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BODY-ORIENTED THERAPY IN RECOVERY FROM CHILD SEXUAL ABUSE: AN EFFICACY STUDY

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Abstract

Context—There has been little research on body therapy for women in sexual abuse recovery. This study examines body-oriented therapy—an approach focused on body awareness and involving the combination of bodywork and the emotional processing of psychotherapy.

Objective—To examine the efficacy and the perceived influence on abuse recovery of body-oriented therapy. Massage therapy served as a relative control condition to address the lack of touch-based comparisons in bodywork research.

Design—A 2-group, repeated measures design was employed, involving randomization to either body-oriented therapy or massage group, conducted in 8, hour-long sessions by 1 of 4 research clinicians. Statistical and qualitative analysis was employed to provide both empirical and experiential perspectives on the study process.

Setting—Participants were seen in treatment rooms of a university in the northwestern United States and in clinician's private offices.

Participants—Twenty-four adult females in psychotherapy for child sexual abuse.

Interventions—Body-oriented therapy protocol was delivered in three stages, involving massage, body awareness exercises, and inner-body focusing process. Massage therapy protocol was standardized. Both protocols were delivered over clothes.

Main Outcome Measures—The outcomes reflected 3 key con-structs—psychological well being, physical well-being, and body connection. Repeated measures included: Brief Symptom Inventory, Dissociative Experiences Scale, Crime-Related Post Traumatic Stress Disorder Scale, Medical Symptoms Checklist, Scale of Body Connection and Scale of Body Investment. Results were gathered at 6 time points: baseline, 2 times during intervention, post-intervention, and at 1 month and 3 months follow-up. To examine the experiential perspective of the study process, written questionnaires were administered before and after intervention and at 1 month and 3 months follow-up.

Results—Repeated measures analysis of variance (ANOVA) indicated significant improvement on all outcome measures for both intervention groups, providing support for the efficacy of body therapy in recovery from childhood sexual abuse. There were no statistically significant differences between groups; however, qualitative analysis of open-ended questions about participant intervention experience revealed that the groups differed on perceived experience of the intervention and its influence on therapeutic recovery.

For women in therapeutic recovery from childhood sexual abuse, recovery is intimately related to integration of the self — involving on the one hand reassociation with the self, and on the other hand, reduction of dissociation.[1,2] Integration of the self is addressed in experiential psychology, which holds the premise that healthy functioning results when as many parts of the self as possible are integrated in awareness.[3] The dissociative strategies that are protective

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in dealing with childhood abuse involve fragmentation of self and separation from sensory and emotional experience and can inhibit healing from trauma.[1,4] Dissociation involves psychological and physical distress and is associated with post-traumatic stress disorder (PTSD),[5] affect dysregulation and somatization,[6] and problems with gastrointestinal health.[7] Sexual symptoms and dysfunction, also frequent consequences of sexual abuse,[8, 9] are closely related to dissociation from the body.[10, 11] Women with a history of childhood sexual abuse have higher levels of psychological and physical distress than non-abused women,[12] which likely contribute to the common lack of emotional and sensory awareness—or body connection—seen clinically in this population.[13, 14] Problems with affect regulation and physiological regulation are also common among female survivors of childhood trauma,[6, 15] which indicates the importance of self-regulation as a primary goal in therapeutic recovery with this population.

In recent years, there has been increased attention to the clinical importance of addressing the body to facilitate integration of sensory and emotional awareness in sexual abuse recovery.[2, 16-19] Body psychotherapy approaches for trauma recovery include teaching patients and facilitating their ability to incrementally access and sustain inner body awareness, which increases the capacity for body connection and thus facilitates dissociation reduction and reassociation or integration with the self.[19 -21] Body psychotherapy is psychotherapy focused on the interactions between the patient's mental representations and their bodily phenomena.[22]To date, there has been little clinical research in body psychotherapy approaches in sexual abuse recovery. This is a study of body-oriented psychotherapy, an approach well-suited to the process of integration. Body-oriented therapy falls under the auspices of body psychotherapy and involves the combination of bodywork an—umbrella term for touch therapy modalities (eg, massage, polarity, accupressure) and the emotional processing of psychotherapy.

The therapeutic goal of body-oriented therapy is to promote integration of psyche and soma, a shared and stated purpose within body psychotherapy.[22]Body psychotherapy approaches often use proprioceptive sensing to enhance somatic awareness.[23-25]

Examples of proprioceptive sensing include the internal awareness of physiological release in tight muscle tissue during a massage and the internal awareness of the underlying emotion associated with stomach "knots." Touch therapy, when combined with proprioceptive sensing, provides a focal point for inner awareness, serving to facilitate access and sustained presence in bodily attention.[26,27] Engaging in proprioceptive sensing is not a passive process; as in biofeedback, there is a reciprocal "feedback loop" that increases self-regulation.[28]

There is both anecdotal and experimental evidence that body-oriented therapy is beneficial for therapeutic recovery from sexual abuse.[2,29] A pilot-test comparison of body-oriented therapy found a decrease in psychological symptoms, physical symptoms, and PTSD for the body-oriented therapy group compared to a wait-list control among women in psychotherapeutic recovery from childhood sexual abuse.[29]The body-oriented therapy approach used in this study was designed to teach proprioceptive sensing to access inner-body sensory awareness and to facilitate integration of psyche and soma using a combination of verbal and touch therapies. This study, which follows up on the pilot, compares the body-oriented therapy process to a standardized massage.

Whereas many studies have examined the benefits of massage,[30] a search of such literature databases as the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, PsycINFO revealed little research focused on the potential benefits of body-oriented therapy. Consequently, we know little about the relative efficacy of body-oriented therapy interventions or the mechanisms by which they are purported to work. As a relatively new area of study within mind-body research, there are many elements that need to be systematically

developed and examined to build a strong basis of research in body-oriented therapy. These include comparing body-oriented therapy to other bodywork approaches to address the lack of touch-based comparison groups in bodywork research; testing the feasibility of developing and implementing a body-oriented therapy protocol; developing measures that are specific to the bodywork process; and addressing ethical issues as they pertain to human subjects concerns and high-risk populations.

This study tested the efficacy of body-oriented therapy as an adjunct to psychotherapy and the hypothesis that body-oriented therapy compared to massage would result in increased psychological well-being (decreased PTSD, dissociation, and psychological distress); increased physical well-being (decreased physical symptoms); and increased body connection (increased body awareness, body association, and body investment) among women in psychotherapeutic recovery from childhood sexual abuse. In addition, this study examined the experience and impact of the interventions through qualitative analysis of open-ended questions on written questionnaires.

METHODS

Design

A two-group repeated measures design was used to test the efficacy of body-oriented therapy as an adjunct to psychotherapy in comparison to a standardized massage and to explore the perceived influence of these interventions on abuse recovery using a follow-up written questionnaire. Participants were randomly assigned to receive 8, hour-long sessions of either body-oriented or massage therapy. Measures were administered at 6 time points: at baseline, after 2 weeks of sessions, after 4 weeks of sessions, one week after the intervention, and at 1 month and 3 months follow-up. Four research clini-cians—2 massage therapists and 2 body-oriented therapists— provided the study interventions.

Subjects and Procedures

Recruitment and Selection—Women currently in psychotherapy for recovery from childhood sexual abuse were recruited for study participation via flyers posted at a university in the northwest and in mental health clinics, as well as from psychotherapy referrals and referrals from friends. Prospective participants were screened during the initial phone contact. Study inclusion required that participants be female, over the age of 25, engaged in an established psychotherapeutic relationship of at least 2 months, have a minimum of 2 years of psychotherapy, and agree to not seek bodywork treatment during study involvement. Study exclusion included a change in psychotropic medication during the past 8 weeks, addiction to alcohol or drugs, current abusive relationship, hospitalization for psychological care within the past 12 months, diagnosis or medication for psychosis, pregnant by more than three months, and prior body-oriented therapy (more than 20 sessions). Participants were told that at the initial appointment there would be additional screening for severe dissociation and that severe dissociation would not be an appropriate fit for the study. This screening involved the use of the Dissociative Experiences Scale Taxon (DES-T), which has a cut-off indication for probable dissociation disorder.

Enrollment and Background Characteristics—During the enrollment period, 50 women expressed interest in study participation. Twenty-four individuals were not eligible based on screening criteria. Of the 26 women who were eligible for study participation, 1 never enrolled in the study, and 1 withdrew from the study after 2 sessions (massage group) because she felt the experience was too stimulating at this point in her re c ov e ry. The final number of participants was 24.

The study participants ranged in age from 26 to 56 years, with a median age of 41. Of the participants, 1 was Native American, 1 was Hispanic, 2 were black, and 20 were white. Overall, they were highly educated, the household incomes varied widely, and the majority had endured extensive childhood abuse (Table 1).

Data Collection—Measures were administered at 6 time points: at baseline, after 2 weeks of sessions, after 4 weeks of sessions, one week after the intervention, and at 1 month and 3 months follow-up. The investigator administered baseline measures and the initial questionnaire at the first appointment. Within a week of the initial appointment, participants were randomly assigned to intervention groups and informed of the assignment. The randomization process involved paired blocking so that for every 2 study participants who completed the initial appointment, 1 was assigned to the body-oriented therapy group and 1 was assigned to the massage group. The interventions were both delivered as 8, hour-long sessions within a 10-week period. The mid-intervention measures were completed by the participants prior to the third and fifth intervention sessions. At 1 week after completion of the intervention, the investigator contacted the participants to schedule a final appointment for administration of measures and the final questionnaire. One month and 3 months after the final appointment, a follow-up set of measures and the follow-up questionnaire was sent by mail to participants.

Training and Fidelity—The research clinicians were licensed to practice massage in the state of Washington; the body-oriented therapists had, in addition, graduate-level education in psychology. They all had a minimum of 5 years in practice, plus experience working with women with a childhood sexual abuse history. The investigator provided the training and supervision. She was a bodywork practitioner for 17 years and has a master's degree in counseling and psychology. She developed the body-oriented therapy protocol based on her extensive therapeutic work with women in sexual abuse recovery as a body-oriented therapist. The training included instruction in the study procedures and study protocols and was provided using verbal and hands-on instruction with the investigator, as well as a training manual provided to each interventionist. Compliance with and quality of the intervention were evaluated by the investigator by (a) listening to sessions, all of which were audiotaped, and (b) reviewing process evaluation forms completed by the research clinicians immediately after each session. The investigator provided weekly individual feedback and separate supervision meetings with the massage therapists and the body-oriented therapists to review research protocol and to discuss clinical or research-related issues.

Intervention Procedures—The body-oriented therapy and massage therapy interventions were similar in that both involved the therapeutic use of touch. However, the therapeutic goals and strategies of each approach differ. The therapeutic goal of body-oriented therapy is focus on sensory and emotional awareness, using a combination of hands-on and verbal therapy to promote integration of psyche and soma. The therapeutic goal of massage is to apply massage techniques with the intention of improving the client's health and well-being.[31] The massage group received a standardized massage, similar to that one might receive at a spa; the protocol contained no verbal therapeutic elements or educational components.

Massage Group—The massage group received a standardized protocol similar to that used in research at the Touch Therapy Institute in Miami, Fla.[32,33] The protocol was modified to: a) cover a longer period of time (60 versus 30 minutes) and b) be carried out with the recipient clothed. Massage therapists often work over clothes to minimize anxiety and discomfort related to nudity and touch, particularly with abuse survivors during the initial weeks of building the relationship and familiarizing the client with touch.[34] The massage protocol had 2 primary elements: sense of safety and massage. Sense of safety refers to the participant's physical and

emotional comfort. It was attended to throughout the sessions with use of frequent check-ins (ie, asking client about the acceptability of touch) to assess comfort level and, if necessary, modification of the protocol to ensure participant comfort. Check-ins provided the massage therapist with feedback regarding her level of tactile pressure, the acceptability of touch in a particular area of the body, the participant's general physical comfort, and room temperature. The check-in was also used to access information that might indicate participant emotional discomfort (ie, dissociation, fear, aversion to touch). Massage techniques were used throughout the session to facilitate relaxation (Table 2).

Body-oriented Group—The body-oriented therapy protocol was separated into 3 stages to facilitate study of the different components of the intervention (Table 3). Stage 1 included sessions 1 and 2 and involved massage with body literacy. Stage 2 included sessions 3 and 4 and involved massage with body literacy and body awareness exercises. Stage 3 included sessions 5 to 8 and involved massage with body literacy and delving practice. Each session began seated, with 10 minutes of intake. The next 40 minutes of each session involved the therapeutic elements particular to Stage 1, 2 or 3; all sessions were conducted with the participants clothed. The last 10 minutes of each session was seated, and involved 10 minutes of session review. Session review included identification of body awareness homework for the interim week. Key elements of the intervention are detailed below.

1. Sense of safety was verified throughout the sessions. Check-ins specific to the intervention allowed research clinicians to assess participant engagement in the process, and to determine if increased skill training or change in pace was necessary.

2. Intake involved asking participants questions about their emotional and physical well-being to guide the therapeutic focus of the session.

3. Massage with body literacy involved massage, using the standardized protocol to facilitate relaxation. It was accompanied by body literacy, the practice of identifying and articulating what is noticed in the body and the best words to describe the sensations. The therapists asked questions such as, "What are you noticing in your body right now?" and, "How would you describe how it feels in this area?"

4. Inner body awareness exercises involved 4 approaches to accessing somatic experience. Participants were taught how to (a) direct exhalation to facilitate movement of breath through the body; (b) use the power of mental intention to release tension; (c) deepen inner awareness, particularly in areas associated with physical and emotional difficulty; and (d) access the inner body through bringing conscious attention, or presence, to specific areas of the body.

5. Delving is derived from focusing, which involves "tun-ing in," or listening to the inner bodily self to identify and attend to an overall sense of oneself (the "felt sense") in relation to an identified problem area.[23] Delving is similar to mindfulness meditation in that it involves maintaining a compassionate, accompanying presence within the self while observing internal processes. However, delving is designed specifically for bodywork therapy and thus is distinct from both processes in the following ways: (a) the focal point is a specific area within the body rather than the general sensing orientation of focusing or the mental processes of mindfulness; (b) it involves the use of nonanalytic, sustained presence in internal awareness, whereas focusing involves switching back and forth between inner sensing and cognitive processing; (c) it involves scanning different aspects of awareness such as image, emotion, form, and sensation as a way to increase bodily self-awareness, a process guided by the therapist; and (d) it is carried out in conjunction with touch.

6. Session review involved therapist facilitation of partici-pants' verbal review of session highlights to promote integration of the therapeutic elements in the session.

7. Homework consisted of a take-home practice in body awareness. It was developed through collaboration between the participant and the therapist and was based on the participant's experience in the session. For example, during an exercise in Stage 2, a participant focused on softening her jaw. She experienced a lessening of muscle tension in this area and wanted this exercise to be her daily take-home practice. The therapist suggested that she gently hold her jaw with both hands to increase the focus of her softening intention and to compare the tension in her jaw before and after the exercise.

ELEMENTS OF THE RESEARCH DESIGN

The study was designed to address important elements for building a strong basis of research in body-oriented therapy. Standardized massage was used as the comparison group to address the lack of touch-based comparison groups in body therapy research. The study tested the feasibility of developing and implementing a body-oriented therapy protocol through training and supervising research clinicians in the body-oriented therapy process. Last, to address ethical issues as they pertain to human subjects concerns and high-risk populations, the intervention protocols were designed to be flexible and sensitive to the emotional comfort of participants; the design of the study involved body therapy as an adjunct to psychotherapy to ensure adequate psychological support for study participants.

Measurement

The outcome measures reflected 3 key constructs—psycho-logical well-being, physical well-being, and body connection—to serve the aims of this study. Psychological well-being was an assessment of intrapersonal and interpersonal health, both in relation to general measures of psychological health (Brief Symptom Inventory), and in relation to trauma history (Crime-Related Post-Traumatic Stress Disorder Scale; Dissociative Experiences Scale). Sense of safety was included within this construct (Bowerman Touch Empathy Scale). Physical well-being was an assessment of physical symptoms of discomfort (Medical Symptom Checklist). Body connection was an assessment of body awareness, body association, and body investment (Scale of Body Connection; Body Investment Scale). Measures were scored such that high values reflected higher levels of the construct. Validity and reliability coefficients reported below were derived from other, larger samples.

Measures

Psychological Well-being—The Brief Symptom Inventory (BSI) has 53 items for 9 subscales (a = .71-.85); distress is rated on a 5-point scale (0-4). This study reported the "global severity index (GSI)," the mean of all endorsed items, and was used to indicate overall level of psychological distress. Test-retest reliability is .68-.91 with a 2-week interval; the reliability and validity of the scale are well documented.[35]

The Crime-Related Post-Traumatic Stress Disorder Scale (CR-PTSD) is based on 28 selected items from the BSI[35] and the Symptoms Checklist-90 Revised (SCL-90)[36] that indicate post-traumatic stress disorder. Crime-related victimization includes sexual assault from any time in life, including childhood. With excellent internal consistency (a = .93), the scale effectively discriminates between individuals with and without crime-related PTSD (F = 98.2, $P < .001$).[37]

Dissociative Experiences Scale (DES) contains 28 items and measures the frequency of dissociative experiences, from 0% = never to 100% = always, on an 11-point scale. The coefficient alphas for internal consistency ranged from .83 to .93, and the test-retest reliability

was .79 with a 6-8-week test-retest interval; reliability and validity of the scale are well-documented.[38]

The DES-T consists of 8 items taken from the DES that represent severe dissociation and may indicate a dissociative disorder; the scale effectively discriminates between individuals with and without a dissociative disorder.[39]

The Bowerman Touch Empathy Scale is a 26-item, Likert-type scale (a = .93) that assesses empathy and quality of touch administered by a practitioner. Item responses range from "extremely" to "not at all" for questions about the quality of the therapist-client interaction. Construct validity was achieved through factor analysis.[40]

Physical Well-being—The Medical Symptoms Checklist measures the number and frequency of 26 common physical symptoms and associated discomfort. The number and frequency of symptoms is rated 0 (never) to 8 (constant) on a 2-point scale. The degree of discomfort of each symptom is rated on an 11-point scale (0 = none to 10 = extreme). The scale has been used in other mind-body studies.[41,42]

Body Connection—The Scale of Body Connection (SBC) has 2 distinct, uncor-related dimensions measuring body awareness and body association. A 5-point scale, 12 items measure body awareness (a = .85) and 8 items measure body association (a = .79). Body awareness measures conscious attention to sensory cues indicating bodily state (eg, tension, nervousness, peacefulness). Body association measures connection to or separation from body, including emotional connection (eg, ease or difficulty attending to emotion). The scale, which was developed for this study, has demonstrated construct validity through exploratory and confirmatory factor analysis.[43]

The Body Investment Scale (BIS) is a 24-item, 5-point scale assessing attitudinal relationship to the body. It consists of 4 factors: (a) attitude and feeling (a = .75), (b) body care (a = .86), (c) body protection (a = .92), and (d) comfort in touch (a = .85).[44]

Demographic and Intervention Experience Questionnaires

The initial questionnaire gathered demographic information (ie, age, education, occupation, income); psychological history (ie, number of years in psychotherapy, mental health concerns and symptoms); general abuse history information (ie, age of abuse, identity of abuser, duration of abuse); and responses to questions about motivation (ie, reasons for seeking body therapy).

The final questionnaire asked questions about experience of bodywork and perceived impact of study participation on therapeutic recovery. Key questions included, "What was the most important experience(s) that came from receiving massage?"; "Did you learn something new during the intervention? If yes, what are the most important things that you learned?"; "Were you 'ready' for bodywork at this point in your recovery (ie, did you feel that massage was appropriate and therapeutic for you at this time)?"; and "Do you think that the massage intervention influenced your psychotherapy? If yes, please comment on how."

The follow-up questionnaire asked about bodywork received subsequent to the intervention. Additional questions for the body-oriented group addressed the use and experience of body-oriented therapy techniques after the intervention; for example, "Have you done anything that you learned or practiced from the study during your daily life since your last bodywork session? If yes, please describe."

ANALYSIS

Statistical and qualitative analyses were used to provide both empirical and experiential perspectives on the study process, which are particularly appropriate in such a new field of study. These analytical methodologies represent different epistemological perspectives. The triangulation of findings supports the primary goals of this study: to test the efficacy of body-oriented therapy and to advance understanding of the intervention process.

Statistical Analysis

Preliminary analysis included sample statistics, evaluation of baseline equivalence of the study groups, evaluation of outcome equivalence by a research clinician within study groups, and regression analysis to determine if variables predicted intervention response. Repeated measure analysis of variance (ANOVA) was used to compare the effects of the interventions across 6 time points. Trend analysis was used to test the effectiveness of the massage and body-oriented therapy interventions and to describe the pattern of change for both interventions across time. The analysis was conducted using the Statistical Package for the Social Sciences, version 11.5 (SPSS, Chicago, Ill). Follow-up comparisons between groups and across time periods were conducted using *t*-tests and percent reduction equations. Because of the small sample size and the exploratory nature of this study, *P* value was set at <.10.

Qualitative Analysis

Content analysis, along with analytic tools from discourse analysis, was used to describe the qualitative responses of the massage and body-oriented therapy intervention. The investigator conducted the analysis, using the final questionnaire and the follow-up questionnaire. The first step of the qualitative analysis involved categorizing types of general response to the questions across intervention groups. The second step involved evaluating the use of specific words and meaning in the narrative response. If distinctions between groups appeared in either step of the process, responses were separated by group (massage versus body-oriented) to enhance clarity of the similarities and differences in word use, phrasing, and meaning. To verify interpretation of meaning, word use and phrasing in responses to other questions were examined to support or refute the interpretation.

RESULTS

Sample Characteristics

The psychological and physical symptom profile at baseline indicated generally high levels of psychological and physical symptoms among participants in both groups. With one exception, all participants scored above the 50% percentile rank on the global severity index (GSI) for psychological distress compared to the normed mean (50%) for nonpatient females; 15 were at or above the 90% percentile rank. PTSD scores at baseline were similarly high; 15 of the 24 participants were at, or above, the cut-off for active PTSD.[37] Dissociation was elevated, with a mean score of 12.4 compared to the average range of 4.4-7.8 for the general public. To indicate physical symptom distress, the scores ranged from 3 to 21 symptoms endorsed out of a possible 26. Nineteen out of 24 participants endorsed between 10-21 physical symptoms. Frequency of symptoms occurred, on average, once a week for each symptom for 13 of the 24 participants. Although the endorsed items varied among individuals, common symptoms included back pain, headache, gastrointestinal discomfort, nausea, and insomnia.

QUANTITATIVE FINDINGS

Preliminary Analysis

The demographic and sample characteristic data were examined for equivalence between groups and to determine whether or not they predicted outcomes after the intervention or at 3-month follow-up. The groups were equivalent, and none of the characteristics were associated with intervention outcomes.

The intervention groups were examined for equivalence at baseline and for equivalence on outcomes by the research clinicians (2 for each intervention) using repeated measures ANOVA. The *t*-tests and nonparametric tests revealed no significant baseline group differences or therapist effect.

There was baseline equivalence between the intervention groups on demographics, sample characteristics, sense of safety with research clinician, and on all baseline outcome measures. Likewise, there were no therapist effects in the massage or body-oriented therapy groups.

Sense of safety is considered fundamental for therapeutic activity among sexual abuse survivors receiving touch therapy.[34] Both intervention groups had a mean score of 4.3 (out of 5.0) on the Bowerman Empathy Scale, which indicated a high sense of safety among study participants. Using independent samples *t*-tests, there was equivalence in sense of safety by research clinician both within study groups and between study groups.

Change Across Time Comparing Intervention Groups

Repeated measures were administered at 6 points across time. The results indicate little difference between groups (massage versus body-oriented) on outcomes (Table 4). The results showed no significant group-by-time linear trends. The hypothesis that the body-oriented therapy group would demonstrate greater improvements in outcomes across time than the massage group was not supported. Rather, the groups showed equally significant improvements as demonstrated by the statistically significant changes across time for psychological well-being (psychological symptoms, PTSD, dissociation experiences) physical well-being (medical symptoms), and body connection (body awareness, body association, and body investment) (Table 4).

Change Across Time for Both Intervention Groups

The repeated measures ANOVA revealed significant linear changes in psychological well-being, body connection, and physical well-being experienced by participants in both interventions (massage and body-oriented therapy), as displayed in Table 5.

The significant increase in psychological well-being can be interpreted by comparisons with normative data from the Brief Symptom Inventory (BSI) and Crime-Related PTSD scale. The percentile rank in psychological symptoms (based on normed mean GSI) dropped from 93% to 80% from baseline to 3-month follow-up. For dissociation, 10 of the 24 participants had scores within the normal range for the general public; at post-intervention 18 of the participants were within normal range. This reduction in scores was maintained through 3-month follow-up. The reductions in PTSD scores were also indicative of the increase in psychological well-being. At post-intervention, only 4 participants (2 from each intervention group) had scores reflecting active PTSD compared to the 15 participants (7 in massage group and 8 in body-oriented therapy group) with active PTSD at baseline. These overall PTSD reductions were maintained into follow-up; only 5 participants had scores reflecting active PTSD (3 in massage group and 2 in body-oriented therapy group). These ov e rall findings demonstrate the significant clinical effectiveness of both interventions in sexual abuse recovery.

Qualitative Findings

Qualitative study looks at the subjective experience of the participant, which is important for understanding the experience and impact of an intervention. The triangulation of empirical and interpretive methodologies can bring insight to quantitative data.

Reasons for Seeking Bodywork

Analysis of the initial questionnaire responses indicated that the primary reason participants sought study participation was to increase body connection. On the final questionnaire, participants who had received pre-study bodywork were asked to comment on similarities or differences compared to past bodywork in: a) their bodywork experience, b) reasons for seeking bodywork, and c) the role that bodywork played in their health and healing. Their responses to these questions were analyzed to determine whether participants distinguished between motivation for study participation compared to motivation to seek bodywork before the study. More than half of the participants (11 of 18 who had more than one previous bodywork session) described different reasons for seeking bodywork before the study than for study participation. Before the study, they sought bodywork primarily for relaxation and relief from muscle tension. In contrast, with respect to this study, they sought bodywork primarily to increase body connection and enhance their abuse recovery. The similarity in responses to the initial and final questionnaires indicates the participants' sincerity and motivation for study involvement. The responses highlight the perceived importance of body connection in abuse recovery.

Experiential Perspective of the Intervention

Written responses to questions from the final questionnaire about the experience of receiving the massage or body-oriented therapy interventions and the perceived influence on abuse recovery were examined. Distinct differences emerged between the massage and body-oriented therapy group responses. The experiential distinction between interventions is best explained as 2 perspectives in relationship to the bodily self: a behavioral perspective and a somatic perspective. The behavioral perspective is akin to a psychological framework of self-perception. It is characterized by the ability to gain an observational and objective (from outside the body) perspective that involves recognizing the body as part of the self and provide insight into behavior.[25] The somatic perspective is akin to the concept of "embodiment" in anthropology,[45] in which the bodily self is the foundation of self-knowledge. It is characterized by access to pro-prioceptive sensing, or inner body awareness.[25]

Intervention Experience

Written responses to questions on the final questionnaire about the experience of receiving the massage or body-oriented therapy intervention were examined. All participants responded to these questions. The massage group responses reflected a shift toward increased awareness of self, specifically, awareness of behaviors that were linked to childhood abuse history. These responses generally fell into 2 primary categories: recognizing the impact of dissociation and increased self-care. As an example of recognizing the impact of dissociation, one participant wrote that the most important thing she learned from the massage was, "Owning just how disconnected I realize I am at this point with my body." Increased self-care was commonly expressed as, "I'm trying to learn to connect, accept, nurture, and take care of my body."

In contrast, the body-oriented group responses highlighted learning specific tools for body-focused attention, which indicated their use of proprioceptive sensing. These responses fell into two primary categories: experiencing emotional self and learning to access inner bodily self. As an example of experiencing emotional self, one participant wrote, "[I] feel body and emotion connection was solidified." "I relaxed those deep abdominal muscles and I just started to weep. I was shocked that this 'weeping and sadness' was in me." A common example of

inner body awareness was, “I learned to relax my muscles from the inside. I was able to stay inside parts of my body rather than just looking at myself from the outside.”

Intervention Influence on Recovery

Written responses to questions from the final questionnaire about the perceived impact or lack of impact of the intervention on abuse recovery were examined. All participants responded to these questions. Distinct differences in response to these questions emerged between massage and body-oriented therapy groups. In the massage group, 3 of the 12 participants did not think that receiving the massage intervention influenced their recovery from childhood sexual abuse. For the 9 who did, the influence of massage on recovery was expressed as a combination of newfound volition (self-efficacy) and budding self-care. A common response reflecting self-efficacy was, “I find myself planning to learn and do things I’ve wanted to for a long time. I seem to have a slightly to greatly improved belief in my ability to make positive lifestyle change.” In an example of budding self-care, one participant said, “The massage was a contradiction to having been abused and a contradiction to helplessness. By committing to these sessions, I was demonstrating to myself that I was taking care of my body, and myself, in a way I could not do as a child.” The influence of massage on psychotherapy was overwhelmingly expressed as jump-starting psychotherapy, particularly around healing from the vestiges of childhood abuse. A common response was, “I’ve been avoiding talking about [abuse] stuff with [a] therapist because [it is] so painful, but now I want to. It’s a relief to get it out. I think about this [abuse] while on the massage table. I can accept that this [abuse] really contributed to some life problems; I was in such denial for such a long time.”

All participants in the body-oriented therapy group thought that receiving the intervention influenced their recovery. The influence of body-oriented therapy on recovery was expressed as increased understanding and insight emerging from somatic experience. For example, one participant wrote, “This strategy has really opened me up to ways that I can stay in my body more often without fearing for my life. I am learning that being inside my body can be empowering and enjoyable.” The influence of body-oriented therapy on psychotherapy was expressed as the inclusion of somatic experience in psychotherapy sessions, enhancing psychotherapeutic work. For example, one participant described this process as, “After delving, I found that my emotions were more reachable, which assisted in psy-chotherapy.” “··· an increase in internal cues allowed me to focus or telegraph my recovery work in psychotherapy. This telegraphing had a profound effect on me in that it propelled and intensified my recovery work.”

In sum, the findings suggest that the massage group acquired a behavioral perspective, increasing self-care behavior and relationship to bodily self. These, in turn, influenced abuse recovery by stimulating self-efficacy and jump-starting psychotherapy. For the massage group, the behavioral perspective was familiar, demonstrated by the ease with which they pursued self-motivated therapeutic activity during massage sessions; reflecting the behavioral orientation of our culture and their psychotherapeutic experience.

In contrast, the body-oriented group acquired a somatic perspective, learning specific tools to access somatic experience and increased sensory and emotional awareness. These, in turn, facilitated somatically-based insight and understanding. All body-oriented group participants perceived that body-oriented therapy influenced abuse recovery by providing new ground for self-knowledge and information, enhancing psychotherapy through the inclusion of somatically-based process and information. For the body-oriented therapy group, the somatic perspective was new, demonstrated by their descriptions of learning new tools that facilitated somatic experience, indicating the typical lack of sensory and emotional awareness among this population.

Motivation for Increased Body-Mind Connection

Participant responses to the final questionnaire administered post-intervention were examined to explore the role of motivation in the study process. All participants indicated that they felt "ready" for body therapy in their abuse recovery. The indication of readiness for bodywork and the strong desire for increased body connection among all study participants may have contributed to the retention (100%) of participants throughout the study. The motivation to increase body connection in recovery appears to have played a role in the positive outcomes. The role that motivation played was expressed differently in the massage and body-oriented therapy groups.

Motivation in Massage Group

The motivation to address recovery through attention to the body became apparent in process evaluation of the intervention and in the participants' responses to the final questionnaire. The massage group, despite receiving a nonverbal, standardized massage, used the massage experience as a catalyst for therapeutic activity. Notably, they did this privately. The session audiotapes did not reveal their inward processes. Rather, as appropriate to the protocol, the taped sessions reflected the nonverbal emphasis of the intervention; conversations that did occur were fairly mundane. On the final questionnaire, however, the massage group participants repeatedly described self-motivated therapeutic activity during the massage session. A common example involved the purposeful attention to dissociation during the massage. For some participants, this involved general awareness of dissociative response to massage; for others, it involved practicing various behavioral strategies to increase capacity for presence while receiving massage. Ten of the 12 massage group participants described some degree of self-motivated therapeutic activity during massage sessions.

The engagement in self-motivated therapeutic activity during massage was perceived as the stimulus for the increased self-care behavior and psychotherapeutic engagement; 9 of the 12 massage group participants described increased engagement in psychotherapy. For example, one participant described how the therapist check-ins facilitated her ability to attend to her comfort needs by asking for less tactile pressure, an extra blanket, etc. The positive and supportive response by the therapist further enabled her to attend to her comfort needs both during subsequent massage sessions and in her daily life. She described these positive changes in interpersonal behavior as indications of massage influence on therapeutic recovery. Another participant described privately reflecting on her dysfunctional childhood home environment during the massage sessions, making important and new connections regarding her own problematic patterns of behavior. She attributed this process to staying present rather than dissociating during the massage. She described the process as painful but exceedingly helpful for recovery and for stimulating psychotherapy.

The high level of self-motivated therapeutic activity during the massage intervention was remarkable given that (a) the non-verbal protocol provided no facilitation of sensory or emotional processing, (b) the majority of participants were naïve to bodywork therapy, and (c) with one exception, the participants had no experience with using bodywork to address recovery. The engagement in self-motivated therapeutic activity reflects the great sense of safety participants felt with their practitioners; many commented on the safety inherent in the predictability of the massage and the clinician responsiveness to feedback, both fundamental elements of the protocol. The participants' descriptions of their massage experience suggest that they responded differently to the study massage compared to previous massage experiences, most likely due to the safety inherent in participating in a study specific to abuse recovery that involved experienced and carefully supervised bodywork clinicians.

Motivation in the Body-Oriented Therapy Group

The body-oriented therapy group's motivation for change was equally apparent but expressed differently. In contrast to the massage intervention, the body-oriented protocol was designed to teach participants to access inner somatic experience and to facilitate the incorporation of these skills into daily life.

All body-oriented therapy group participants demonstrated consistent and profound engagement in the intervention, apparent in the audiotaped sessions and reflected in the weekly process evaluations by the research clinicians. Each participant kept a daily log documenting frequency and duration of homework practice during the 8 weeks of the intervention. All body-oriented therapy group participants engaged in regular and frequent body awareness homework each week. At the 3-month follow-up, 11 of the 12 participants reported that they regularly incorporated at least one of the somatic experiencing techniques from the body-oriented intervention into daily life (approximately 2-5 times per week). They described their motivation for continued use of body awareness practice during follow-up as facilitating emotional connection, increasing sense of well-being, and reducing tension and anxiety. The motivation for, and continued practice of, body awareness techniques during follow-up reflected the perceived therapeutic usefulness of learning techniques to access somatic experience.

DISCUSSION

The results demonstrate improvement for both the massage and body-oriented therapy groups, which provides preliminary support for the efficacy and effectiveness of body therapy in recovery from childhood sexual abuse. The improvements in psychological well-being and physical well-being were similar to the pre-intervention to post-intervention findings in a pilot-test comparison of body-oriented therapy as an adjunct to psychotherapy with this population[21] and to the pre-intervention to post-intervention improvements in anxiety and depressed mood in a randomized control trial of massage therapy for female sexual abuse survivors.[33] Particularly remarkable were the maintained improvements on all outcomes from post-intervention through 3-month follow-up for both groups. Few body therapy studies have gathered longitudinal data, and no body therapy studies have measured these particular markers of psychological and physical well-being and body connection into a follow-up period. The similar benefits for both groups despite the differences in intervention were not expected and did not support the study hypothesis. The standardized massage was expected to evoke less therapeutic response and consequently less improvement in outcomes compared to the more individualized and skill-building orientation of the body-oriented therapy intervention. Although concurrent psychotherapy likely contributed to the improved and maintained health outcomes, qualitative findings and process evaluation provide insight into the massage and body-oriented therapy contribution to health outcomes.

The motivation to address recovery through attention to the body appears to have played a role in the positive outcomes and likely contributed to the similarity in outcomes between groups. This was most clearly demonstrated by the massage group. Dissociation reduction was the primary focus of self-motivated therapeutic activity by the massage group, and likely facilitated the decrease in dissociation evident in the outcomes. Given the role that massage played in providing the opportunity for body-focused, self-directed therapeutic activity, it is unlikely that the positive outcomes among the massage group resulted from psychotherapy alone. It is likely that significant improvements in outcomes were a result of increased psychotherapeutic engagement facilitated by activation of a behavioral perspective on bodily self. This does not diminish the role of massage therapy, but rather supports the importance of bodywork as an adjunct to psychotherapy in recovery from sexual abuse. The impact of motivation in the body-oriented therapy group is more clearly tied to engagement in the specific therapeutic process of the intervention. Although concurrent psychotherapy likely contributed to the improved and

maintained health outcomes, it is unlikely that the improvement in outcomes in the body-oriented therapy group resulted from psychotherapy alone; this is further supported by the pilot study findings of body-oriented therapy as an adjunct to psychotherapy with this population that found little change from pre-intervention to post-intervention among the wait-list control group compared to the experimental group.[21]

The intervention approaches stimulated different types of therapeutic activity, due in large part to the difference in behavioral-versus-somatic perspective in relationship to bodily self. The intervention group differences were not apparent on “body con-nection” outcomes, possibly because of the measures’ inability to capture the subtle differences in body awareness, association, and investment that contribute to these distinct perspectives on self. Though distinct, these body awareness perspectives are considered equally important modes in relation to bodily self.[25]The similar statistical change on outcomes between groups supports the clinical perspective that behavioral and somatic perspectives are both therapeutically important. In particular, both groups experienced shifts in perspective that likely contributed to the reduction in dissociation, a result of increased body awareness that facilitated change in perception from disembodied to embodied self.

Clinical Implications

These findings contribute to the scientific basis for the practice of massage and body-oriented therapy. First, this is the second study indicating that women in psychotherapy for childhood sexual abuse recovery who seek out bodywork tend to be extremely committed to their healing.[46] For many, the opportunities to address the body in recovery have been limited by the lack of attention to the body in psychotherapy, the expense of bodywork therapy, and the relative lack of bodyworkers skilled in trauma recovery. This study provided such an opportunity and tapped a needed resource, evidenced by the completion of study enrollment only weeks after recruitment, and points to the need for therapeutic attention to body-mind connection in therapeutic recovery among abuse survivors.

Second, abuse history is generally severe among women who seek body therapy as an adjunct to psychotherapy for abuse recovery, and the women have a concomitant level of psychological and physical distress.[46] It is important the sexual abuse survivors are psychologically ready for the integrative work of body therapy. Given the prevalence of abuse trauma in the general population, basic bodywork education must address the therapeutic needs of sexual abuse survivors. More advanced training and graduate programs that address trauma recovery using bodywork and body-oriented therapy also are needed.

Third, the similar effectiveness of both massage and body-oriented therapy approaches, combined with the qualitative findings suggesting distinctly different experiential and therapeutic processes, raises questions about who would be best served by each approach. The clinical emphasis on inner body awareness for integration in sexual abuse recovery points to the need to clarify the construct of body awareness to more accurately interpret the clinical relevance of experiential differences in body awareness among women in sexual abuse recovery. It is possible that one approach is more appropriate than another at any given stage of abuse recovery. Likewise, it is possible that there would be differences in the long-term impact of any one body therapy approach on therapeutic recovery from childhood sexual abuse.

Study Limitations and Future Research

The study limitations highlight the need for future research in this area. First, the study sample is small, limiting interpretation of comparative results and generalization of study findings. Also, this study compared 2 treatment approaches but lacked an absolute control condition, a limitation of study design that also restricts result interpretation. Future research calls for a

larger sample, randomly assigned to multiple treatment arms (including an absolute control condition). Second, the measures of body awareness did not distinguish between bodily self perspective (behavioral versus somatic), which indicates the need for increased specificity and sensitivity to the body-oriented therapy intervention. This study also points to the need for additional measures that address skill-acquisition in body-oriented therapy. There is a positive association between somatic perspective and self-regulation in biofeedback[47] that is particularly relevant because it presents the possibility that access to somatic experience in body-oriented therapy may facilitate self-regulation. Because lack of self-regulation is a common and primary issue among adult sexual abuse survivors in psychotherapeutic recovery, it is important to measure loci of control and self-regulation in future body therapy research with this population. Third, the design did not account for the impact of sense of safety or the use of self-directed therapeutic activity, both of which appear to have influenced the character of the comparison intervention (ie, it did not simulate a spa massage). Consequently, future study design will need to address the impact of sense of safety and the use of self-directed therapeutic activity on therapeutic outcomes in comparative intervention studies. Fourth, the investigator collected and analyzed the data, so the investigator was not masked to study condition during the phases of data collection and analysis, a limitation of the study design. Great care was taken toward equanimity in these aspects of the research process, but it is possible that the role of the investigator in data collection may have influenced participant responses on questionnaires or the interpretation of findings.

Last, high educational background, a prominent demographic feature, may be typical of women in psychotherapy for childhood sexual abuse who seek adjunctive body therapy. It may also reflect the exclusion criteria, which excluded women not currently in psychotherapy and women with more severe mental health concerns. These exclusions were chosen to increase homogeneity among such a small sample. Ideally, future study will allow for a more inclusive sample. This will require greater education among and greater supervision of research clinicians and will increase generalization of study results.

CONCLUSION

This is an important study of massage and body-oriented therapy approaches for women recovering from childhood sexual abuse. This study demonstrated the feasibility of body-oriented therapy intervention training and implementation and the development of ethical protocols and study design for a vulnerable population. The significant benefit of both intervention approaches supports the use of body therapy in sexual abuse recovery. The triangulation of methodologies facilitated understanding of study findings and addressed the intricacies of clinical experience and research, raising important clinical and research questions about the role of body therapy in abuse recovery. Likewise, the similar positive outcomes between groups, the role of motivation among both groups, and the positive experience of the intervention suggest that the expectations and interpersonal element of the therapist-client relationship were significant factors underlying the combined and comparative intervention effects. The qualitative results indicate that both massage and body-oriented interventions influence abuse recovery in important but distinct ways, involving different perspectives in relationship to self. This distinction is important for future studies examining the role of body therapy as an adjunct to psychotherapy in recovery from childhood sexual abuse. The findings also raise more general questions about the role of somatic integration in health and healing.

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References

1. Herman, J. Trauma and Recovery. New York, NY: HarperCollins Publishers; 1992.
2. Timms, R.; Connors, P. Embodying Healing: Integrating Bodywork and Psychotherapy in Recovery from Childhood Sexual Abuse. Orwell, Vermont; The Safer Society Press: 1992.
3. Greenberg, L.; Van Balen, R. The theory of experience-centered therapies. In: Greenberg, L.; Watson, J.; Lietaer, G., editors. Handbook of Experiential Psychotherapy. New York NY: Guildford ; 1998.
4. van der Kolk, B.; van der Hart, O.; Marmar, C. Dissociation and Information Processing in Posttraumtatic Stress Disorder. In: van der Kolk, B.; McFarlane, C.; Weisaeth, L., editors. Traumatic Stress: the effects of overwhelming experience on mind, body and society. New York NY: Guilford Press; 1996. p. 303-327.
5. Feeny NC, Zoellner LA, Fitzgibbons LA, Foa EB. Exploring the roles of emotional numbing, depression, and dissociation in PTSD. J Trauma Stress 2000;13:489–498. [PubMed: 10948488]
6. van der Kolk BA, Pelcovitz D, Roth S, Mandel FS, McFarlane A, Herman JL. Dissociation, somatization, and affect dysregulation: the complexity of adaptation of trauma. Am J Psychiatry 1996;153:83–93. [PubMed: 8659645]
7. Salmon P, Skaife K, Rhodes J. Abuse, dissociation, and somatization in irritable bowel syndrome: towards an explanatory model. J Behav Med 2003;26:1–18. [PubMed: 12690943]
8. Beitchman JH, Zucker KJ, Hood JE, daCosta GA, Akman D, Cassavia E. A review of the long-term effects of child sexual abuse. Child Abuse Negl 1992;16:101–118. [PubMed: 1544021]
9. Briere J, Elliott DM. Prevalence and symptomatic sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. Child Abuse Neglect: Intern J 2003;27:1205–1222.
10. Maltz W. Identifying and treating the sexual repercussions of incest: a couples therapy approach. J Sex Marital Ther 1988;14:142–170. [PubMed: 3204638]
11. Maltz, W. The Sexual Healing Journey: A Guide for Survivors of Sexual Abuse. New York NY: Quill; 2001.
12. McCauley J, Kern DE, Kolodner K, et al. Clinical characteristics of women with a history of childhood abuse: unhealed wounds. JAMA 1997;277:1362–1368. [PubMed: 9134941]
13. Courtois, C. Healing the Incest Wound: Adult Survivors in Therapy. New York NY: WW Norton; 1996.
14. Kepner, J. Healing Tasks: Psychotherapy with Adult Survivors of Childhood Abuse. San Francisco Calif: Jossey-Bass; 1995.
15. Kendall-Tackett K. Physiological correlates of childhood abuse: chronic hyperarousal in PTSD, depression, and irritable bowel syndrome. Child Abuse Negl 2000;24:799–810. [PubMed: 10888019]
16. Fitch P, Dryden P. Recovering body and soul from Post-Traumatic Stress Disorder. Mass Ther J 2000;39:41–62.
17. Levine, P. Waking the Tiger: Healing Trauma. Berkeley Calif: North Atlantic Books; 1997.
18. Van der Kolk, B. Proceedings of the The United States Association For Body Psychotherapy "Emergence & Convergence: The Body in Psychotherapy". Baltimore, Md: 2002. Beyond the Talking Cure: Somatic Experience, Subcortical Imprints, and the Treatment of Trauma.
19. Aposhyan, S. Body-Mind Psychotherapy: Principles, Techniques, and Practical Applications. New York NY: Norton; 2004.
20. Ogden P, Minton K. Sensorimotor Psychotherapy: One method for processing traumatic memory. Traumatology 2000;7:1–20.
21. Price C. Body-oriented therapy as an adjunct to psychotherapy in recovery from childhood abuse: a case study. J Bodywork Move Ther 2002;6:228–236.
22. European Association of Body-Centered Psychology. What is body-psychotherapy? Available at: http://www.eabp.org. Accessed July 2005
23. Gendlin, E. Focusing. New York NY: Bantam; 1981.

24. Gendlin, E. Focusing-Oriented Psychotherapy: A Manual of the Experiential Method. New York NY: Guilford; 1996.
25. Hanna, T. What is Somatics? In. In: Johnson, D., editor. Bone, Breath and Gesture: Practices of Embodiment. Berkeley Calif: North Atlantic Books; 1995. p. 341-352.
26. Ogden, P. Hakomi integrated somatics: hands-on psychotherapy In. In: Caldwell, C., editor. Getting in Touch: The Guide to New Body-Centered Therapies. Wheaton Ill: Quest; 1997.
27. Price C. Fantastic voyage/fantastic voyagers: connecting and imagery in bodywork. Somatics 1999;12:32–34.
28. Hanna, T. The body of life: Creating new pathways for sensory awareness and fluid movement. Rochester Vt: Healing Arts; 1993.
29. Price C. Body-oriented therapy in sexual abuse recovery: a pilot-test comparison. J Bodywork Move Ther. 2005In press
30. Moyer C, Rounds J, Hannum J. A meta-analysis of massage therapy research. Psychol Bull 2004;130:3–18. [PubMed: 14717648]
31. American Massage Therapy Association. Enhancing your health with therapeutic massage. Available at: http://www.amtamassage.org. Accessed July 2005
32. Field T, Grizzle N, Scafidi F, Schanberg S. Massage and Relaxation Therapies' Effects on Depressed Adolescent Mothers. Adolescence 1996;31:904–911.
33. Field T, Hernandez-Reif M, Hart S, et al. Effects of sexual abuse are lessened by massage therapy. J Bodywork Move Ther 1997;1:65–69.
34. Benjamin B. Massage and bodywork with survivors of abuse, Part V. Massage Ther J 1996:1–18.
35. Derogatis, L. The Brief Symptoms Inventory. Minneapolis MN: National Computer Systems Inc: 1993.
36. Derogatis, L. The SCL-90-R: Administration, scoring, and procedures manual. Baltimore Md: Clinical Psychometric Research; 1977.
37. Saunders B, Arata C, Killpatrick D. Development of a crime-related post-traumatic stress disorder scale for women within the symptom checklist-90-revised. J Trauma Stress 1990;3:439–448.
38. Carlson E, Putnam F. An update on the dissociative experiences scale. Dissociation 1993;6:16–27.
39. Waller N, Putnam F, Carlson E. Types of dissociation and dissociative types: A taxo-metric analysis of dissociative experiences. Psycholog Meth 1996;1:300–321.
40. Bowerman, S. The effect of empathic touch and expectations on mood change during a therapeutic massage treatment. Unpublished Doctoral Dissertation. California School of Professional Psychology. 1989.
41. Kroenke K, Spitzer RL. Gender differences in the reporting of physical and somato-form symptoms. Psychosom Med 1998;60:150–155. [PubMed: 9560862]
42. Nakao M, Fricchione G, Myers P, et al. Anxiety is a good indicator for somatic symptom reduction through behavioral medicine intervention in a mind/body medicine clinic. Psychother Psychosom 2001;70:50–57. [PubMed: 11150939]
43. Price C. Measuring Dimensions of Body Connection: Body Awareness and Body Dissociation. Manuscript in preparation. 2004
44. Orbach I, Mikulincer M. The Body Investment Scale: Construction and Validation of a Body Experience Scale. Psychological Assessment 1998;10:415–425.
45. Csordas T. Embodiment as a paradigm for anthropology. Ethos 1990;18:5–47.
46. Price C. Characteristics of women seeking bodywork as an adjunct to psychotherapy during recovery from childhood sexual abuse. J Bodywork Move Ther 2004;8:35–42.
47. Criswell, E. Novato Calif: Freeperson; 1995. Biofeedback and Somatics: Toward a Personal Revolution.

TABLE 1

Demographics and Baseline Characteristics (N = 24)

Characteristics	
Age, median (range)	41 (26-56)
Racial/ethnic identity	
White	20
Black	2
Hispanic	1
Native American	1
Income (range)	$4,000-$200,000
< $30,000	8
$30,000 to $50,000	11
> $50,000	5
Education	
Completed high school	24
Completed college	18
Graduate student	5
Completed graduate program	6
Massage history	
None	3
Minimal (1-10 sessions)	15
Moderate (10-30 sessions)	6
Regularly scheduled (< 30 sessions)	3
Body-oriented therapy	
None	20
Minimal (1-10 sessions)	4
Abuse history	
Childhood sexual abuse over multiple years	18
Childhood sexual abuse over multiple years, from multiple perpetrators	9
Physically abused by parent(s)	11
Subsequent date rape in early adulthood	8
Psychotherapy in years, mean (range)	5 (2.5-15)

TABLE 2

Overview of Massage Protocol

Face Up	**Face Down**
1) Head and Neck	5) Legs
• Traction to neck	• Calf stretch
• Stroke on both sides of neck	• Knead calf muscle
• Forehead stroke	• Strokes up and down full leg
• Circular stroke on jaw	6) Back
• Shoulder pressure	• Low back stretch
2) Arms	• Thumb pressure along vertebrae
• Arm traction	• Knead tops of shoulders
• Hand massage	• Circles around shoulder blades
• Strokes up and down arms	• Strokes down both sides of spine
• Shoulder circles	• Sacrum press
• Hand trigger point	• Thumb circles in gluteus muscles
3) Torso	• Connecting stroke from shoulders to feet
• Rocking at ribcage	
• Deep breaths into belly	• Gentle rocking with hands on back
4) Legs	
• Leg traction	
• Foot massage	
• Strokes up and down legs	

TABLE 3

Body-Oriented Therapy Intervention

Key Elements	Stage 1	Stage 2	Stage 3
Sense of safety	X	X	X
Intake	X (10)	X (10)	X (10)
Massage with body literacy	X (40)	X (10)	X (10)
Inner body awareness exercises		X (30)	
Delving			X (30)
Session review	X(10)	X (10)	X (10)
Homework	X	X	X

Minutes spent on each element are specified in parentheses

TABLE 4

Means and Standard Deviations (SD) for Massage and Body-Oriented Therapy

	Baseline		At 2 weeks		At 4 weeks		Post- Intervention		1-Month Follow-Up		3-Month Follow-Up	
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Psychological symptoms												
massage (*n* = 11)	.92	(.47)	.72	(.42)	.70	(.59)	.48	(.37)	.65	(.43)	.51	(.42)
body-oriented (*n* = 12)	1.2	(.61)	.95	(.55)	.86	(.38)	.66	(.45)	.59	(.33)	.56	(.37)
Crime-related post-traumatic stress disorder												
massage (*n* = 11)	1.0	(.40)	.81	(.45)	.79	(.61)	.51	(.35)	.66	(.43)	.53	(.42)
body-oriented (*n* = 11)	1.2	(.61)	.98	(.52)	.90	(.40)	.65	(.35)	.62	(.40)	.56	(.34)
Dissociation experiences												
massage (*n* = 11)	12.1	(7.5)	9.6	(5.7)	8.3	(6.9)	5.5	(4.6)	4.6	(3.9)	3.7	(3.4)
body-oriented (*n* = 12)	12.4	(6.8)	11.3	(9.1)	8.5	(6.8)	7.8	(5.8)	6.5	(6.4)	5.4	(5.4)
Body awareness												
massage (*n* = 11)	2.7	(.88)	3.1	(.80)	3.2	(.66)	3.5	(.43)	3.3	(.59)	3.2	(.45)
body-oriented (*n* = 11)	2.7	(.65)	2.9	(.58)	3.0	(.61)	3.4	(.68)	3.4	(.60)	3.4	(.62)
Body association												
massage (*n* = 11)	3.3	(.73)	3.5	(.38)	3.6	(.50)	4.0	(.35)	3.5	(.55)	3.6	(.41)
body-oriented (*n* = 12)	3.1	(.81)	3.2	(.64)	3.3	(.50)	3.7	(.58)	3.7	(.35)	3.6	(.55)
Body investment												
massage (*n* = 11)	3.4	(.61)	3.4	(.55)	3.6	(.54)	3.7	(.53)	3.7	(.41)	3.8	(.46)
body-oriented (*n* = 12)	3.4	(.55)	3.5	(.60)	3.6	(.46)	3.9	(.49)	3.9	(.46)	3.8	(.60)
Number of physical symptoms												
massage (*n* = 11)	14	(5.3)	14	(6.1)	12	(4.9)	12	(5.4)	12	(7.1)	10	(7.1)
body-oriented (*n* = 12)	12	(5.2)	13	(5.3)	13	(5.4)	12	(5.1)	11	(4.6)	6.8	(4.5)
Physical symptom discomfort												
massage (*n* = 10)	54	(23)	48	(32)	47	(30)	42	(28)	37	(28)	35	(32)
body-oriented (*n* = 10)	48	(24)	49	(29)	42	(20)	40	(25)	30	(25)	26	(20)

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TABLE 5

Repeated Measures Analysis: Linear Trends Across Intervention Groups

Outcome Measure	***df***	***MS***	***F***	***P***
Psychological symptoms	1	3.8	27.0	.00
Post-traumatic stress disorder	1	4.5	34.0	.00
Dissociation experiences	1	98	33.0	.00
Body awareness	1	6.9	15.0	.00
Body association	1	3.2	8.0	.01
Body investment	1	3.3	20.0	.00
Number of physical symptoms	1	287	20.0	.00
Physical symptom discomfort	1	6,428	20.0	.00

df=degrees of freedom; MS=mean squares; F=F-ratio