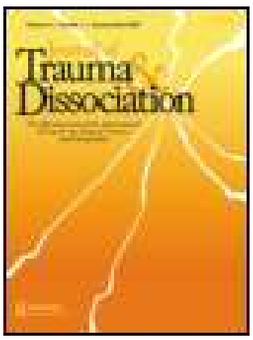

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A Pilot RCT of A Body-Oriented Group Therapy For Complex Trauma Survivors: An Adaptation of Sensorimotor Psychotherapy

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ABSTRACT

This study is a pilot randomized controlled trial that examined the efficacy of a body-oriented group therapy designed to address chronic fear states in the body due to complex trauma. The Trauma and the Body Group (TBG) is a 20-session group psychotherapy that draws upon the principles and techniques of sensorimotor psychotherapy. Thirty-two women with a history of childhood trauma were randomized to immediate treatment or a waitlist control condition. Assessments were conducted one month prior to treatment, immediately after treatment, and six months post-treatment. Significant improvements were found in body awareness, anxiety, and soothing receptivity when comparing treatment to no treatment. The TBG appears to be a valuable tool for helping clients acquire mindfulness and self soothing skills that they can use to reduce posttraumatic symptoms. This study provides preliminary evidence that the TBG provides complex trauma survivors an opportunity to challenge their avoidance of two prominent trauma-related triggers – their bodies and interpersonal relationships – and in so doing may help survivors develop greater body awareness, increase their capacity for self and relational soothing, and reduce their anxiety symptoms.

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Complex PTSD; group therapy; chronic traumatization; impact of trauma; innovative treatments; somatic psychotherapy; treatment efficacy; outcome; interpersonal relationships; child sexual abuse

Introduction

The neurobiology of chronic traumatization includes the disruption of the autonomic nervous system such that the survivor feels under threat even when there is no threat (Porges & Dana, 2018; Van der Kolk, 2014). Under actual threat, the animal defenses of fight, flight, freeze, collapse and cry for help are adaptive (Van der Hart et al., 2006). However, when a person is chronically traumatized, the ongoing threat along with the inability to get away and/or the pairing of one's source of fear with one's source of comfort

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and safety leads to chronic activation of the animal defenses and longlasting detrimental effects on the developing brain, body and the person's relationship with self, others and the world (Lanius, 2010). Consequently, survivors of childhood trauma often struggle with emotion dysregulation, dissociation, difficulties in relationships with self and others, and somatic distress (Ford & Courtois, 2009; Herman, 1992).

The impact of psychological trauma on the body has received limited attention until relatively recently (Eckberg, 2000; Levine, 1997; Ogden et al., 2006; Rothschild, 2000; Van der Kolk, 2014). While we are beginning to understand the lasting effects of trauma on the body (McFarlane, 2010), we know much less about body-based interventions that are helpful. There is a burgeoning interest in body-oriented, mindfulness-based approaches to address trauma and a concomitant need for research to demonstrate their effectiveness. Research on these interventions is emerging, such as research on yoga (Van der Kolk et al., 2014), somatic experiencing (Andersen et al., 2017; Brom et al., 2017), and sensorimotor psychotherapy (Gene-Cos et al., 2016; Langmuir et al., 2012). The present study aims to provide further support for sensorimotor psychotherapy as an effective body-oriented approach for treating trauma survivors.

Sensorimotor psychotherapy is a body-oriented, mindfulness-based, integrative treatment that focuses primarily on sensorimotor processing in conjunction with cognitive and emotional processing in the treatment of trauma (Ogden & Minton, 2000; Ogden et al., 2006). Sensorimotor psychotherapy is based on the understanding that long after trauma has happened, the body continues to be bombarded with implicit memory fragments that signal danger in the absence of immediate and acute threat (Ogden & Minton, 2000). For survivors who have endured chronic trauma in childhood, traumatic experiences were encoded as implicit or nonconscious procedural memories, and these implicit memories affect their sense of safety in the world as well as their sense of safety in their bodies. When traumatic reminders from the past get evoked in the present, the capacity for mindful, present-based experience is overpowered by the urge to orient to the past to either prevent or prepare for future danger. Sensorimotor psychotherapists work to counter this tendency by drawing participants into present-moment experience and inviting them to witness their own somatic experience through non-judgmental curiosity. In sensorimotor psychotherapy, participants are helped to expand their capacity to tolerate and regulate their somatic experience through both psychoeducation and experiential learning.

Two studies of sensorimotor psychotherapy applied in a group format provide preliminary evidence for a sensorimotor psychotherapy group but both lacked a control condition (Gene-Cos et al., 2016; Langmuir et al., 2012). In this paper, we report on a pilot randomized controlled trial (RCT) examining the benefits of a 20-session sensorimotor psychotherapy

group, called Trauma and the Body Group (TBG), for women with histories of chronic interpersonal childhood trauma. Our main hypothesis was that treatment would lead to greater body awareness and less bodily dissociation. Secondary hypotheses were that treatment would reduce posttraumatic stress disorder (PTSD) symptoms, psychoform dissociation, somatoform dissociation, depression, anxiety, and interpersonal problems, while increasing mindfulness and receptivity to soothing.

Method

Participants

Women were eligible for this study if they were 18 years or older, had a history of abuse in childhood, demonstrated an ability to focus on the body, had prior group experience, were judged as able to tolerate interpersonal issues that may arise in group, met criteria or were subthreshold for complex PTSD and gave informed consent as approved by our Research Ethics Board. Women were ineligible if they were unable to read or write in English, were actively suicidal in the past month, used self-destructive coping strategies that could interfere with regular attendance and participation in psychotherapy, or had symptoms of mania or psychosis.

Interested women were invited to a screening interview where they provided informed consent and were administered the Structured Interview for Disorders of Extreme Stress (SIDES; Pelcovitz et al., 1997) by the research coordinator to assess complex PTSD. Participants were further screened in an assessment interview with the group therapists who made final determination regarding eligibility. If eligible, the participant was scheduled for a baseline (Time 1) assessment within one month prior to the immediate treatment group. Following completion of the baseline assessments, participants were randomized into the immediate treatment (ITC) or waitlist control condition (WCC). All participants received 20 CAD for the assessments conducted after the immediate treatment group ended (Time 2) and again after the waitlist condition completed treatment (Time 3), which was approximately 6 months following the Time 2 assessment. All assessments were administered by the research coordinator except for the initial clinical assessment, which was conducted by two clinicians.

Women who were seeking treatment in the Trauma Therapy Program at Women's College Hospital in Toronto, Canada, were invited to participate in the study. Flyers were also distributed to local community agencies, hospitals, and psychiatrists. Fifty-four women provided informed consent and were screened. Twelve women were ineligible, one was eligible but did not complete the baseline assessment, one could not be reached, and three withdrew. Thirty-seven participants completed the baseline assessment and were

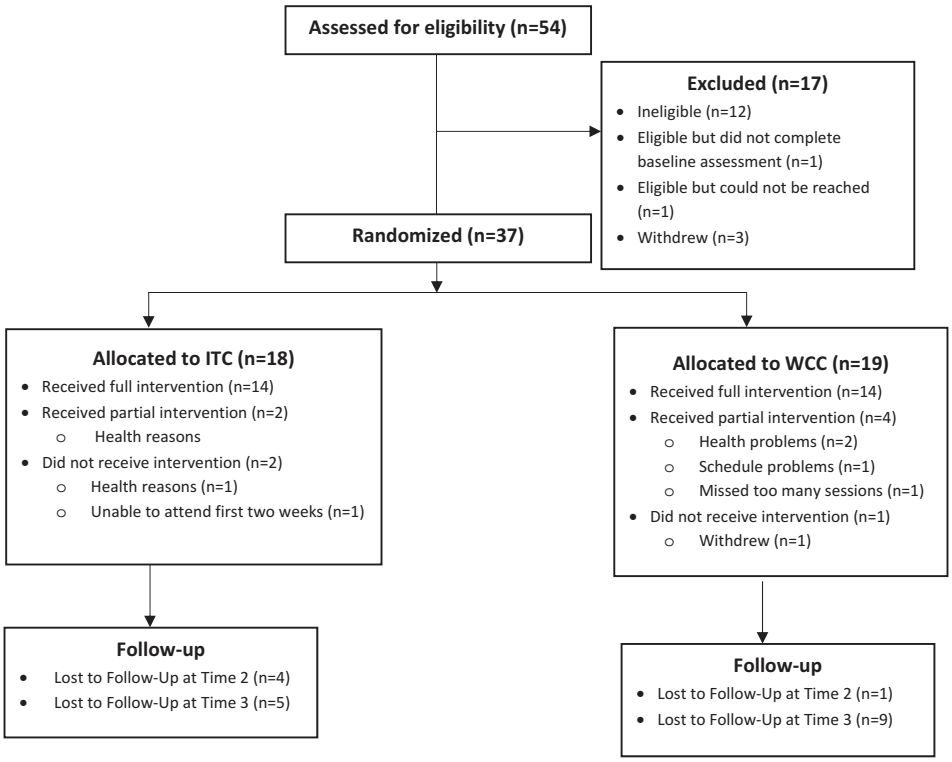

Figure 1. Flow diagram of recruitment and assessments.

randomized to the ITC or the WCC. There were two ITC groups and two WCC groups. Fourteen of 18 women completed the ITC groups and 14 of 19 women completed the WCC groups. See Figure 1 for the flow of participants.

Clinical assessment

The clinical interview was conducted by two group facilitators to assess group readiness. One of the group facilitators asked questions while the other engaged in "tracking" the somatic experience of the participant as she responded to questions. Tracking consisted of observing the participant's movement, posture and micromovements, quality of her breath and speech, eye contact, etc. The clinical questions were about the participant's interest in somatic therapy and goals for treatment. Practical issues were also covered.

The observing clinician noted movement or posture that might be indicative of the activation of an animal defensive response and intervened with curiosity, inviting the participant to do the same. The participant was asked to mindfully observe the somatic response and then to see if she can identify an action the body wanted to take. Participants were advised of the dual

purpose of tracking – to discover what the body was communicating and to identify a somatic resource. This exercise also provided the participant with an indication of the type of work they would do in the group.

Trauma and the body group

Common complaints of traumatized individuals include not feeling safe in their bodies or even lacking the felt sense of being in a body. The aim of TBG was to help trauma survivors understand the impact of chronic fear states on the body and introduce them to basic skills in observing signals from the body. These skills combined mindful awareness and curiosity as an antidote to a common pattern of judging or dismissing moments of becoming either hyperaroused or hypoaroused when being unexpectedly triggered by reminders of trauma. In addition, participants were taught somatic strategies for managing when they are triggered.

The intent of the group intervention was to help increase somatic awareness and to build relational awareness and healthy connection. Participants were helped to notice what happens in their bodies that may reflect their conscious or unconscious "yes" or "no" in relation to themselves and in relation to others. "Yes" might be associated with a sense of softening in the chest or shoulders or leaning toward the other. "No" might be associated with a sense of pulling back, tensing of one's muscles, or holding one's breath. By increasing their somatic awareness while with others, participants could practice asserting their boundaries with others in the group. Participants learned to use their bodies as a valuable source of information allowing them to reconnect with experiences that were neutral or pleasurable and to deepen their capacity for connection with others. Learning in a group setting helped participants to recognize that their experience and struggles were not unique to them, thereby mitigating isolation, self-doubt and shame. Homework exercises provided an opportunity to practice these skills in their daily lives. (See Table 1 for a list of topics.)

Structure of TBG sessions

The structure of each session was designed to develop the participant's capacity for mindfulness, limit expectations of relational or personal storytelling (as opposed to engaging with group members through somatic exercises), and provide opportunities for education and practice.

Breath exercise. Sessions began with a 2–3 minute breath exercise. A variety of basic breathing exercises were taught, such as belly breathing or alternate nostril breathing (Ogden & Fisher, 2015). Facilitators provided information on the benefits of breath exercises.

Somatic check-in. Following the breath exercise, a small object (e.g., a stone or essential oil) was passed around the circle. As each participant held the object they were invited to share one or two sensation or impulse words evoked by holding the object. The aim was to bring awareness to sensation and/or impulse while reducing the tendency toward meaning-making or emotional responses. Here participants were encouraged to develop their somatic awareness and somatic language for non-fear states and present-moment experience.

Discuss home practice. The previous week's home practice exercise was discussed next. Participants shared what they had practiced and what they discovered from the practice. Facilitators focused on the somatic response to the homework. Participants were encouraged to savor the significance of what they had accomplished. "Savoring" provided an opportunity for participants to track something new in their experience. For instance, they might notice feeling more open or breathing more freely. Savoring encouraged the participant to remain connected to this state of pleasure and to have a new experience in the body. Psychoeducation about the importance of savoring was offered.

Mindfulness exercise. Next was an exercise in mindfulness. The purpose and guidelines for "mindful self-study" were provided before the exercise began and included the following: 1) Mindfulness is not for relaxation purposes. If relaxation were to occur that should be considered a bonus, not an expectation. 2) The mindfulness exercise was optional. Participants could choose to participate or not, could stop at any time, and could practice with eyes open or closed. 3) Mindfulness was explained and the rationale provided. The mindfulness exercise lasted 5–7 minutes. Participants were given the option of sharing their experience after the mindfulness exercise.

Psychoeducation. Psychoeducation followed the mindfulness exercise. Each topic focused on the impact of trauma on the body and was guided by linking how chronic activation of the animal defensive system impacted the modulation of arousal. Topics included: five-sense resourcing, the orienting response, boundaries, the modulation model, the animal defensive system, reaching out and letting go.

Practice exercise. The facilitators then introduced the practice exercise for the day. Each exercise provided an opportunity to engage somatically with the day's teaching. Examples of weekly exercises included: boundary setting; accessing sensations and impulses linked to the fight or flight response; or walking and tracking the ways the body is held when in a collapse state and how it can be moved out of collapse.

Homework. A short period of time was allotted to debriefing the day's session and then participants were informed of the week's home practice.

Waitlist condition

Participants assigned to the waitlist condition were asked to not participate in any other group therapy or body-oriented therapy. However, participants were told that if they chose to participate in any other therapy, this would not preclude them from participating in the present study. Participants in the WCC were encouraged to maintain contact with their provider and were given information on community resources.

Measures

The measures used in this study are described below.

To assess a history of childhood trauma, we used the Childhood Trauma Questionnaire Short Form (CTQ-SF; D. P. Bernstein & Fink, 1998). The Life Stressor Checklist Revised (LSCL-R; Wolfe et al., 1996) was used to assess overall lifetime stressful events.

The Scale of Body Connection (SBC; Price & Thompson, 2007) was used for the primary outcomes. It has 20 items and two subscales; body awareness and bodily dissociation. The body awareness subscale assesses conscious attention to sensory cues. The bodily dissociation subscale assesses connection or separation from bodily experience, including emotional connection. Internal consistency for the present sample was good (body awareness $\alpha = 0.84$, bodily dissociation $\alpha = 0.79$).

Secondary outcomes included the following measures: PTSD Checklist (PCL-C; Blanchard et al., 1996), a 17-item self-report questionnaire that assesses the presence of PTSD and its severity, based on the DSM-IV. Internal consistency for the PCL-C was acceptable (severity $\alpha = 0.78$, symptoms $\alpha = 0.67$). The Somatoform Dissociation Questionnaire (SDQ-20; Nijenhuis et al., 1996) is a 20-item self-report measure of somatic dissociation. The SDQ-20 showed good internal consistency ($\alpha = 0.89$). The Dissociative Experiences Scale (DES; E. M. Bernstein & Putnam, 1986) is a 28-item measure of psychoform dissociation. Internal consistency for the DES was excellent ($\alpha = 0.94$). Depression was assessed with the Beck Depression Inventory-II (BDI-II; Beck et al., 1996), a 21-item self-report measure of depression; its internal consistency was excellent ($\alpha = 0.93$). Anxiety was assessed with the Beck Anxiety Inventory (BAI; Beck & Steer, 1993), which is a 21-item self-report measure of anxiety and it had excellent internal consistency ($\alpha = 0.90$). Mindfulness was assessed using the Philadelphia Mindfulness Scale (PHLMS; Cardaciotto et al., 2008). It is a 20-item self-report measure of mindfulness. Internal consistency was good

for the awareness subscale (α = 0.84), and excellent for the acceptance subscale (α = 0.92). The Inventory of Interpersonal Problems-32 (IIP-32; Horowitz et al., 1988) is a 32-item questionnaire assessing interpersonal issues with good internal consistency (α = 0.87). Receptivity to being soothed was assessed using the Soothing Receptivity Scale (SRS; Glassman, 1988). It is a 20-item self-report questionnaire assessing the respondent's experience of being soothed physically, capacity to be soothed, experiencing soothing by disclosing to others, and self-soothing. The SRS had good internal consistency (α = 0.80).

Data analysis

The primary outcomes were body awareness and bodily dissociation subscales of the SBC. Secondary outcomes were PTSD symptoms, somatoform dissociation, psychoform dissociation, depression, anxiety, mindfulness, interpersonal problems, and receptivity to soothing. Given the small sample and wanting to improve our ability to detect a difference, we opted to increase the sample size by sacrificing independence of scores; we used data provided by the WCC for both the treatment estimate and the no-treatment estimate of change over time. We used all participants who provided baseline and follow-up data, regardless of the extent to which they participated in the intervention. One-way analysis of variance was conducted for each outcome variable comparing pre/post difference scores for both ITC and WCC groups combined (Time 1 minus Time 2 for ITC and Time 2 minus Time 3 for WCC) against pre/post wait-time scores (Time 1 minus Time 2 scores) for the WCC (i.e., covering the 20-week period when they were not receiving treatment). Cohen's d was calculated for each comparison to estimate effect size. All effect sizes are reported such that a positive sign indicates the desired direction.

Results

There were 32 women who participated in this study ranging in age from 24 to 64 years with a mean age of 43.51 (SD = 10.01). Twenty-four (77.4%) women were heterosexual, five (15.6%) were lesbian or bi-sexual, and two (6.5%) indicated "none of the above." Seventeen (54.8%) women were never married, eight (25.8%) were currently married or in a relationship similar to marriage, five (15.6%) were separated or divorced, and one (3.2%) indicated "other." Regarding education, one (3.1%) woman had less than a high school education, two (6.3%) graduated from high school, 10 (31.3%) had some college education, 15 (46.9%) had a bachelor's degree, and four (12.5%) had a post-graduate degree. In terms of employment, 18 (60.0%) women were not employed, five (16.7%) worked part-time, and seven (23.3%) worked full-

Table 1. Topics for TBG.

Sessions	Topics
1	Introduction to group
2	Mindfulness
3, 4	Impact of trauma and modulation model
5, 6	What are somatic resources? Building somatic resources
7	Modulation model and somatic resources
8	Resources review
9	Boundaries: boundary styles
10	Boundaries: building flexible boundaries
11	Boundaries: pushing
12, 13	Boundaries: orienting and defensive responses
14, 15	Pleasure
16 to 18	Relational awareness: reaching out/letting go
19	Review goals and accomplishments
20	Next steps/saying goodbye

time. Regarding household income, 19 (63.3%) had an income of less than 40,000 CAD and two (6.4%) did not answer. The racial/ethnic background included 24 (77.4%) white women, one (3.2%) black, one (3.2%) east Indian, and five (16.1%) indicated other. Religious affiliation included six (19.4%) Catholic, five (16.1%) Protestant, two (6.5%) Jewish, one (3.2%) Buddhist, and nine (29.0%) other. There were no differences between the ITC and WCC on any of the demographic variables. When comparing five women who dropped out after the baseline assessment against 32 women who remained in the study, the only statistically significant difference in demographics was on racial/ethnic background. Two participants endorsed being Hispanic/Latino/Mexican and both dropped out (Chi-square = 13.703, p =.008).

Participants were asked whether they participated in other therapies during the course of the study. Five participants in the ITC (28%) and 11 in the WCC (55%) were engaged in individual therapy with a range of 21–204 months for the ITC and 6–100 months for the WCC. The focus of these therapies was on the past and/or on relationships. Only one participant in the WCC endorsed an additional focus on the body.

Regarding childhood trauma, mean scores on the Childhood Trauma Questionnaire were above the 95th percentile for a community sample (Scher et al., 2001). Participants reported means of 13.63 (SD = 4.01) life stressors; 7.28 (SD = 3.94) events where they believed either themselves or someone else would be killed or seriously harmed; and 10.30 (SD = 3.60) events where they experienced helplessness, fear or horror. There were no differences between the ITC and WCC on childhood trauma scores or comparing the five women who dropped out against the 32 women who remained in the study. This was clearly a highly traumatized sample.

Participants met criteria for complex PTSD symptoms as defined by the ICD-11 (World Health Organization, 2019), which included avoidance, reexperiencing, and hyperarousal symptoms (classic PTSD symptoms), along with affect dysregulation, negative self perception and relationship difficulties, with the exception that 2 were subthreshold for negative self perception and 2 others for relationship problems.

Regarding outcome measures there were no differences in baseline scores when comparing those who dropped out against those who did not. The means and standard deviations for all 32 participants were calculated for all assessment points and each condition and are reported in Table 2.

One-way analysis of variance was conducted on the mean difference scores for each of the primary and secondary outcomes. For the primary outcomes, a significant difference favoring treatment was found for the body awareness subscale of the SBC. For the secondary outcomes, significant differences favoring treatment were found for anxiety and soothing receptivity. Using a cutoff score of 35 on the PCL to indicate a diagnosis of PTSD (Monson et al., 2008), all participants scored above 35 at baseline but there was no overall treatment effect on the PCL. See Table 3 for details of the findings.

Discussion

The aim of this pilot RCT was to provide preliminary data on the efficacy of a sensorimotor psychotherapy group for survivors of complex trauma, where the aim was to help participants increase somatic awareness, access and build their somatic resources, and reduce complex trauma symptoms. The findings suggest that utilizing a sensorimotor psychotherapy approach in a group format can be beneficial and is consistent with previous research examining sensorimotor psychotherapy as a group intervention for complex trauma (Gene-Cos et al., 2016; Langmuir et al., 2012).

Our main hypothesis was that a sensorimotor psychotherapy group would lead to greater body awareness and less bodily dissociation. This intervention appeared successful in increasing awareness of somatic experience but did not reduce the use of dissociation to disconnect from bodily experience including one's emotions. Participants were consistently prompted or asked to momentarily suspend procedurally learned trauma-based responses in favor of present-based curiosity, by asking such questions as "what do you notice in your body?" By encouraging participants to use mindfulness to focus their attention on physical sensations, they were given an opportunity to practice using their frontal lobes (i.e., thinking brain) at the same time as they were experiencing implicit memories of trauma. We posit that mindfully attending to their physical sensations enabled them to uncouple the physical sensation from the memory. This uncoupling of physical sensations from trauma-related emotions and cognitions in a paced manner meant that with

Table 2. Outcome means and standard deviations for each condition at each assessment.

	Baseline			1st follow-up			2nd follow-up		
Outcome	Mean	SD	n	Mean	SD	n	Mean	SD	n
SBC									
Body Awareness									
ITC	5.71	1.84	14	7.19	2.04	14	7.27	1.49	13
WCC	6.25	1.30	18	6.18	1.33	18	6.99	0.91	11
Body Dissociation									
ITC	6.12	1.46	14	4.49	1.84	14	3.72	1.48	13
WCC	6.50	1.32	18	5.48	1.78	18	5.15	1.66	11
PCL									
ITC	60.84	9.06	14	45.87	13.87	14	42.31	13.38	13
WCC	62.25	7.70	18	53.45	15.70	18	53.52	14.30	10
SDQ	33.86	9.61	14	29.73	7.79	13	25.33	6.17	12
ITC	32.86	11.64	17	34.43	14.06	18	32.55	12.29	10
WCC									
DES	29.13	16.70	14	18.98	10.40	14	20.71	12.89	13
ITC	24.27	15.52	18	21.08	18.04	18	20.77	15.89	10
WCC									
BDI	31.14	16.97	14	21.36	16.23	14	18.89	17.72	13
ITC	30.39	10.66	18	29.65	11.36	18	27.90	11.94	10
WCC									
BAI	36.31	11.58	14	22.53	9.91	14	19.62	12.18	13
ITC	28.79	11.82	18	27.15	12.89	18	26.40	10.48	10
WCC									
PHLMS									
Awareness	32.00	7.60	14	36.79	6.92	14	36.92	6.55	13
ITC	34.00	5.22	18	35.36	6.45	18	36.30	4.90	10
WCC									
Acceptance	23.93	10.20	14	26.43	8.55	14	28.85	8.24	13
ITC	24.53	6.80	18	24.56	5.32	18	28.40	5.95	10
WCC									

(*Continued*)

Table 2. (Continued).

	Baseline			1st follow-up			2nd follow-up		
Outcome	Mean	SD	n	Mean	SD	n	Mean	SD	n
IIP	64.25	14.33	14	49.15	16.91	14	50.33	21.21	13
ITC	64.33	18.85	18	58.79	18.97	18	57.00	21.89	10
WCC									
SRS									
ITC	59.00	15.45	14	66.39	14.79	14	65.55	15.61	13
WCC	60.94	9.50	18	56.91	10.37	18	59.10	10.48	10

ITC, Immediate Treatment condition; WCC, Waitlist Control Condition; SBC, Scale of Body Connection; PCL, Post-traumatic Checklist; SDQ, Somatoform Dissociation Questionnaire; DES, Dissociative Experiences Scale; BDI, Beck Depression Inventory; BAI, Beck Anxiety Inventory; PHLMS, Philadelphia Mindfulness Scale; IIP, Inventory of Interpersonal Problems; SRS, Soothing Receptivity Scale.

Table 3. One-way ANOVAs on primary and secondary outcomes, mean difference scores, standard deviations, and effect sizes.

	Treatment			Waitlist					
Outcome	Mean	SD	n	Mean	SD	n	F	P-value	Effect Size
SBC									
Body Awareness	1.04	1.35	25	−.07	1.13	18	8.15	.007	.91
Body Dissociation	1.23	1.75	25	1.02	1.17	18	.20	.65	.14
PCL	10.38	13.30	24	8.81	13.52	18	.14	.71	.12
SDQ	4.35	10.13	23	−1.83	10.85	17	3.42	.07	.59
DES	7.031	13.51	24	3.19	10.70	18	.99	.33	.32
BDI	7.29	13.76	24	0.74	7.57	18	3.32	.08	.59
BAI	9.87	12.07	24	1.63	7.98	18	6.30	.02	.81
PHLMS									
Awareness	3.04	6.16	24	1.36	4.73	18	.93	.34	.31
Acceptance	3.46	5.56	24	.03	5.67	18	3.85	.06	.61
IIP	12.00	14.99	24	5.55	10.08	18	2.49	.12	.51
SRS	6.10	9.67	24	−4.03	8.39	18	12.62	.001	1.12

SBC, Scale of Body Connection; PCL, Post-traumatic Checklist; SDQ, Somatoform Dissociation Questionnaire; DES, Dissociative Experiences Scale; BDI, Beck Depression Inventory; BAI, Beck Anxiety Inventory; PHLMS, Philadelphia Mindfulness Scale; IIP, Inventory of Interpersonal Problems; SRS, Soothing Receptivity Scale. Treatment = pre/post treatment difference scores for immediate treatment and waitlist condition combined; Waitlist = pre/post waiting period difference scores for the waitlist condition. All effect sizes are reported such that a positive effect indicates change in the desired direction.

practice they could use these physical cues as reminders to take action to regulate their internal experience, for instance, by shifting the focus of attention to their breath.

Improvements in present-moment awareness may have contributed to reductions in anxiety. Anxiety symptoms are often somatic in nature, such as difficulty breathing, a pounding heart, or feeling shaky. Learning to attend to these physical experiences in a mindful way may have led to a reduction in those sensations or at least made them more tolerable. Because participants were asked how much they were "bothered" by anxiety symptoms, it is not clear whether participants had fewer or less intense symptoms as a result of the intervention or if they developed more skills and confidence in managing the symptoms.

Mindful awareness shifts the focus from tuning into information that either confirms past trauma scripts or prepares for future harm and instead prioritizes present-based noticing. Individuals who experienced trauma in childhood are often unable to access internal resources to cope with overwhelming experiences. Participants were encouraged to attune to their inner experience and to support other group members in this work as a means of increasing their capacity to use somatic resources for self regulation and for self and relational soothing.

There was a strong treatment effect for soothing receptivity, which is notable given that the capacity for self-care is often compromised for survivors of complex trauma. It appears that sensorimotor group psychotherapy not only supports participants in developing a relationship with themselves in the context of a group but also permits participants to notice their impact on each other within a safe, therapeutic environment. We posit that the group modality challenged participants to engage in both self soothing and relational soothing given the competing demands for space and time in group treatment. Participants' learning to be internally present with themselves as well as with others may have helped them transition from experiencing their bodies and others as a source of hurt to experiencing their bodies and interpersonal relationships as a place of healing.

There are important limitations with this pilot RCT that must be acknowledged. In order to maximize statistical power, we sacrificed independence of scores by including the participants from the WCC in both the treatment condition arm and the no-treatment comparison arm of the analysis. We also did not correct for multiple testing in order to reduce the likelihood of a Type II error. Given these compromises the findings of this study must be considered with caution. In addition, a subset of women were receiving individual therapy, which may have impacted the outcome; although presumably, this should have made it more difficult to find a treatment effect. Another limitation is the lack of generalizability. This sample consisted primarily of white women and did not reflect the racial demographics of

the broader community. Further research utilizing a larger sample size is needed, as well as research to understand the barriers to participating so that this can be addressed and attenuated in a larger trial.

Nevertheless, this study provided preliminary evidence that offering sensorimotor psychotherapy in a group format may be beneficial for survivors with complex PTSD. Using this sensorimotor psychotherapy group treatment, participants had opportunities to increase their "window of tolerance" for somatic awareness and for relationships with others, and to practice regulating their internal experience in the presence of others. It may be that not only was participating in the group exercises beneficial to the individual, but observing others do the work may have helped to challenge the fear and avoidance of tuning into present-moment experience. Group members had the opportunity to witness each other build their awareness of their somatic experience, acquire skills related to self-care and had the opportunity to both give and receive support. This treatment approach may have provided complex trauma survivors an opportunity to challenge their avoidance of two prominent trauma-related triggers – their bodies and interpersonal relationships – and in so doing it may have led to greater body awareness, and increased their capacity for self and relational soothing along with lessening their anxiety. While this study is encouraging, a larger-scale RCT is needed in order to confirm the efficacy of this treatment approach.

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We have no known conflict of interest to disclose.

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