phases of therapy there was an emphasis on establishing safety, building resources, accessing playfulness, strengthening the social engagement system and re-establishing natural defences, in all a treatment strategy previously suggested to facilitate renegotiation (finding a novel imaginal solution to traumatic experiences) and release of active defences (Levine & Mate 2010; Porges 2011). The core element of every session was a music journey followed by art-making. The clients sat in chairs and after a period of relaxation, e.g. two-five minutes with a suitable focus for the session, the clients listened to music for two-ten minutes. The listening phase was mostly unguided, but on two to three occasions in each group there was what the GIM method calls a 'talk-over', an experiential phase during which a piece of music is accompanied by a guided narration. Thus a 'talk-over' utilises a guided visualisation during the music-listening phase consisting of different themes, such as meeting a helper on a path, finding comfort in a beautiful garden, etc. The talk-overs are metaphors designed to help clients get in contact with and explore inner images (Goldberg 1994; Wärja 2015). After the music journey, clients were invited to draw a picture of the experiences during the music-listening. The drawing and the experiences in the music journey were shared in the group. In some sessions there was further processing using musical improvisation, role play, writing, movement or storytelling.

## Evaluation tools

### *Self-assessment scales*

In order to measure whether or not the treatment had an effect on PTSD symptoms, dissociation and quality of life, all subjects filled in various self-rating scales before and after treatment, and again after three months (follow-up). The applied self-assessment scales were the Life Events Checklist (LEC), the PTSD Checklist for DSM-5 (PCL-5), the Dissociative Experience Scale (DES), the Dissociative Experience Scale Taxon (DES-T), the Somatoform Dissociative Questionnaire (SDQ-5), the Hopkins Symptom Checklist (HSCL-25), and the Positive State of Mind Scale (PSOMS).

The LEC elicits traumatic experiences that subjects are carrying (Gray, Litz, Hsu & Lombardo 2004), and gives an overview of which traumatic experiences the patient has gone through and indicates how disturbing these events may still be. The scale has 17 items; it shows excellent convergence with measures of psychopathology known to be associated with trauma exposure and has demonstrated "generally adequate psychometric properties" (Gray et al. 2004).

The PCL-5-measures PTSD symptoms, and the scale has 20 items (Weathers et al. 2013). PTSD Checklist-Civilian Version (PCL-5) is the updated version from the PCL-C. PCL-5 is based on the DSM-5 and has added three questions around negative self-cognitions compared to the PCL-C. The scale measures PTSD symptoms such as re-experiencing, avoidance, changes in the perception of self and others, and hyperarousal. The cut-off score in PCL-5 for the diagnosis of PTSD is estimated to be 31-33. The internal consistency is good (Cronbach's  $\alpha=0.96$ ) (Bovin et al. 2016).

The DES measures psychoform dissociation and has 28 items (Bernstein & Putnam 1986). From the DES scale, the DES Taxon (a subscale of eight items intended for the identification of severe dissociation) is utilised (Waller, Putnam & Carlson 1996). The cut-off score for a probable presence of a dissociative disorder is suggested to be 30, but according to Briere (2004) that must be interpreted with caution. The reliability and validity of the Swedish version is good, with a Cronbach's  $\alpha=0.87$  (Körlin, Edman & Nybäck 2007).

The SDQ-5 measures somatoform dissociation



(Nijenhuis, Spinhoven, van Dyck, van der Hart & Vanderlinden 1997). The SDQ-5 is a short version of SDQ-20 with five items (Nijenhuis et al., 1997). The recommended cut-off point is 8 for somatoform dissociation. Together with the DES scale, it measures both the psychoform and the somatoform dissociation, giving a broader picture of the dissociative symptoms. The SDQ-5 discriminates with good to high sensitivity between dissociative and non-dissociative psychiatric outpatients. Over 12 on the SDQ-5 indicates dissociative identity disorder (DID) (Nijenhuis et al. 1997).

The HSCL-25 is a 25-item scale that measures anxiety (HSCL-25-I: items 1-10) and depressive symptoms (HSCL-25-D: items 11-25) (Derogatis, Lipman, Rickels, Uhlenhuth & Covi 1974; Nettelbladt, Hansson, Stefansson, Borgquist & Nordström 1993) with Cronbach's  $\alpha=0.94$  (Glaesmer et al. 2014). The PSOMS measures quality of life (Horowitz, Adler & Kegeles 1988); it has six items measuring wellbeing, concentration, ability to relax and enjoy, having good relationships and taking care of self and others. The PSOMS has an acceptable high inner consistency, with Cronbach's  $\alpha=0.77$  (Adler, Horowitz, Garcia & Moyer 1998).

### *Data collection procedure*

The participants sat alone in the waiting room and filled in the questionnaires. They could ask the therapists for help.

### *Psychophysiological measurement*

The psychophysiological measurements were done on the same day as the self-rating scales were filled in; before and after treatment and at the three-month follow-up. It included heart rate (HR), skin conductance (SC), peripheral temperature (PT), muscle activity (EMG) and respiration (RSP). The measurements were taken during a 20-minute stress test in accordance to a variant of the script-driven imagery paradigm (Hopper, Frewen, Sack, Lanius & van der Kolk 2007; Pitman, Orr, Fogue, de Jong & Claiborn 1987; Sack, Hopper & Lamprecht 2004). In the test, two personalised scripts were presented: one peaceful memory or imagining of feeling safe and calm, and one traumatic memory. The scripts (two minutes in length) were prepared in advance by the participant together with the researcher. Results from the

psychophysiological measurement will be presented in a later publication, as data from the psychophysiological measures have been collected but not yet analysed.

### **Statistical analysis**

Time effects (pre-, post-, and follow-up measures) for quantitative data were analysed using analysis of variance (ANOVA) for repeated measures in the SPSS software environment (version 22, IBM, USA). The normality assumption was first tested using the Kolmogorov-Smirnov statistic with Lilliefors Significance Correction. DES-T and SDQ-5 were found to violate the assumption of normality and therefore square-root transformed before the ANOVA. Effect sizes pre-post and pre-follow-up treatment were assessed by calculating Cohen's  $d$ .

### **Qualitative analysis**

After the end of the group treatment, a psychologist (one of the group therapists) conducted individual semi-structured interviews with the participants. The aim was to explore the participants' experience of the GrpMI and expressive art sessions (research question 4). The interviews were recorded and the participants' answers written down. The answers were summarised by the researcher and a thematic analysis was carried out (Kvale & Brinkmann 2014).

## **RESULTS**

### **Sample description**

The recruitment resulted in ten study participants, with five women included in each of the two groups. The age range was 28 to 54 years; the mean age was 42 years ( $SD=7.82$ ). All women had experienced physical, psychological and/or sexual abuse. The majority of the women were traumatised from early childhood and continuously abused as adults. A few reported good upbringings but later experienced trauma as adults. Many of the women had experienced severe neglect during childhood. All women were diagnosed with PTSD. Some of the women also suffered from dissociation. In seven cases, there was comorbidity with depression, anxiety, stress disorder, and fibromyalgia. Five of the women were treated with medicine that was kept constant during treatment.

## Participation in the assessment protocol

All included participants were able to fulfil the assessment procedure by drawing a lifeline and participating in a short music journey. Nine of the ten participants were able to fill in the self-rating scales at planned times, before, after, and at follow-up. One participant failed to fill in scales, resulting in a missing baseline.

## Treatment adherence

Five subjects participated in all 12 sessions. Three subjects participated in 11 sessions out of 12, one in 10 sessions out of 12, and one in 9 sessions out of 12. The absences were due to sickness and, in

one case, because of an important meeting at work. All participants showed compliance and completed the treatment. In other words, the treatment programme using GrpMI and expressive arts for women with PTSD/ CPTSD was feasible. This answers research question one.

## Self-assessment

All group means and ANOVA statistics are presented in Table 1. The result showed an overall positive treatment effect for all symptoms except for somatoform dissociation (see Figure 1), with effect sizes ranging from small to very large, as indicated by the Cohen's d (see Figure 2).

Scale	Mean (SD)			F (df,error df)	MSE	p	Cohen's d	
	Pre-	Post-	Follow-Up				Pre-Post	Pre-FU
PCL-5	41.0 (14.20)	24.3 (17.78)	19.7 (16.07)	(2.16)=19.56	57.88	0.0001***	1.10	1.49
DES	20.2 (12.60)	10.6 (7.00)	10.9 (8.44)	(2.14)=5.11	46.24	0.022*	1.00	0.92
DES-T †	14.3 (13.46)	6.6 (7.39)	5.2 (6.60)	(2.16)=11.58	0.58	0.001**	0.85	1.10
SDQ-5 †	5.8 (1.64)	6.2 (1.56)	6.4 (2.29)	(2.16)=0.38	0.10	0.69	0.09	0.08
HSC25-I	2.2 (0.47)	1.7 (0.41)	1.6 (0.45)	(2.16)=6.68	0.13	0.008**	1.17	1.35
HSC25-II	2.2 (0.62)	1.9 (0.66)	1.8 (0.70)	(2.16)=6.21	0.08	0.010*	0.58	0.74
PSOM	12.4 (3.28)	13.1 (2.66)	14.11 (2.66)	(2.16)=3.17	2.00	0.069	0.24	0.59

**Table 1: Sample sizes, means and standard deviations on the pre-post and follow-up scores of different assessment tools used in the study, the statistics of repeated-measurement ANOVA analyses, and the effect sizes (Cohen's d) of pre-post and pre-follow-up comparisons. (n=9 for all scales except DES where n=8 due to missing data).**

n=sample sizes; SD=standard deviation; F=F-ratio; df=degrees of freedom; MSE=mean square error; p=significance level; †square of transformed data used in the ANOVA. \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

The repeated-measurement ANOVA on pre-post and follow-up data showed significant changes in a direction indicating symptom reduction for the PTSD (PCL-5), dissociation (DES and DES-T), anxiety (HSC25-I) and depression (HSC25-II) scales. Although improved, the changes in positive-state-of-mind (PSOMS) ratings were not significant. The reduction in PTSD symptoms measured by Cohen's d showed large effect sizes, in pre-post-test (ES=1.10) and in pre-test-follow-up (ES=1.49). All participants were diagnosed with PTSD before treatment. Six participants did not have a diagnosis of PTSD according to the cut-off after treatment that was sustained at follow-up. Reduction in dissociation according to the DES showed large

effect sizes pre-post (ES=1.00) and pre-follow-up (ES=0.92), as well as DES-T pre-post (ES=0.85) and pre-follow-up (ES=1.10). HSC25-I also showed large effect sizes pre-post (ES=1.17) and pre-follow-up (ES=1.35), whereas HSC25-II showed a medium effect size pre-post (ES=0.58) and pre-follow-up (ES=0.74). PSOM showed a small effect size from pre-post (ES=0.24) and a medium effect size from pre-follow-up (ES=0.59). SDQ-5 showed no improvement, but with a mean cut-off score of five at the beginning of treatment there was no indication of somatoform dissociation amongst the participants. This analysis answers research question two.

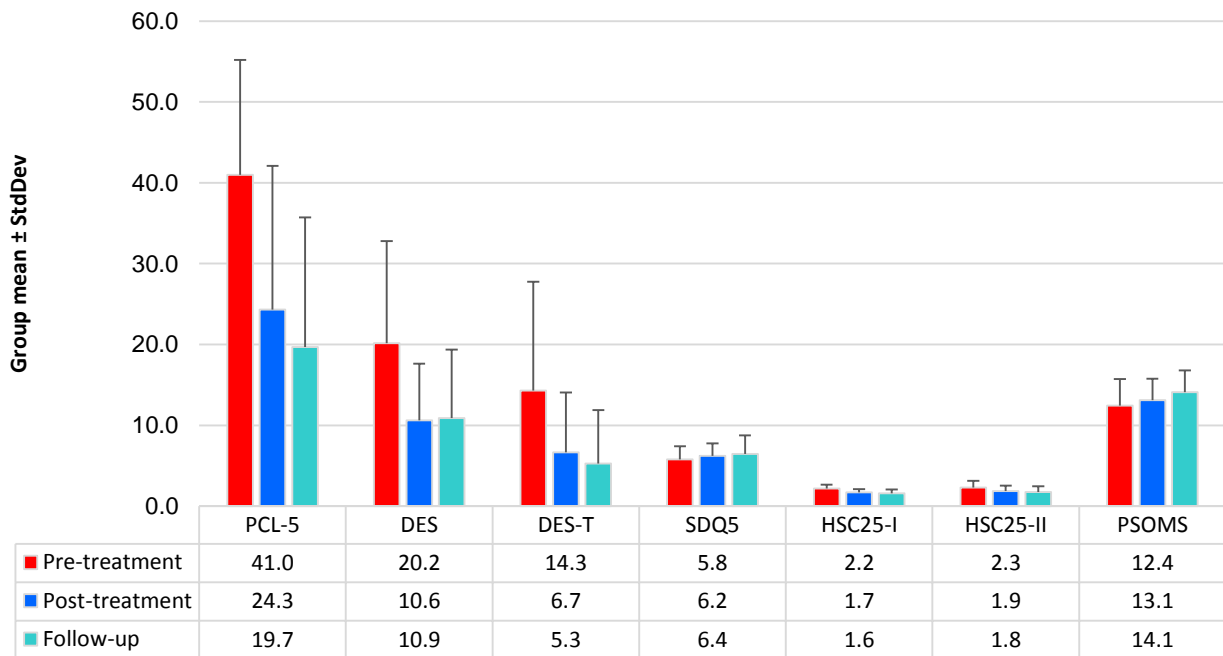


Figure 1: Self-assessment scores pre- (red) and post- (blue) treatment, and at follow-up (light blue). Bars and numbers in the table represent the group means of all individual means (DES, DES-T, HSC25-I, HSC25-II) or sums (PCL-5, SDQ5, PSOM). Error bars indicate the standard deviation of the group means. n = 9 except for DES where n = 8 due to missing data.

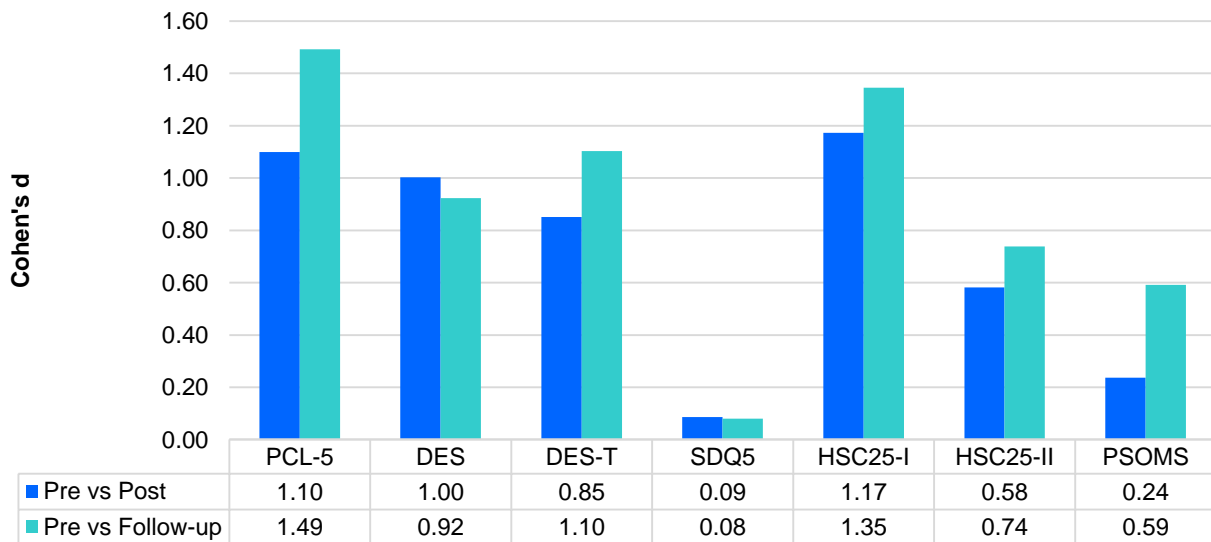


Figure 1: Treatment effect sizes (Cohen's d) for trauma-focused GrpMI. B Blue bars represent Pre- vs Post- and light blue bars Pre- vs Follow-up measures for different symptoms. Cut scores for Cohen's d: 0.20-0.49=small effect size. 0.50-0.79=medium effect size. 0.80-1.29=large effect size. 1.30 ≤=very large effect size.

### Feasibility of the psychophysiological measurement

All subjects were able to participate in the psychophysiological measurement. The data is not yet analysed, but the script-driven imagery method turned out to be feasible and acceptable to the women. This answers research question three.

### Participants' evaluation

The participants' experiences of the treatment were recorded in semi-structured interviews after the group treatment ended, carried out by a psychologist, who was also one of the group leaders. According to the notes from the interviews focusing on the participants' experiences, a thematic analysis was

carried out (Kvale & Brinkmann, 2014). Eight themes were identified. The number of participants expressing each of these themes was tabulated and the themes were categorised as different ways of relating to the GIM experience. The themes showed that participants generally felt supported by the intervention. The themes were: (1) that music helped establish contact with feelings and body sensations (seven participants); (2) that the painting helped to express experiences that were difficult to express in words (four participants); (3) that it was helpful to be in a group with others who had similar experiences, giving and sharing each other's processes, which also diminished feelings of shame and being alone (four participants); (4) that participants experienced a growing feeling of safety in the group (five participants); (5) that during the process they felt an improvement in the ability to feel and mark their boundaries/defend themselves (four participants); (6) that it felt good to be able to share memories, good memories as well as traumatic, but sometimes also hard to listen to other participants' stories (five participants); (7) that it provided an experience of expansion, relaxation and new energy (three participants); and (8) that it enabled creativity and playfulness (five participants).

Some participants found it difficult to paint because of a feeling of not being artistically skilled enough, but this feeling/experience diminished during the treatment. Others felt that the time for painting was too short. Other remarks were that the treatment was too short and that they had wanted to continue the group therapy treatment. This analysis answers research question four.

## DISCUSSION

The aim of the study was to explore the feasibility of trauma-focused GrpMI with traumatised women suffering from PTSD/CPTSD and the feasibility of the chosen measurements. The results from the quantitative analyses of the self-rating scales showed group means with decreases in PTSD symptoms with very large effect sizes, in dissociation with large effect sizes, and an increase in quality of life with small to medium effect size. Six participants scored under the cut-off for PTSD after the intervention. The result was maintained and even improved at follow-up.

All the women completed treatment. The evaluations from the clients showed an overall satisfaction with the treatment. The group treatment

worked well and the participants expressed that they enjoyed being in a group with others who had gone through similar experiences. It helped diminish feelings of shame and of feeling alone and alienated.

A converging of the mixed strands shows that results from the quantitative and the qualitative analyses point in the same direction. The participants' experiences of the treatment as helpful were confirmed in the self-rating scales. The results indicate that the women experienced the treatment as feasible, acceptable and helpful.

## Treatment feasibility

The first research question regarding the feasibility of using GrpMI and expressive arts in group treatment showed promising results with no drop-outs in the two pilot groups. The group cohesiveness that developed during the process might be an explanation. There was an emphasis on building safety within the group, which is essential for trauma-processing. Clients were perhaps helped to feel safe and avoid re-traumatisation by the phase-oriented work where stabilisation, trauma-processing, and integration were all employed in the group settings. The creative methods of therapy, using music and arts, may be more appropriate for more vulnerable clients; they provide more indirect forms of exposure than the direct exposure used in CBT. Many of the clients commented that music helped them connect to other layers of themselves, and that art-making was a means to process the experiences further. They sometimes felt that they could work things through even if they did not explicitly share the traumatic memory with the group - it was possible to work it through on a symbolic level. Creativity also seems to have been a way to soften up what had been frozen in trauma time, enabling the participants to, in an imaginary way, release active defences such as fight-or-flight that might have been suppressed at the time of trauma, thus releasing restricted energy that had got stuck (Levine & Mate 2010). Several participants expressed that they felt new energy and a sense of emotional expansion as a result of the treatment. The groups were experienced as supportive for the participants, because they were able to help and strengthen each other. As they often shared similar experiences, they expressed feeling deeply understood by each other. One reason for the participants' experience of security and support may be that they (and the therapists)

were exclusively women, while the perpetrators had often been men. Another reason may be that the exclusion criteria prevented the possibility of clients with strong personality disorders and aggressive behaviours destabilising the groups.

The treatment protocol of 12 sessions was shorter than what is recommended for clients with CPTSD (International Society for the Study of Trauma and Dissociation 2011). Comments from many of the participants were that the treatment was too short and that they wanted to continue the group therapy. A longer treatment may have been more beneficial for the clients.

### Research feasibility

All women except one succeeded in filling in the self-rating questionnaires. Sometimes they felt tired or overwhelmed by all the questions and in some cases needed help to understand some of the questions. In particular, the questions in the DES scale about dissociation were sometimes experienced as difficult to understand.

The physiological measurements during the script-driven imagery test were experienced as acceptable. Most of the participants were curious about the measurement and what it would show, which seemed to help in making the measurement process tolerable and acceptable even though the difficult memories could be hard to listen to.

### Outcome measures

The treatment resulted in a decrease in measures related to symptoms of PTSD, dissociation, depression and anxiety, while measures related to quality of life increased.

The results indicate that positive changes measured from pre-post therapy were maintained or even improved at follow-up. This can be explained by the increased self-acceptance and ability to maintain and protect their own barriers, and by the fact that the participants learned new ways to regulate arousal by using music at home after the termination of treatment.

The scores on somatic dissociation (SDQ-5) were low from the beginning, with a mean of 5.8 and a follow-up of 6.4, where five is the lowest score and 15 the highest. Since cut-off for suspected dissociative disorder is eight or more, there was no indication of severe dissociation in the groups. SDQ-5 was intended to identify clients that had a more severe dissociative disorder, and were thus not able to tolerate being in a group with

trauma disclosure. Earlier studies and clinical experience suggest this can be harmful for the specific client group, as coherence needs to be built first (Boon et al. 2011; Hart et al. 2006; Nijenhuis et al. 1997).

The positive results point in the same direction as previous studies on GIM and trauma populations (Beck et al. 2017; Maack 2012).

### The group setting

Traditionally there have been doubts about treating clients suffering from complex traumatisation in groups due to the risk of re-traumatisation (Bisson et al. 2013). In the present study, the participants confirmed that the group setting had been helpful. None of the participants were discontented with being in a group. On the contrary, they expressed that being together with other participants with similar experiences was helpful in accepting and understanding themselves. It was helpful to get feedback from the other participants and to be able to give feedback to each other. It seemed to strengthen the social engagement system and the inter- and intrapersonal relationships, which are essential for building resilience (Levine & Mate 2010; Porges 2011).

The inclusion and exclusion criteria also helped to identify individuals with severe degrees of dissociation for whom it might have been harmful and destabilising to listen to other participants' trauma histories. Some potential participants (KTC clients) preferred an individual treatment option, and therefore did not participate in the study. Many of the women also expressed that it was important that the group members and the two group therapists were women. It added to the feeling of safety in the groups. The main reason could be that the majority of the participants had been violated physically and sexually by men.

### The use of music in trauma treatment

It was possible to use music without re-traumatisation. Music choices were made with careful consideration of the process of each participant. Sometimes the music was selected to be supportive and help restore a sense of safety, and sometimes more evocative, to stimulate strength and/or become in touch with feelings. Thus, the music was used both for stabilisation (phase 1), for trauma-processing (phase 2), and for integration and orientation towards the future (phase 3). In the first group sessions, music from



the first three supportive subcategories in the music taxonomy by Wårja & Bonde (2014) were chosen to build safety and help to down-regulate excessive arousal levels. Examples of music used in this phase are Nilsson's *Wilmas Tema*, Johansson's *Bandura*, Pachelbel's *Canon in D*. From the eighth session in group A and sixth session in group B it was possible to use more evocative music with a 'mixed supportive/challenging' profile to support work with trauma-processing. Examples of music are Tveitt's *O Be Ye Most Heartily Welcome* and Bach's 'Little' *Fugue in G minor*. The more evocative music was used in three sessions in group A and five sessions in group B. For the last sessions, more stabilising (supportive) music was chosen to facilitate summarisation and integration of the process, and to orient the participants towards the future.

Many of the participants started to use music and painting at home for self-help and relaxation. Some of them had stopped listening to music but started again during the group treatment. Many of the participants felt that they opened up to creativity.

### Clinical perspectives

The results of the pilot study indicate that trauma-focused GrpMI can be helpful in the treatment of traumatised women with PTSD/CPTSD. The method can be an alternative to verbal psychotherapy and the group setting seems to be helpful. The practice with GrpMI and expressive arts with traumatised individuals requires advanced therapeutic skills to avoid re-traumatisation, and should therefore only be conducted by therapists trained in the methods and with adequate training in trauma treatment.

### Limitations

As the study has a very small n and no control group, generalisability is limited and a regression towards the mean phenomena may have influenced the results.

One of the group therapists was also the interviewer which, from a research perspective is a limitation; however, it also enabled a safe interview situation, with questions asked in an appropriate way. The other group therapist was also one of the researchers. On the other hand, the design of the study with self-rating scales and physiological measurements was chosen to neutralise possible bias.

### Conclusion and future research

A 12-session group therapy treatment with trauma-focused GrpMI and expressive arts, together with an assessment with self-rating scales, psychophysiological measurements, and semi-structured interviews, has shown to be feasible and acceptable for traumatised women with PTSD/CPTSD. The intervention led to decreased PTSD symptoms with large to very large effect sizes. It also resulted in favourable changes in symptoms of dissociation, anxiety and depression, and an improvement in quality of life. However, the lack of a control group and the limited number of participants justify a randomised controlled study with a larger sample to confirm the preliminary results of this pilot.

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