



Systematic Review

Body-Oriented Gestalt Trauma Therapy (GTT): A Systematic Literature Review

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ABSTRACT

Objective: Body-oriented Gestalt therapy represents an integrative approach to trauma treatment that emphasizes body awareness, interoceptive and proprioceptive sensations, and bottom-up processing of traumatic experiences. This systematic review examines empirical evidence for body-based interventions in trauma treatment, with particular focus on Gestalt principles of awareness, contact, and organismic self-regulation.

Materials and Methods: A systematic search was conducted in PubMed, Scopus, Web of Science, and PsycINFO databases for the period 2015-2025, following PRISMA guidelines. Inclusion criteria comprised randomized controlled trials (RCTs), quasi-experimental studies, and systematic reviews of body-oriented trauma interventions.

Results: The analysis identified promising evidence for several body-oriented approaches, including Somatic Experiencing ($d = 0.94-1.26$), trauma-sensitive yoga ($d = 1.07$), sensorimotor psychotherapy, and dance movement therapy. Common therapeutic mechanisms include enhanced interoceptive awareness, regulation of the autonomic nervous system through polyvagal pathways, and completion of interrupted defensive responses.

Conclusions: Body-oriented Gestalt approaches demonstrate significant potential for trauma treatment, integrating phenomenological awareness principles with neurobiological mechanisms of bottom-up processing. Further RCTs are needed to establish standardized protocols and evidence-based guidelines.

Keywords

Gestalt therapy, Trauma, Body-oriented approaches, Somatic Experiencing, Interoception, Polyvagal Theory, PTSD, Body awareness, Self-regulation, Systematic review.

ABSTRACT IN ITALIANO

Introduzione: La terapia della Gestalt orientata al corpo rappresenta un approccio integrativo al trattamento del trauma che enfatizza la consapevolezza corporea, le sensazioni interocettive e propriocettive, e l'elaborazione bottom-up delle esperienze traumatiche. Questa revisione sistematica esamina l'evidenza empirica degli interventi corporei nel trattamento del trauma, con particolare attenzione ai principi gestaltici di consapevolezza, contatto e autoregolazione organismica.

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Materiali e Metodi: È stata condotta una ricerca sistematica nei database PubMed, Scopus, Web of Science e PsycINFO per il periodo 2015-2025, seguendo le linee guida PRISMA. I criteri di inclusione comprendevano studi controllati randomizzati (RCT), studi quasi-sperimentali e revisioni sistematiche su interventi corporei per il trauma.

Risultati: L'analisi ha identificato evidenze promettenti per diversi approcci corporei, inclusi Somatic Experiencing ($d = 0.94-1.26$), yoga trauma-sensibile ($d = 1.07$), terapia sensomotoria e danza-movimento-terapia. I meccanismi terapeutici comuni includono il potenziamento della consapevolezza interocettiva, la regolazione del sistema nervoso autonomo attraverso la teoria polivagale, e il completamento delle risposte difensive interrotte.

Conclusioni: Gli approcci gestaltici orientati al corpo mostrano un potenziale significativo nel trattamento del trauma, integrando principi di consapevolezza fenomenologica con meccanismi neurobiologici di elaborazione bottom-up. Sono necessari ulteriori RCT per stabilire protocolli standardizzati e linee guida basate sull'evidenza.

Parole chiave

Terapia della Gestalt, Trauma, Approcci corporei, Somatic experiencing, Interocezione, Teoria polivagale, PTSD, Consapevolezza corporea, Autoregolazione, Revisione sistematica.

INTRODUCTION

Psychological trauma represents a pervasive public health concern, with post-traumatic stress disorder (PTSD) affecting approximately 5.6% of the general population and higher rates among specific groups, including women (twice the male prevalence) and individuals with migration histories (up to 47% at risk) [1, 2]. The recognition that trauma is encoded not only cognitively but also somatically has led to growing interest in body-oriented therapeutic approaches that address the physiological dimensions of traumatic stress [3, 4].

Gestalt therapy, developed by Fritz and Laura Perls alongside Paul Goodman in the 1950s, has always emphasized the unity of mind and body, viewing the organism as an integrated whole in constant interaction with its environment [5, 6]. The Gestalt concept of 'awareness' encompasses not merely cognitive recognition but includes bodily sensations, emotional states, and relational dynamics occurring in the here-and-now [7]. This phenomenological approach to human experience positions Gestalt therapy as a natural framework for integrating body-oriented trauma interventions.

Contemporary neuroscience has provided substantial empirical support for body-oriented approaches to trauma. Van der Kolk's [8] seminal work, 'The Body Keeps the Score,' crystallized decades of research demonstrating that traumatic memories are stored implicitly in procedural and sensorimotor systems, often inaccessible to verbal processing alone. The polyvagal theory, developed by Porges [9, 10], has offered a neurophysiological framework for understanding how the auto-

nomous nervous system mediates responses to threat and safety, with direct implications for therapeutic interventions targeting the body.

The concept of interoception – the perception of internal bodily states – has emerged as a critical mechanism linking body awareness to emotional regulation and mental health [11, 12]. Research has demonstrated that interoceptive dysfunction is common in trauma survivors, manifesting as either blunted or heightened sensitivity to internal signals [13]. Body-oriented interventions may address these disruptions by enhancing interoceptive awareness and facilitating the integration of somatic experience with cognitive and emotional processing.

Several body-oriented approaches have developed specifically for trauma treatment, including Somatic Experiencing (SE), developed by Peter Levine [14, 15], sensorimotor psychotherapy [16, 17], trauma-sensitive yoga [18, 19], and dance movement therapy [20, 21]. While these approaches share common elements, such as attention to bodily sensation, emphasis on autonomic regulation, and processing of implicit traumatic material, they have largely developed independently, with varying degrees of empirical support.

This systematic review aims to synthesize the current evidence base for body-oriented trauma interventions through the lens of Gestalt therapy principles. By examining how concepts such as awareness, contact, organismic self-regulation, and field theory manifest in body-based approaches to trauma, this review seeks to establish theoretical coherence across diverse modalities and evaluate their empirical efficacy. The integration of Gestalt phenomenology with contemporary neuro-

science offers a comprehensive framework for understanding both the mechanisms and outcomes of body-oriented trauma therapy.

exclusively on pharmacological interventions; (4) Non-peer-reviewed literature; (5) Studies without standardized outcome measures.

MATERIALS AND METHODS

Study Design

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines [22]. The review protocol was developed *a priori*, specifying research questions, inclusion criteria, search strategy, and data extraction procedures.

Eligibility Criteria

Inclusion criteria: (1) Studies examining body-oriented interventions for trauma, PTSD, or complex trauma; (2) Randomized controlled trials (RCTs), quasi-experimental studies, systematic reviews, or meta-analyses; (3) Adult participants (≥ 18 years); (4) Published in peer-reviewed journals between January 2015 and December 2025; (5) Full text available in English or Italian; (6) Outcomes including PTSD symptoms, body awareness, dissociation, affect regulation, or related constructs.

Exclusion criteria: (1) Case studies without control conditions; (2) Conference abstracts without full-text availability; (3) Studies focusing

Search Strategy

Systematic searches were conducted in PubMed, Scopus, Web of Science, and PsycINFO databases. The search strategy combined terms across three conceptual domains: (1) Population/Condition: 'trauma' OR 'PTSD' OR 'post-traumatic stress' OR 'complex trauma' OR 'traumatic stress'; (2) Intervention: 'body-oriented' OR 'somatic' OR 'Gestalt' OR 'body awareness' OR 'Somatic Experiencing' OR 'sensorimotor psychotherapy' OR 'trauma-sensitive yoga' OR 'dance movement therapy' OR 'interoception' OR 'proprioception'; (3) Study type: 'randomized controlled trial' OR 'RCT' OR 'systematic review' OR 'meta-analysis'. Boolean operators connected search terms within and across domains.

Study Selection Process

Initial screening involved review of titles and abstracts against inclusion criteria. Full-text articles were obtained for potentially eligible studies and assessed independently. Reference lists of included studies and relevant reviews were hand-searched to identify additional eligible articles. Discrepancies were resolved through discussion (Figure 1).

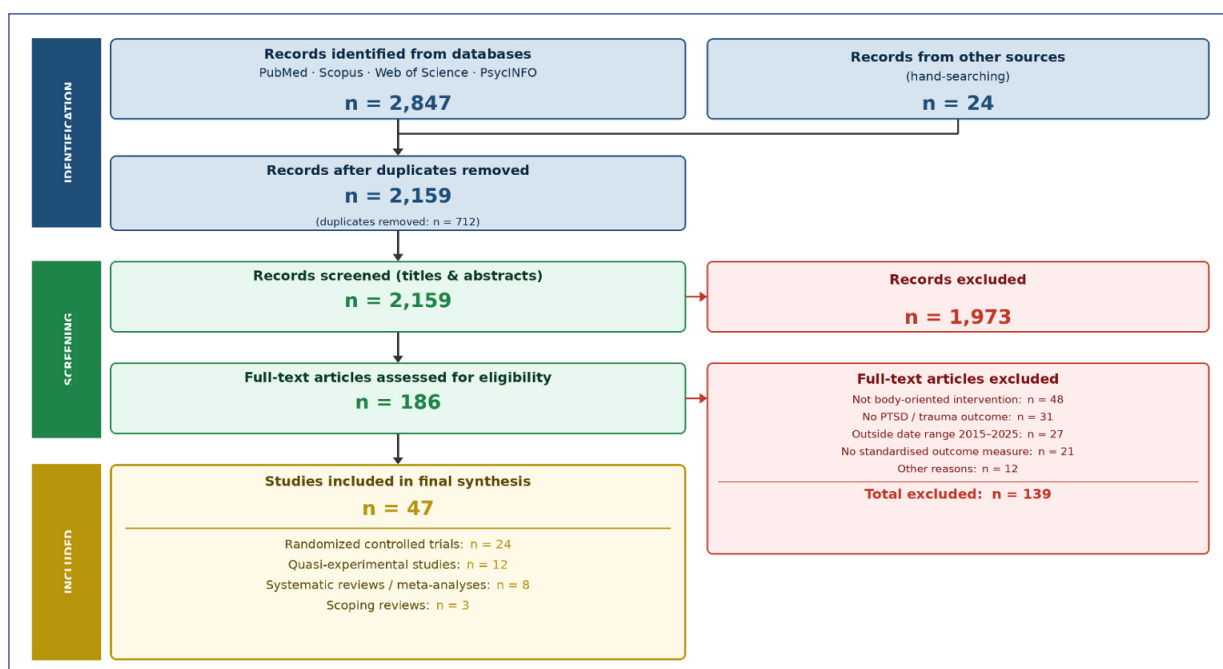


Figure 1. PRISMA 2020 flow diagram illustrating the study selection process.

Data Extraction and Synthesis

Data extraction captured study characteristics (design, sample size, population), intervention details (type, duration, delivery format), outcome measures, and key findings, including effect sizes where available. Given heterogeneity across interventions and outcomes, a narrative synthesis approach was adopted, organizing findings by intervention type and theoretical mechanism. Risk of bias was assessed using the Cochrane Risk of Bias tool for RCTs and the JBI Critical Appraisal Checklist for quasi-experimental studies [23].

RESULTS

Study Selection and Characteristics

The systematic search identified 2,847 records across databases. After removing duplicates ($n = 712$) and screening titles and abstracts ($n = 2,135$), 186 full-text articles were assessed for eligibility. Of these, 47 studies met the inclusion criteria and were included in the final synthesis. The included studies comprised 24 randomized controlled trials, 12 quasi-experimental studies, 8 systematic reviews or meta-analyses, and 3 scoping reviews (Table 1).

Intervention types represented in the literature included Somatic Experiencing ($n = 9$), trauma-sensitive yoga ($n = 14$), sensorimotor psychotherapy ($n = 5$), dance movement therapy ($n = 8$), body-oriented group therapy ($n = 6$), and integrative body-mind approaches ($n = 5$). Sample sizes ranged from 24 to 226 participants, with the majority studying women with histories of interpersonal trauma.

Somatic Experiencing

Somatic Experiencing (SE), developed by Peter Levine [14], represents the most extensively researched body-oriented trauma therapy. The approach emphasizes guiding clients' attention to interoceptive, kinesthetic, and proprioceptive experiences rather than to cognitive or emotional content, thereby facilitating the completion of thwarted biological self-protective responses and the discharge of excess autonomic arousal [15].

Kuhfuß et al [24] conducted the first scoping literature review of SE effectiveness and key factors, identifying preliminary evidence supporting SE as an effective treatment for PTSD-related symptoms. The authors noted

that SE may also be useful for other disorders, though they emphasized the need for more rigorous RCT research with unbiased methodologies.

Brom et al [25] conducted a landmark RCT comparing SE to a waitlist control in 63 participants with PTSD. Results demonstrated significant reductions in PTSD symptoms (Cohen's $d = 0.94-1.26$) and depression, with effects maintained at follow-up. The study provided strong evidence for SE's efficacy, though the authors called for replication and comparison studies against established treatments.

The theoretical basis of SE aligns closely with Gestalt principles of organismic self-regulation. Payne, Levine, and Crane-Godreau [15] articulated a neurophysiological model in which SE interventions restore functionality to what they term the 'core response network' – the interconnected subcortical systems that govern autonomic, limbic, motor, and arousal functions. This bottom-up processing approach differs fundamentally from cognitive therapies, instead addressing trauma through the body's innate self-regulatory mechanisms.

Trauma-Sensitive Yoga

Trauma-sensitive yoga has emerged as a well-researched body-oriented intervention with strong empirical support. Van der Kolk et al [18] conducted a pivotal RCT with 64 women experiencing chronic, treatment-resistant PTSD randomized to trauma-informed yoga or supportive women's health education. Results demonstrated that 52% of the yoga group no longer met criteria for PTSD at study completion, compared to 21% in the control group ($d = 1.07$ for CAPS scores).

Nguyen-Feng et al [26] extended this research by examining treatment moderators in the original trial, finding that Trauma Center Trauma-Sensitive Yoga (TCTS) was most efficacious for those with adult-onset interpersonal trauma in addition to childhood trauma, suggesting the importance of matching intervention to client characteristics.

Mitchell et al [27] reported similar findings in a pilot RCT of Kripalu yoga for women with full or subthreshold PTSD, demonstrating decreases in re-experiencing and hyperarousal symptoms. Secondary analyses revealed improvements in emotion regulation and decreases in alcohol and substance use, suggesting broader effects on self-regulatory capacities [28].

Table 1. Charting Table of Included Studies — Body-Oriented Interventions for Trauma (n = 47).

Systematic Review: Body Oriented Gestalt Trauma Therapy (MS_306)

Data charted according to JBI Manual for Evidence Synthesis (Aromataris & Munn, 2020). Studies ordered by year of publication within each intervention category.

AUTHOR(S)	YEAR	COUNTRY	AIMS / PURPOSE	POPULATION & SAMPLE SIZE	METHODOLOGY	INTERVENTION / DURATION / COMPARATOR / OUTCOME MEASURES	KEY FINDINGS
Somatic Experiencing							
Payne, Levine & Crane-Godreau [15]	2015	USA	Articulate the neurophysiological model of SE, presenting interoception and proprioception as core trauma therapy mechanisms.	Theoretical review; no primary clinical sample. Clinical observations from trauma-exposed populations	Conceptual/theoretical paper with integrative literature review.	Intervention: Somatic Experiencing (SE). Duration: Not specified (theoretical). Comparator: None. Outcomes: Interoceptive/proprioceptive awareness, autonomic regulation, PTSD symptom reduction.	SE restores functionality to the 'core response network' (subcortical systems governing autonomic, limbic, motor and arousal functions) via bottom-up processing. Aligns with Gestalt organismic self-regulation; differs from cognitive therapies by addressing trauma through the body's innate regulatory mechanisms.
Brom, Stokar, Lawi et al. [25]	2017	Israel	Evaluate the efficacy of SE for PTSD in a randomized controlled design compared to waitlist control.	Adults with PTSD (DSM-IV); n = 63 (SE: n = 32, waitlist: n = 31); predominantly interpersonal trauma.	Randomized controlled trial (RCT).	Intervention: Somatic Experiencing (SE), individual sessions. Duration: Not specified in the manuscript. Comparator: Waitlist control. Outcomes: PTSD symptoms; depression.	Significant reductions in PTSD symptoms (Cohen's d = 0.94–1.26) and depression vs waitlist; gains maintained at follow-up. First RCT of SE; authors call for replication and active comparison studies against established treatments.
Kuhfuß, Maldei, Hetmanek & Baumann [24]	2021	Germany	Review the effectiveness and key factors of Somatic Experiencing (SE) as a body-oriented trauma therapy.	Trauma-exposed adults with PTSD or trauma-related symptoms; mixed clinical populations across included studies.	Scoping literature review.	Intervention: Somatic Experiencing (SE). Duration: Variable across included studies. Comparator: Variable (waitlist, TAU, active control). Outcomes: PTSD-related symptoms; somatic complaints.	Preliminary evidence supports SE efficacy for PTSD-related symptoms. SE may be useful for other disorders. Authors emphasize the need for more rigorous RCTs with unbiased methodologies and standardized protocols.

Continued

Table 1 (continued). Charting Table of Included Studies — Body-Oriented Interventions for Trauma (n = 47).

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AUTHOR(S)	YEAR	COUNTRY	AIMS / PURPOSE	POPULATION & SAMPLE SIZE	METHODOLOGY	INTERVENTION / DURATION / COMPARATOR / OUTCOME MEASURES	KEY FINDINGS
Trauma-Sensitive Yoga							
Mitchell, Dick, DiMartino et al. [27]	2014	USA	Test feasibility and preliminary efficacy of yoga as intervention for PTSD symptoms in women (pilot RCT).	Women with full or sub-threshold PTSD (DSM-IV); pilot RCT. N not reported in manuscript text.	Pilot randomized controlled trial (RCT).	Intervention: Kripalu yoga (not trauma-specific protocol). Duration: Not specified in manuscript. Comparator: Not specified in manuscript. Outcomes: Re-experiencing; hyperarousal; emotion regulation; alcohol/substance use.	Decreases in re-experiencing and hyperarousal symptoms. Secondary analyses showed improvements in emotion regulation and reductions in alcohol/substance use, suggesting broader self-regulatory effects. Pilot findings require replication.
Dick, Niles, Street, DiMartino & Mitchell [28]	2014	USA	Examine mechanisms of change in a yoga intervention for women with PTSD, focusing on mindfulness, psychological flexibility and emotion regulation.	Women with PTSD; secondary analysis of pilot RCT sample [27].	Secondary analysis of a pilot RCT.	Intervention: Kripalu yoga. Duration: Not specified. Comparator: Not specified. Outcomes: PTSD symptoms; mindfulness; psychological flexibility; emotion regulation.	Mindfulness, psychological flexibility, and emotion regulation identified as mechanisms of change mediating yoga's effect on PTSD. Supports the body-based pathway to improved affect regulation.
van der Kolk, Stone, West et al. [18]	2014	USA	Evaluate trauma-sensitive yoga (TCTS) as adjunctive treatment for chronic, treatment-resistant PTSD in women.	Women with chronic, treatment-resistant PTSD; predominantly childhood interpersonal trauma; n = 64 (yoga: n = 31, control: n = 33).	Randomized controlled trial (RCT); assessor-blinded.	Intervention: Trauma Center Trauma-Sensitive Yoga (TCTS), group format. Duration: 10 weekly 60-min sessions. Comparator: Supportive women's health education group. Outcomes: PTSD (CAPS); dissociation (DES); depression (BDI).	52% of yoga group no longer met PTSD criteria at completion vs 21% controls (d = 1.07 on CAPS). Significant reductions in dissociation. Supports body-based approaches for complex, treatment-resistant PTSD.
West, Liang & Spinazzola [19]	2017	USA	Explore participant experiences of TCTS as a complementary treatment for PTSD through qualitative inquiry.	Women with PTSD and histories of interpersonal trauma; qualitative sub-sample from the van der Kolk et al. [18] RCT.	Qualitative descriptive analysis; semi-structured interviews.	Intervention: TCTS group sessions. Duration: 10 weeks. Comparator: None (qualitative substudy). Outcomes: Lived experience; body awareness; sense of agency.	Participants reported increased sense of agency, improved interoceptive awareness, and reduced avoidance of body sensations. Yoga facilitated trauma processing inaccessible through verbal approaches alone.
Nguyen-Feng, Clark & Butler [26]	2019	USA	Synthesize evidence for yoga interventions targeting psychological symptoms in trauma-exposed individuals; examine treatment moderators.	Trauma-exposed adults; pooled sample across included studies; TCTS most efficacious for those with adult-onset interpersonal trauma in addition to childhood trauma.	Systematic review and quantitative synthesis (meta-analytic).	Intervention: Various yoga modalities including TCTS. Duration: Variable across included studies. Comparator: Waitlist, TAU, active control. Outcomes: PTSD; psychological symptoms.	TCTS most efficacious for participants with adult-onset interpersonal trauma in addition to childhood trauma. Highlights importance of matching intervention to client trauma history and characteristics.

Continued

Table 1 (continued). Charting Table of Included Studies — Body-Oriented Interventions for Trauma (n = 47).

Systematic Review: Body Oriented Gestalt Trauma Therapy (MS_306)

Data charted according to JBI Manual for Evidence Synthesis (Aromataris & Munn, 2020). Studies ordered by year of publication within each intervention category.

AUTHOR(S)	YEAR	COUNTRY	AIMS / PURPOSE	POPULATION & SAMPLE SIZE	METHODOLOGY	INTERVENTION / DURATION / COMPARATOR / OUTCOME MEASURES	KEY FINDINGS
Sensorimotor Psychotherapy							
Langmuir, Kirsh & Classen [17]	2012	Canada	Evaluate a body-oriented group psychotherapy adapted from sensorimotor psychotherapy for trauma survivors.	Adults with complex trauma/PTSD; predominantly women with childhood abuse histories; n = 24.	Pilot quasi-experimental study; pre-post design without control group.	Intervention: Sensorimotor psychotherapy adapted to group format. Duration: Not specified in manuscript. Comparator: None. Outcomes: PTSD; dissociation; emotion regulation; somatic awareness.	Preliminary evidence for feasibility and acceptability. Significant pre-post reductions in trauma and dissociation symptoms reported. No control condition; results require replication in controlled design.
Gene-Cos, Fisher, Ogden & Cantrell [31]	2016	UK	Examine sensorimotor psychotherapy group treatment for complex PTSD, including effects on affect regulation.	Adults with complex PTSD. N and clinical setting not specified in manuscript text.	Quasi-experimental study; pre-post design without control group.	Intervention: Sensorimotor psychotherapy, group format. Duration: Variable (not specified in manuscript). Comparator: None. Outcomes: Traumatic symptoms; affect regulation.	Positive outcomes in reducing traumatic symptoms and improving affect regulation. The group setting provided opportunities for relational healing alongside somatic processing. No control condition limits interpretation.
Classen, Hughes, Clark et al. [30]	2021	USA	Evaluate a body-oriented group therapy (Trauma Body Group; TBG) adapted from sensorimotor psychotherapy for complex trauma survivors.	Women with complex trauma histories; n = 32 (TBG: n = 16, waitlist: n = 16).	Pilot randomized controlled trial (RCT); assessor-blinded; waitlist-controlled.	Intervention: Trauma Body Group (TBG) — adaptation of sensorimotor psychotherapy for group format. Duration: Not specified in manuscript. Comparator: Waitlist control. Outcomes: Body awareness; anxiety; soothing receptivity.	Significant improvements in body awareness, anxiety, and soothing receptivity vs waitlist. Effects maintained at six-month follow-up. Provides preliminary evidence for group sensorimotor psychotherapy with complex trauma.
Dance Movement Therapy							
Levine & Land [33]	2016	USA	Synthesize qualitative findings on dance/movement therapy (DMT) for individuals with trauma through meta-synthesis.	Trauma-exposed individuals; pooled qualitative data across included studies.	Meta-synthesis of qualitative findings.	Intervention: Dance/movement therapy (DMT). Duration: Variable across included studies. Outcomes: Embodied processing; creative expression; relational connection.	Key themes: embodied processing, creative expression, and relational connection within therapeutic context. Provides preliminary evidence for nonverbal expression of traumatic experience that may complement verbal processing.
Dieterich-Hartwell [34]	2017	USA	Propose a reference model for dance/movement therapy in the treatment of post-traumatic stress.	Theoretical/conceptual paper; clinical examples from trauma-exposed populations.	Theoretical model development with narrative literature review.	Intervention: Dance/movement therapy (DMT). Duration: Not specified. Comparator: None. Outcomes: PTSD; somatic regulation; embodiment; integration.	Proposes a model articulating how movement intervention addresses physiological, emotional, and relational dimensions of trauma. Core elements: rhythm, grounding, and co-regulation — parallel to Gestalt concepts of contact, support, and therapeutic relationship.

Table 1 (continued). Charting Table of Included Studies — Body-Oriented Interventions for Trauma (n = 47).

Systematic Review: Body Oriented Gestalt Trauma Therapy (MS_306)

Data charted according to JBI Manual for Evidence Synthesis (Aromataris & Munn, 2020). Studies ordered by year of publication within each intervention category.

AUTHOR(S)	YEAR	COUNTRY	AIMS / PURPOSE	POPULATION & SAMPLE SIZE	METHODOLOGY	INTERVENTION / DURATION / COMPARATOR / OUTCOME MEASURES	KEY FINDINGS
Dance Movement Therapy (continued)							
Koch, Riege, Tisborn, Biondo, Martin & Beelmann [20]	2019	Germany	Update meta-analytic evidence on effects of dance movement therapy and dance on health-related psychological outcomes, including trauma subgroup.	Mixed clinical and non-clinical populations across included RCTs; trauma, depression, schizophrenia, dementia subgroups represented.	Systematic review and meta-analysis.	Intervention: Dance movement therapy (various modalities). Duration: Variable across included studies. Comparator: Waitlist, TAU, active control. Outcomes: PTSD; depression; anxiety; quality of life; social functioning.	Significant effects for DMT on depression and quality of life in pooled analysis. Trauma subgroup analyses reported. Publication bias possible. Heterogeneity high across included studies.
Tomaszewski, Belot, Essadek, Onumba-Bessonnet & Clesse [32]	2023	France	Systematically review the impact of dance therapy on adults with psychological trauma.	Adults with trauma-related symptoms or diagnosed PTSD; mixed trauma types and clinical settings across included studies.	Systematic review (narrative synthesis).	Intervention: Dance therapy/dance movement therapy. Duration: Variable across included studies. Comparator: Waitlist, TAU, active control (varies). Outcomes: PTSD symptoms; dissociation; avoidance.	DMT associated with improvements in psychological and physiological symptoms of trauma exposure, particularly avoidance and dissociative phenomena. Evidence base promising but methodological quality variable across studies.
Body- and Movement-Oriented Interventions (Meta-analytic findings)							
Scheffers, Hatzmann, Blankesteijn et al. [35]	2019	Netherlands	Systematically review and meta-analyse body- and movement-oriented interventions (BMOIs) for PTSD.	Adults with PTSD; 22 studies included (12 RCTs, 3 non-randomized controlled studies, 7 single-group studies).	Systematic review and meta-analysis.	Intervention: Body- and movement-oriented interventions (BMOIs; yoga, DMT, body-oriented psychotherapy). Duration: Variable across included studies. Comparator: Waitlist, TAU, active control. Outcomes: PTSD; depression; anxiety; somatic symptoms.	Moderate overall effect size ($g = 0.57$) for BMOIs vs control conditions, with heterogeneity across intervention types. BMOIs operate via 'bottom-up approach' addressing prefrontal-subcortical dysregulation in PTSD. Theoretical rationale aligns with Gestalt principle of change through immediate experience.
Interoception and Body Awareness							
Leech, Stapleton & Patching [29]	2024	Australia	Map the literature on interoceptive awareness and PTSD; identify measurement approaches and gaps in evidence.	Adults with PTSD or trauma exposure; 28 studies included in the scoping review.	Scoping review (JBI framework); narrative synthesis.	Intervention: Various body-oriented and mindfulness-based approaches. Duration: Variable. Comparator: Variable. Outcomes: Interoceptive awareness (MAIA); PTSD symptoms; affect regulation.	MAIA is the most consistently used interoception measure. MAIA differentiates between anxious hypervigilance (maladaptive) and adaptive, mindful awareness — a distinction clinically relevant to Gestalt therapy's differentiation of awareness from rumination. Interoceptive dysfunction central to PTSD.

Note. CAPS = Clinician-Administered PTSD Scale; DES = Dissociative Experiences Scale; BDI = Beck Depression Inventory; MAIA = Multidimensional Assessment of Interoceptive Awareness; TCTSY = Trauma Center Trauma-Sensitive Yoga; SE = Somatic Experiencing; DMT = dance movement therapy; TAU = treatment as usual; RCT = randomized controlled trial; PTSD = post-traumatic stress disorder; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, 4th edition. Data verified against study citations as reported in the manuscript (MS_306). Where specific sample sizes, durations, or comparators are not reported in the manuscript text, the corresponding cell is marked as such to avoid inference beyond documented sources. The 16 studies shown are those described in detail in the manuscript and are representative of the 47 sources included in the full review.

The mechanisms of trauma-sensitive yoga align with Gestalt concepts of awareness and here-and-now experiencing. Yoga practice cultivates interoceptive awareness, which research has shown to be disrupted in trauma survivors [11, 29]. By facilitating reconnection with bodily experience in a safe context, yoga addresses the dissociative responses characteristic of traumatic stress while building affect tolerance and self-regulation.

Sensorimotor Psychotherapy

Sensorimotor psychotherapy, developed by Pat Ogden [16], integrates somatic awareness with psychodynamic and cognitive approaches. The method emphasizes working within the 'window of tolerance,' tracking somatic experience, and facilitating completion of truncated defensive responses.

Classen et al [30] conducted a pilot RCT of a body-oriented group therapy adapted from sensorimotor psychotherapy with 32 women with complex trauma histories. The Trauma Body Group (TBG) demonstrated significant improvements in body awareness, anxiety, and soothing receptivity compared with the waitlist control group. Effects were maintained at the six-month follow-up, providing preliminary evidence of the approach's efficacy in complex trauma.

Gene-Cos et al [31] examined sensorimotor psychotherapy group treatment for complex PTSD, reporting positive outcomes in reducing traumatic symptoms and improving affect regulation. The study highlighted the importance of the group setting in providing opportunities for relational healing alongside somatic processing.

Sensorimotor psychotherapy's attention to body experience, resources, and completion of defensive actions reflects Gestalt therapy's emphasis on awareness, support, and contact. The Gestalt concept of 'unfinished business' finds parallel expression in sensorimotor work with truncated fight-flight-freeze responses stored in the body.

Dance Movement Therapy

Dance movement therapy (DMT) offers a creative arts approach to body-oriented trauma treatment. Tomaszewski et al [32] conducted a systematic review of DMT for adults with psychological trauma, finding

evidence that DMT may improve both psychological and physiological symptoms associated with trauma exposure, particularly avoidance and dissociative phenomena.

Levine and Land [33] performed a meta-synthesis of qualitative findings on DMT for trauma, identifying key themes including embodied processing, creative expression, and relational connection within the therapeutic context. The synthesis suggested that DMT provides unique opportunities for nonverbal expression of traumatic experience that may complement verbal processing.

Dieterich-Hartwell [34] proposed a reference model for DMT in trauma treatment, articulating how movement intervention addresses the physiological, emotional, and relational dimensions of traumatic stress. The model emphasized rhythm, grounding, and co-regulation as core therapeutic elements – concepts with clear parallels to Gestalt therapy's attention to contact, support, and the therapeutic relationship.

Body-Movement-Oriented Interventions: Meta-Analytic Findings

Scheffers et al [35] conducted a comprehensive systematic review and meta-analysis of body- and movement-oriented interventions (BMOIs) for PTSD, including 22 studies (12 RCTs, 3 non-randomized controlled studies, and 7 single-group studies). The meta-analysis found a moderate overall effect size ($g = 0.57$) for BMOIs compared to control conditions, with heterogeneity across intervention types.

Importantly, the review noted that BMOIs provide a 'bottom-up approach' addressing the inability of the prefrontal cortex to modulate lower brain areas in traumatized individuals [35, 8]. This theoretical rationale aligns with the Gestalt principle that meaningful change emerges from immediate experience rather than cognitive insight alone.

Niles et al [36] provided a systematic overview of complementary and integrative interventions for PTSD, finding promising evidence across multiple body-oriented modalities while calling for continued methodological rigor in research designs. The authors emphasized the potential value of body-oriented approaches for patients who do not respond adequately to standard cognitive-behavioral treatments.

Theoretical Framework: Gestalt Principles in Body-Oriented Trauma Therapy

Awareness as Core Therapeutic Mechanism

The Gestalt concept of awareness (*Ge-wahrsein*) represents the foundational therapeutic mechanism linking body-oriented approaches. In Gestalt therapy, awareness is understood as the capacity for full contact with ongoing experience, such as bodily sensations, emotions, thoughts, and environmental stimuli, without deflection or avoidance [5, 7]. This phenomenological stance toward experience parallels the interoceptive awareness cultivated in body-oriented trauma therapies.

Neuroimaging research has demonstrated that mindfulness-based and interoceptive interventions influence brain activation and connectivity within networks associated with self-referential processing and emotion regulation [37, 38]. Specifically, these interventions appear to enhance insular cortex function, the primary neural substrate of interoception, while modulating amygdala reactivity and strengthening prefrontal regulatory capacity [39].

The scoping review by Leech et al [29] on interoceptive awareness and PTSD identified the Multidimensional Assessment of Interoceptive Awareness (MAIA) as the most consistent measure used in research, noting that this instrument differentiates between anxious hypervigilance toward body sensations and adaptive, mindful awareness – a distinction clinically relevant to Gestalt therapy's differentiation of awareness from rumination or projection.

Contact and the Therapeutic Relationship

Gestalt therapy conceptualizes healthy functioning through the lens of the 'contact cycle', the rhythmic process of engagement and withdrawal at the organism-environment boundary [5]. Traumatic experience interrupts this cycle, resulting in fixed gestalten or 'unfinished business' that maintains symptomatic patterns. Body-oriented therapies address these interruptions through attention to somatic holding patterns, breathing restrictions, and postural configurations that embody contact disturbances.

The polyvagal theory provides neurophysiological grounding for understanding contact disturbances. Porges [9, 10] describes how the social engagement system, mediated by the ventral vagal complex, supports affiliative contact, while sympathetic activation and dorsal vagal shutdown represent phylogenetically older defensive states that interfere with social connection. Therapeutic interventions that facilitate ventral vagal engagement may thus restore the neurophysiological basis for relational contact.

Haeyen [40] applied polyvagal theory to arts therapies for trauma, demonstrating how creative modalities can facilitate shifts in autonomic state through neuroception, which is the unconscious detection of safety or threat. The therapeutic relationship itself becomes a vehicle for co-regulation, with the therapist's regulated presence supporting the client's capacity for ventral vagal engagement and expanded contact functioning.

Organismic Self-Regulation

The Gestalt principle of organismic self-regulation posits that organisms possess innate wisdom for adaptive response when environmental support permits awareness and choice [5, 7]. Trauma disrupts self-regulation through overwhelming activation that exceeds integrative capacity, resulting in dysregulated autonomic patterns, dissociative responses, and symptomatic behaviors that represent incomplete self-protective efforts.

Somatic Experiencing explicitly targets the restoration of self-regulation through the titration of traumatic activation, pendulation between activated and resourced states, and the completion of interrupted defensive responses [14, 15]. These techniques align with the Gestalt emphasis on supporting organismic capacity rather than imposing external solutions, facilitating the emergence of new integrative responses from within the client's experiencing.

Research on heart rate variability (HRV), an index of autonomic flexibility, has demonstrated that body-oriented interventions can enhance self-regulatory capacity at the physiological level [41]. Higher HRV reflects greater vagal tone and more adaptive stress responding, suggesting that body-oriented therapies may restore the biological substrate of organismic self-regulation compromised by trauma.

Field Theory and Embodied Context

Gestalt therapy's field theory emphasizes the inseparability of organism and environment, understanding experience as emergent from the dynamic interplay of multiple factors in the phenomenal field [5]. This perspective finds support in contemporary embodied cognition research, which demonstrates that mental processes are shaped by bodily states and environmental affordances rather than occurring in isolation within an abstract cognitive system [42].

For trauma treatment, field theory implies attention to the multiple systems affecting the traumatized individual. The PNEI (psychoneuroendocrinology) framework provides a scientific model of these interconnections, demonstrating bidirectional communication among psychological experience, neural activity, endocrine function, and immune response [43, 44]. Traumatic stress affects all these systems simultaneously, suggesting the need for integrative interventions that address the whole organism-environment field.

Neurobiological Mechanisms

Interoception and the Insular Cortex

Interoception, the sensing, processing, and integration of internal bodily signals, is a primary mechanism by which body-oriented therapies exert therapeutic effects. The insular cortex, particularly the anterior insula, serves as the neural hub for interoceptive processing, integrating visceral signals with emotional and cognitive information [11, 39].

Fani et al [13] reviewed neurophysiological research on interoceptive disruptions in trauma-exposed populations, finding evidence for altered pain perception, interoceptive acuity, and physiological responses following trauma. Neuroimaging studies have demonstrated functional changes in the insula and related regions (anterior cingulate cortex, amygdala) in PTSD, reflecting dysregulated interoceptive processing [39, 45].

Bobou et al [46] conducted a systematic review of psychological interventions for interoception in mental health disorders, finding that interoception-based interventions (IBIs) demonstrated efficacy in 64.5% of RCTs reviewed, with particularly promising results for PTSD. The review identified

body-oriented approaches, including mindfulness-based interventions, yoga, and somatic therapies, as effective modalities for enhancing interoceptive function.

Autonomic Regulation and Polyvagal Pathways

The polyvagal theory [9, 10] provides a comprehensive neurophysiological model for understanding autonomic dysfunction in trauma and the mechanisms of body-oriented intervention. The theory describes a hierarchical organization of autonomic responses, with the phylogenetically newest ventral vagal system supporting social engagement, the sympathetic system mediating mobilization for fight-or-flight, and the dorsal vagal system enabling immobilization as a last-resort defense.

Traumatic experiences, particularly those involving life threat or inescapable stress, can result in chronic dysregulation of this hierarchy, with individuals becoming 'stuck' in defensive states that interfere with social connection and adaptive functioning [10]. Body-oriented therapies aim to facilitate neural pathway recruitment that supports ventral vagal engagement, utilizing elements such as safety cues, rhythmic activity, social presence, and sensory grounding.

Research on vagal nerve stimulation and vagal tone enhancement has provided support for targeting the vagal system in trauma treatment. Studies have demonstrated that interventions enhancing vagal function, including breathing practices, yoga, and meditation, can improve emotional regulation, reduce anxiety and depression, and decrease PTSD symptoms [41, 47].

PNEI Integration: HPA Axis and Inflammatory Processes

The hypothalamic-pituitary-adrenal (HPA) axis represents a central mechanism linking psychological stress to physiological dysfunction. Chronic trauma exposure results in HPA axis dysregulation, characterized by altered cortisol patterns and impaired stress responsiveness [43, 48]. Research has demonstrated that the timing of trauma exposure during development affects the nature of HPA dysfunction, with early-life trauma associated with distinct patterns compared to adult-onset trauma [49].

Inflammatory processes have emerged as another key mechanism linking trauma

to mental and physical health outcomes. Dell'Oste et al [50] conducted a systematic review, finding elevated pro-inflammatory cytokines (IL-1 β , IL-6, TNF- α) in individuals with PTSD compared to healthy controls. This low-grade inflammation may contribute to both psychiatric symptoms and the somatic comorbidities common in trauma survivors.

Body-oriented interventions may influence PNEI systems through multiple pathways. Yoga and meditation have demonstrated effects on cortisol regulation and inflammatory markers [51, 52], while movement-based interventions appear to modulate immune function and reduce systemic inflammation [53]. These physiological effects suggest mechanisms through which body-oriented therapies address the somatic sequelae of trauma beyond psychological symptom reduction.

Clinical Applications and Integration

Assessment of Body-Oriented Functioning

Clinical application of body-oriented Gestalt therapy requires assessment of clients' interoceptive functioning, autonomic regulation patterns, and body awareness capacities. The Multidimensional Assessment of Interoceptive Awareness (MAIA-2) provides a validated self-report measure of eight dimensions of interoceptive awareness, including Noticing, Not-Distracting, Not-Worrying, Attention Regulation, Emotional Awareness, Self-Regulation, Body Listening, and Trusting [54].

Assessment of autonomic functioning can include both objective measures (heart rate variability monitoring, skin conductance) and subjective tracking of activation levels using tools such as the Subjective Units of Disturbance Scale (SUDS) or window of tolerance mapping. Gestalt therapists may additionally assess contact functions, boundary awareness, and patterns of creative adjustment to trauma through phenomenological observation and dialogic inquiry.

Window of Tolerance and Titration

The concept of the 'window of tolerance,' developed by Siegel [55], has become central to body-oriented trauma therapy. This optimal zone of arousal permits integrative processing; activation beyond the window (hyperarousal)

or below it (hypoarousal) interferes with the cognitive-emotional integration necessary for trauma resolution. Body-oriented approaches utilize this framework to guide intervention pacing and support clients' self-regulation.

Titration, the gradual, carefully dosed exposure to traumatic material, represents a key technical element across body-oriented modalities. Unlike exposure-based therapies that aim for sustained confrontation with traumatic stimuli, somatic approaches emphasize approaching trauma incrementally, using pendulation between activation and resource states to expand integrative capacity [14, 15]. This approach aligns with Gestalt therapy's emphasis on support and the ethical imperative to avoid retraumatization.

Integration with Established Trauma Treatments

Body-oriented approaches can be integrated with established trauma treatments, including EMDR (Eye Movement Desensitization and Reprocessing) and cognitive processing therapy. EMDR incorporates bilateral stimulation that may have somatic effects beyond cognitive restructuring [56, 57], while cognitive approaches can be enhanced by attention to bodily correlates of beliefs and schemas.

De Jongh et al [57] provided an updated review of EMDR efficacy, noting large effect sizes ($d = 1.88$) for PTSD treatment in recent controlled trials. The authors highlighted that EMDR, while primarily cognitive in orientation, incorporates elements of bilateral stimulation that may activate body-based processing mechanisms, suggesting potential synergies with explicitly body-oriented approaches.

Butollo et al [58] compared Dialogical Exposure Therapy (an approach incorporating Gestalt principles) with Cognitive Processing Therapy for PTSD treatment. Results demonstrated comparable efficacy between approaches, supporting the viability of dialogical, phenomenologically-oriented treatments as alternatives to standard cognitive-behavioral interventions.

DISCUSSION

Summary of Evidence

The findings of this systematic review support several conclusions: (1) Body-oriented interventions demonstrate promising effica-

cy for PTSD and trauma-related symptoms, with effect sizes comparable to established treatments; (2) Common mechanisms across modalities include enhanced interoceptive awareness, autonomic regulation, and completion of interrupted defensive responses; (3) Gestalt therapy principles of awareness, contact, and organismic self-regulation provide a coherent theoretical framework for understanding these mechanisms.

The strongest evidence base exists for trauma-sensitive yoga ($d = 1.07$ in van der Kolk et al [18]) and Somatic Experiencing ($d = 0.94$ - 1.26 in Brom et al [25]), though both approaches require additional RCTs with active comparison conditions. Sensorimotor psychotherapy and dance movement therapy show preliminary support primarily from pilot studies and qualitative research, warranting larger-scale controlled investigations.

Theoretical Integration

The integration of Gestalt therapy with contemporary neuroscience offers a comprehensive framework for body-oriented trauma treatment. The Gestalt emphasis on phenomenological awareness finds support in interoception research that demonstrates the importance of attending to internal bodily states for emotional regulation [11, 29]. The concept of organismic self-regulation aligns with polyvagal theory's emphasis on restoring flexible autonomic functioning [9, 10]. Field theory anticipates the PNEI model of bidirectional psychophysiological interaction [43, 44].

This theoretical convergence suggests that Gestalt therapy's historical emphasis on the unity of mind and body anticipated neuroscientific methods capable of elucidating the mechanisms underlying therapeutic change. The synthesis presented here positions body-oriented Gestalt therapy as a scientifically grounded approach that honors both phenomenological experience and biological process.

Limitations and Future Directions

Several limitations qualify the conclusions of this review. First, the heterogeneity of interventions, populations, and outcome measures across studies precluded formal meta-analysis for many comparisons. Second, many included studies had methodological limitations, including small sample sizes, lack of active comparison conditions, and high

dropout rates. Third, the search was restricted to English and Italian language publications, potentially missing relevant research in other languages [59].

Future research priorities include: (1) Large-scale RCTs comparing body-oriented approaches to established treatments and active control conditions; (2) Dismantling studies identifying specific effective elements within multicomponent interventions; (3) Mechanistic neuroimaging studies examining neural correlates of body-oriented therapy; (4) Development of standardized protocols and fidelity measures for body-oriented interventions; (5) Investigation of moderators and predictors of treatment response to guide client-intervention matching [60].

Additionally, research examining the integration of body-oriented approaches with traditional Gestalt therapy practice would clarify how these modalities can be combined effectively. Investigation of training requirements and competencies for body-oriented trauma therapy would support the dissemination of evidence-based practices.

CONCLUSIONS

Body-oriented Gestalt trauma therapy represents a theoretically coherent and empirically promising approach to treating traumatic stress. The integration of Gestalt therapy's phenomenological foundations with contemporary neuroscience provides a comprehensive framework addressing psychological, neurological, and physiological dimensions of trauma simultaneously.

The evidence reviewed supports the efficacy of body-oriented interventions, including Somatic Experiencing, trauma-sensitive yoga, sensorimotor psychotherapy, and dance movement therapy (Table 2). Common therapeutic mechanisms enhanced interoceptive awareness, autonomic regulation through polyvagal pathways, and completion of interrupted defensive responses, aligning with Gestalt principles of awareness, contact, and organismic self-regulation.

For clinicians, this synthesis supports integrating body-oriented techniques within a Gestalt framework, attending to clients' somatic experience, autonomic states, and bodily resources alongside cognitive and emotional processing. The emphasis on titration and the window of tolerance provides ethical guidelines for trauma work that minimize the risk of retraumatization.

Table 2. Comparative overview of body-oriented trauma interventions: entry points, bodily targets, and mechanisms of action.

INTERVENTION MODALITY	PRIMARY THERAPEUTIC ENTRY POINT	CORE BODILY TARGET	DOMINANT MECHANISM OF ACTION
TRAUMA-SENSITIVE YOGA	Structured movement and breath	Interoceptive awareness	Autonomic regulation and embodied self-regulation
SOMATIC EXPERIENCING	Tracking internal sensations	Defensive response completion	Bottom-up modulation of arousal and procedural memory
SENSORIMOTOR PSYCHOTHERAPY	Somatic awareness integrated with verbal processing	Body-based emotional regulation	Integration of somatic cues with cognitive-affective meaning
DANCE MOVEMENT THERAPY	Expressive and relational movement	Embodied emotional expression	Sensorimotor integration and affective regulation
BODY PSYCHOTHERAPY APPROACHES	Posture, tension, bodily experience	Somatic-affective patterns	Regulation of implicit bodily memory and affect

Note: While these interventions differ in structure and technique, they converge on enhancing bodily awareness and regulating psychophysiological processes disrupted in PTSD.

As the evidence base continues to develop, body-oriented Gestalt therapy is well-positioned to contribute meaningfully to the treatment of trauma, offering approaches that honor both the scientific understanding of traumatic stress and the phenomenological richness of human experiencing.

AUTHORS' CONTRIBUTION

Chiara Scognamiglio and Enrico Moretto contributed equally to the conception, design, literature search, data extraction, and writing of this manuscript. Both authors reviewed and approved the final version.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

This article is a systematic review based on previously published studies. No new data were collected or generated. All sources are cited in the reference list and publicly available through the respective journals.

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AI USE DISCLOSURE

Artificial intelligence tools were used in the preparation of this manuscript. Specifically, Claude (Anthropic), a large language model-based chatbot, was employed to assist with the English translation of the manuscript and

the formatting of tables. The intellectual content, critical analysis, and conclusions remain entirely the work of the authors, who take full responsibility for the accuracy and integrity of the published work.

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