MARTIAL ARTS STUDIES

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RESTORING EMBODIED SAFETY THROUGH MARTIAL ARTS: JAPANESE JU-JITSU (JJJ) FOR EMBODIED REAPPRAISAL & PSYCHOSOCIAL FUNCTION IN A WOMAN WITH TRAUMA

ABSTRACT

Background: Martial arts halls are important community-mental health hubs. Japanese Ju-Jitsu (JJJ) delivered with clear consent rules, breath/voice work, & positional-control may cultivate Interoceptive Awareness (IA), embodied reappraisal, and emotion regulation in trauma and survivors of violence. **Case:** A 51-year-old woman with mental-health trauma from sexual violence experienced in adolescence completed a brief JJJ-informed program. Outcomes included the Multidimensional Assessment of Interoceptive Awareness-Version 2 (MAIA-2) and a hermeneutic-phenomenological interview. **Intervention:** Six 60-75-minute sessions over six weeks emphasizing diaphragmatic-pressure-control, boundary-setting voice cues, kata-based drills, & self-regulated positional scenarios, integrated with therapist-guided self-awareness and embodied reappraisal. **Outcomes:** MAIA-2 showed notable gains in emotional awareness, body listening, and self-regulation; qualitative data indicated resolution of nightmares, improved sleep, & greater agency. **Discussion:** The case report highlights the potential of martial arts in supporting persons with trauma histories. Physiologically-oriented mind-body, movement and nervous system clinicians (e.g., clinical-exercise physiologists and physiotherapists) are important for participant support.

CONTRIBUTORS

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KEYWORDS

body awareness; EIM; emotional regulation; interoception; psychosocial functioning; PTSD

Accepted for publication on 8 October 2026

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Szlezak, S. L. & Szlezak, A. M. (2026). Restoring embodied safety through martial arts: Japanese Ju-Jitsu (JJJ) for embodied reappraisal and psychosocial function in a woman with trauma. *Martial Arts Studies,* 22, 1–12. https://doi.org/10.18573/mas.390

BACKGROUND

Martial arts training (MAT) has long served a social role in self-protection and personal safety, and as such, it may be sought by survivors of violence and trauma. Moreover, Japanese martial arts are historically established practices of mind-body and embodied movement training, developing not only self-defence profficiences, but focussed also on the culture of physical and mental development with respect to its practitioner (Yamanaka, 1918). Martial arts training halls, instructors, and fellow students thus collectively serve an important cultural role in assisting survivors to rebuild their sense of embodied safety, as a foundation of psychosocial function, interpersonal interactions and sense of empowerment.

Embodied safety may be understood as a subjective sense of safety experienced within one's own body, with respect to oneself, in relation to others, and within the surrounding environment. It reflects an integration of interoceptive, autonomic and affective processes with embodied awareness, meaning-making and identity (Craig, 2009; Gyllensten et al., 2010; Porges, 2022; Skjaerven et al., 2019). The capacity to experience embodied safety supports fundamental survival functions, adaptive behavioural responding, emotional regulation and social interaction through effective autonomic nervous system regulation (Porges, 2007, 2022; Thayer & Lane, 2000). Since trauma exposure is associated with disruptions to this embodied sense of safety, including altered self-awareness, autonomic dysregulation and difficulties with emotional regulation and interpersonal functioning (Lanius et al., 2011; Price & Hooven, 2018; Porges, 2022), rebuilding or restoring embodied safety is of fundamental relevance in trauma recovery.

From a cultural perspective, martial arts in community mental health fullfills fundamental human social and biological needs to feel safe within one's own body, to experience choice with respect to control over one's environment, and to be effective in relationships between oneself and others (Clapton & Hiskey, 2020; Gyllensten et al. 2010; Leotti, Iyengar and Ochsner 2010; Porges, 2022). Whilst any form of physical or close-quarter training can be overwhelming for participants, appropriate delivery is key. Notably for martial arts instructors and practitioners, martial arts training can be delivered in a manner tailored to a participant's nervous system tolerances, volition, and supported by body awareness (Gard et al. 2020; Price & Hooven, 2018). Interoceptive or body awareness can be defined as the perception, evaluation, and integration of internal bodily signals with cognitive and emotional processes, forming a continuous dialogue between bottom-up and top-down appraisal (Valentish, 2020; Van der Kolk, 2014). This ongoing integration is central to making sense of lived experience and provides the foundation for emotional regulation (Rousseau, 2022). Trauma often disrupts these processes, fragmenting the individual's capacity to access, interpret, and trust bodily signals (Gyllensten et al., 2010; Van der Kolk, 2014). Trauma-informed exercise practice is grounded in the principles of safety, choice, collaboration, empowerment, and trustworthiness. Within this approach, interventions are designed to minimise the risk of re-traumatisation while promoting a sense of control and embodiment during movement (Van der Kolk, 2014).

Embodied movement practices such as martial arts may also facilitate the fulfilment of the basic psychological needs described within Self-Determination Theory: autonomy, competence, and relatedness (Deci & Ryan, 2000). This aligns with trauma-informed perspectives on strength training, which emphasise the potential for movement-based practices to restore agency, develop embodied confidence, and foster supportive relationships (Khoudari, 2021; Vigue et al., 2023). Through developing a renewed sense of agency and ownership in relation to one's body, experiencing mastery through physical and psychological challenges, and engaging within safe and supportive training relationships, individuals may cultivate greater self-determination and resilience, creating pathways for personal growth and recovery.

A key element of trauma informed exercise is interoceptive skill training, which refers to the development of a person's ability to sense, interpret, and respond to internal bodily signals such as heartbeat, breath, muscle tension, and visceral or emotional sensations (Price & Hooven, 2018). This training supports individuals in recognising early signs of physiological stress and applying self-regulation strategies, thereby enhancing emotional regulation, feelings of safety, and bodily safety awareness. Research suggests that cultivating interoceptive awareness can improve emotion regulation and reduce trauma-related hyperarousal (Mehling et al., 2011; Price & Hooven, 2018).

Mindful Awareness in Body-oriented Therapy (MABT) operationalises interoceptive training through a staged framework of identification - access - appraisal. This approach combines sensation-focused exercises with reflective meaning-making, thereby reducing distress and improving emotional regulation (Mehling et al., 2011; Price & Hooven, 2018).

Mind-Body traditions in Mental Health and Psychiatry such as Basic Body Awareness Therapy (BBAT) and Norwegian Psychomotor Physiotherapy (NPMP) further illustrate how cultivating body awareness can restore agency, affect regulation, and enhance groundedness (Danielsson & Rosberg, 2015; Thornquist & Bunkan, 1991). BBAT, widely applied in Scandinavian mental health services, helps individuals establish ownership of the body, tolerate sensory-motor and affective experiences, cultivate inner balance and mindful presence, and support behaviour, including interaction with self and others (Danielsson & Rosberg, 2015; Hedlund & Lundvik Gyllensten, 2010). Studies in populations with depression and schizophrenia highlight improvements in affect regulation, self-esteem, and social participation through BBAT (Danielsson & Rosberg, 2015; Hedlund & Lundvik Gyllensten, 2010). Similarly, NPMP emphasizes bodily dialogue where movement, breathing, and touch are integrated with verbal reflection supporting patients to explore habitual patterns of tension and embodiment linked to

emotional dysregulation (Danielsson & Rosberg, 2015; Thornquist & Bunkan, 1991).

Together, these approaches demonstrate that body awareness is not simply sensory monitoring, but a dynamically integrative process that supports emotional stability, identity, and interpersonal functioning. Embedding these principles into martial arts-based rehabilitation creates a structured context where interoceptive skills can be trained safely, predictably, and with therapeutic intent. Additionally, Japanese martial arts practice is strongly linked with greater mindfulness and psychological wellbeing (Ciaccioni et al., 2024; Miyata et al., 2020), highlighting the potential of martial arts to benefit society broadly, and offering insight into the false duality of 'body and mind' as separate entities.

Japanese Ju-Jitsu (JJJ) and its martial arts offspring, Brazilian Jiu Jitsu (BJJ) and Judo, present embodied methods that can be adapted to support interoceptive skill-building (International Jui-Jitsu Federation, n.d.; Couto de Souza et al., 2011). For example, BJJ, widely studied in recent years, has been linked to psychosocial benefits, with evidence suggesting reductions in PTSD symptoms and improvements in sleep and affect regulation among veterans and first responders (Segovia et al., 2024; Weinberger & Burraston, 2021; Willing et al., 2019; Ciaccioni et al., 2024; Ciaccioni et al., 2025). Its pedagogy, however, typically centres around group classes with live sparring, competitive rolling, and submission grappling, activities that can make physical contact unpredictable, and self-regulated exposure challenging. To restate, group-based training may be an effective therapeutic approach for some individuals, whereas others, including those individuals experiencing dysregulated autonomic states, may require a more tailored approach in a one-on-one setting.

In contrast, JJJ provides an opportunity for cooperative kata-based practice, focusing on neutralization, positional control, and exit strategies through techniques such as kuzushi (unbalancing), kansetsu-waza (joint controls), and ne-waza (groundwork) (International Jui-Jitsu Federation, n.d.). This structured, predictable format privileges consent, repetition, feelings of internal safety, sense of agency, and notably, self-regulated exposure, making it particularly well-suited to trauma-informed settings (International Jui-Jitsu Federation, n.d.; Mehling et al., 2011; Miyata et al., 2020; Porges, 2022). Within this program, JJJ was chosen given its mindful mind-body approach to training, whilst encompassing traditional movements and techniques that continue to feature in modern Judo and BJJ (Ciaccioni et al., 2024). JJJ thus also aligns with early-phase objectives in managing trauma, which involves establishing a foundation of safety within the body before progressing to more complex or dynamic exercises (or drills). In the case of JJJ, this includes supporting interoceptive awareness, regulating arousal, and practising boundaries through controlled partner interaction. The emphasis on predictability and safety in JJJ can thus faciliate precise pacing of breath-voice-posture drills, as well as managing physical risks and arousal spikes which are often associated with submission-based sparring. Holisitcally, JJJ allows for a staged development of interoceptive awareness/body awareness. Through self-regulated and practitioner-guided identification, access, and appraisal of internal signals, processes, and experiences, effective emotion regulation and interpersonal functioning can be developed (Clapton & Hiskey, 2020; Mehling et al., 2011; Price & Hooven, 2018; Walters et al., 2021; Porges, 2022).

It must be noted that whilst certain behavioural responses (e.g., orienting, freezing, flight, fight, tonic immobility, and collapse) are recognised as evolutionarily conserved defensive responses across species (Kozlowska et al., 2015), human responses to perceived threat are also shaped by interpersonal and social processes. Within relational contexts such as martial arts, instructors and fellow students should be aware of the potential for appeasement behaviours, including excessive compliance or reduced self-expression, to emerge as adaptive responses to perceived threat, social evaluation, or power imbalance (Gilbert, 2000, 2001).

Importantly, clinicians and instructors should also recognise that their own embodied presence (including nervous system states) form an integral part of the relational context within which intervention and training occur (Katz, 2024). For example, through their posture, facial expression, tone of voice, movement, proximity, pacing, and other embodied behaviours, clinicians and instructors may communicate cues of safety or threat that can influence participants' physiological and emotional states (Porges, 2022; Skjaerven et al., 2019; Thornquist, 2022). In this sense, the clinician's or instructor's body should not be seen as separate from the intervention or training environment; rather, it forms part of the interpersonal processes through which embodied responses and interpersonal resonance occur (Katz, 2024), and through which co-regulation may occur, and a sense of embodied safety established.

This is particularly relevant when working with emotionally challenging material, which may in turn influence, activate, or dysregulate the clinician's or instructor's own internal state. Consequently, trauma-informed practice requires clinicians and instructors to develop and apply real-time body awareness, enabling them to notice changes in their own physiological and emotional states and engage in appropriate self-regulation (Gyllensten et al., 2010; Gard et al., 2020; Gyllensten et al., 2019). The capacity to recognise and regulate their own embodied responses is thus highly relevant to their ability to use their embodied presence intentionally to support participants' regulation through interpersonal co-regulation (Gyllensten et al., 2010; Gard et al., 2020; Gyllensten et al., 2019; Skjaerven et al., 2019; Thornquist, 2022).

Consideration of these processes is important not only when supporting persons with trauma histories, but also in fostering psychologically, emotionally, and physically safe, inclusive, and effective martial arts practices across diverse communities. The present case report will describe the psychosocial outcomes of a novel JJJ-based intervention developed and implemented with a

survivor of sexual violence experienced in adolescence. The current case and approach presented is consistent with the principles of the American College of Sports Medicine's Exercise is Medicine initiative (Exercise is Medicine 2026). Physiologically-orientied mind-body, movement and nervous system clinicians are important for participant support (e.g., clinical-exercise physiologists, sport scientists and physiotherapists).

METHODS

Case presentation

Participant: A 51-year-old woman, self-referred to the program, presented with talk-therapy-resistant mental health trauma and self-reported symptoms of PTSD following sexual violence experienced in adolescence. Symptoms and behaviour included nightmares, emotional lability (somatic tension and crying associated with triggers), disrupted sleep, hypervigilance, startle (generalised exaggerated response across domains), and difficulty asserting boundaries socially. Given the participant's resistance to talk-therapy, she independently sought a holistic physiology-informed body-based approach with an ESSA Accredited Exercise Physiologist (AEP) experienced in mental health and martial arts. Pre-exercise screening was conducted in line with Exercise & Sports Science Australia (ESSA) standards using the ESSA/Sports Medicine Australia Pre-Exercise Screening System (Version 2.0), and the client was deemed safe to participate in low to moderate intensity movement-based interventions. No unstable medical or psychiatric comorbidity was reported. During initial observation, postural and respiratory function and behavioural changes were observed coupled with the onset of crying in response to initial martial arts body positions. Specifically, the participant began to cradle themselves while standing with accompanying loss of eye contact and shallow rapid upper respiratory breathing.

Written informed consent for publication of this de-identified case report by the authors was obtained from the participant. The case arose from routine clinical practice and did not require university ethics committee review (Valešić et al., 2025). No identifying information is included. Additionally, a letter of exemption regarding ethics review and approval was obtained from the Southern Cross University Human Research Ethics Committee (HREC).

Differential diagnosis

Differential Diagnosis (rehabilitation focused): This individual does not have a formal DSM-5 diagnosis of PTSD; however, they report a significant trauma history and ongoing trauma-associated difficulties. The client's presentation was interpreted using the World Health Organization's International Classification of Functioning, Disability and Health (ICF, 2001), which is consistent with ESSA's framework for describing and monitoring function-based rehabilitation outcomes within Accredited Exercise Physiology practice (World Health Organization, 2001).

In line with the ICF model, presentation is described across symptoms, functioning, and behaviours rather than categorical psychiatric diagnoses (World Health Organization, 2001).

> Symptoms (self reported): Symptoms included nightmares; recurrent intrusive thoughts; headaches; muscle tension; and episodes of dysregulated breathing when exposed to stress cues/stressors.
>
> Function: Subject displayed a reduced capacity for emotional regulation in social situations (self reported); difficulties with interoceptive access and appraisal; diminished body trust. reduced self regulation.
>
> Behaviours: The subject engaged social withdrawal in unfamiliar or high-arousal environments; "fawning" (appeasement) responses in interpersonal conflict; difficulty asserting personal boundaries; avoidance of activities that involve unpredictability or physical contact (self reported); reduced eye contact and postural changes (self-cradling) when triggered (observed).

No red flags (e.g., suicidality, unstable medical or psychiatric conditions) were identified, and referral pathways were available if indicated. From a rehabilitation perspective, the most relevant working formulation was impaired interoceptive access and appraisal, dysregulated breathing, posture and behaviour under stress (emotion regulation), reduced boundary assertion, and collectively contributing to participation restriction. These impairments were considered appropriate targets for a trauma-informed, JJJ-informed interoceptive skills program, framed to address the observed interaction of symptoms, function, and behaviours within the ICF approach.

Assesments and outcomes

As the current case report arose from routine clinical practice, the assessment approached described here was for the purpose of clinical practice, not academic research. The primary measures selected and employed were the Multidemnsional Assessment of Interoceptive Awareness-Version 2 (MAIA-2) with documented reliability and validity (Mehling et al., 2018), and a hermeneutic-phenomenological interview (Post-interview). The MAIA-2 was administered at three time points: pre (at the initial pre-screening, history and interview taking session, before intervention had commenced); mid (immediately post session in week three of the intervention); and post (immediately post the sixth and final session of the intervention). Before and post each session of the intervention, the AEP utilised a hermeneutic-phenomenological approach to support and guide the participant in reviewing their experiences.

After the sixth and final session of the intervention, the AEP formulated a semi-structured, written, hermeneutic-phenomenological interview based on the participant's described (narrative) experiences, utilising open-ended questions for further story telling/sharing. The purpose of this approach was to support the participant in reflecting on, making sense of, learning, and

consolidating skills from the intervention. The participant was asked to self-administer the interview in an environment of their own choosing within the following seven days. The participant and AEP then reviewed and discussed the interview 'narrative' together over the phone. The hermeneutic-phenomenological interview was considered appropriate for the participant since the topics and experiences had already been discussed and supported between the particiapant and AEP across the duration of the intervention. The hermeneutic-phenomenological interview process was guided by established work in lived-experience (Danielsson & Rosberg, 2015; Lindseth & Norberg, 2004), yet adapted for clinical practical as opposed to research. All scoring of the MAIA-2 and analysis of the hermeneutic-phenomenological interview was undertaken by the AEP.

TREATMENT

Safety planning and familiarisation considerations

Safety measures were discussed with the participant during the initial pre-screening session, and at the start of each session of the intervention, all of which were aligned with trauma-informed care and violence-prevention principles (NSW Health, 2017; Van der Kolk, 2014). Safety measures included:

Explicit opt-out rules: If at any point throughout a session, including at the begging of a session, the participant wished to stop, the physical training of the session would be immediately discontinued. The AEP would then sit and speak with the participant, and listen supportively. This also provided an opportunity to refer on if necessary. No adverse events occurred, and no referral was required.

Stop signals: If the participant said "stop", this was a signal for the AEP to stand still, and or potentially provide space, or kneel down.

Consented touch boundaries were used throughout. At any point that an activity would involve physical contact, as is often the case with JJJ and grappling martial arts, the AEP would first explain the approach, and ask "are you ok with this?".

The pre-screening session also involved familiiarisation of the participant with the outcomes measures/assessments, the intervention structure, and the delivery approach (Self-regulated Exposure, Emotion Regulation, & Co-regulation).

Dose and format

Six 60–75-minute sessions were conducted across six weeks (one time per week) in a one-to-one format.

Session structure

The AEP guided, coached, trained and supported the participant through the following stages of each session:

1. Breath-voice-posture: With the participant positioned in either supine or seated, diaphragmatic pressurization, rib-diaphragm coordination and paced nasal exhalation were undertaken/trained. This involved assessing and supporting the participant to develop effective diaphragmatic breathing. Postioned in standing, voice drills ("NO/GET BACK") paired with JJJ-based stance involving base of support (leg stance posture and position) and hand framing which supported both physical body protection, boundary assertion, and assertive body posture and voice were trained. Specifically, the participant would raise and extend their arm with palm facing towards the AEP, coupling verbal and embodied communication ("NO/GET BACK").
2. Kata foundations: Kata (structured movement sequences used for skill development and somatic awareness) was introduced. The participant practiced fundamental positioning principles, including; off-line stepping (moving the body out of a direct line of potential threat or force); establishing a stable stance/base for balance and joint alignment; kuzushi (the controlled act of unbalancing to facilitate efficient movement and redirection of force); and framing (using the limbs to create protective or supportive structures around the body). These were initially performed as solo movement drills to build coordination and body awareness, and later as cooperative partner exercises to integrate timing, responsiveness, and safe interpersonal interaction.
3. Graded scenario practice: Consented positional encroachment and gradual partner drills were introduced to explore proximity tolerance and boundary regulation/assertion under controlled conditions. Examples included gentle approach into the collar or neck space, light wrist control, and hand placement near the shoulder or upper arm. Each exercise was performed at a slow and predictable pace with explicit verbal consent and clearly defined stop rules.
4. Cool-down & reflection: This segment included a short body scan and MABT-style journaling prompts linking sensation → emotion → meaning.

Each of the four stages described above integrated therapist-guided participant self-awareness and embodied reappraisal of experiences, delivered by the AEP experienced in mental health and martial arts.

Between-session practice

A two-to-three minute breathing routine and boundary-voice rehearsal were prescribed. This involved the participant adopting a physical stance with wide legs, knees bent slightly, and coupling

visualisation of saying "NO", with effort directed from diaphgragmatic breathing as opposed to recipiricol breathing (upper respiratory muscles). Additionally, the hands and arms would be pushed away from the body (palms facing outward), synchronising hand movement with expiration.

Self-regulated exposure, emotion regulation, & co-regulation

A three colour emotion regulation approach, integrated with body-related emotional awareness (Gard et al., 2020; Mehling et al., 2011; Merleau-Ponty, 1962; Price & Hooven, 2018) and informed by the Window of Tolerance model (Ogden et al. 2006; Siegel 1999) was employed to facilitate self-regulated participation and overall emotion regulation: Green = "good to go"; Orange = becoming triggered – able to participate; Red = triggered, cannot function – unable to participate.

During the pre-screening session, the AEP familiarsed the participant with this approach verbally, with a focus on making embodied sense of the verbal words (Green, Organge, Red) as means of understanding and describing changes occurring within the participants autonomic nervous system, body, behaviour and interaction within one's self and between others. The aim was to operate generally within the green zone, recognise that moving between green and orange is natural with in both martial arts and life, and make sense of what the red zone meant with respect to one's own tolerances. At the start of each session, the AEP refamilialired the partcipiant with this approach, and supported the participant by regularly checking in with them verbally, asking "what's your colour?" throughout each session.

Co-regulation, managing triggers and overwhelm:

Informed by the AEP's own-lived experience using martial arts in their own recovery journey, and supported by their professional knowledge and experience, the following co-regulation strategies were employed as part of the intervention:

Each time the participant became triggered, identified either through the participant's verbal communication, non-verbal communication (e.g., tone of voice) or behavioural changes (including but not limited to breathing, posture, eye contact, crying), the AEP kneeled down to a lower, no-threatening height, and gave space. The AEP then focused on their own body-awareness and breathing to create a calm environment within themselves in order to communicate and support a sense of calm and safety for the participant. If appropriate, the AEP would say encouraging words such as "it's ok, let it out, you are safe". Once the participant was calm (green zone), the AEP supported the participant to explore the bodily sensations that came up, and tried to recall the buildup/how it built up in the body, how it felt, and then the AEP guided the participant to put words on it, such as "my heart started to race".

Psychological and physical harm prevention

To manage risk of adverse events, the following approach was employed:

Non-striking delivery. Despite traditional JJJ involving atemi waza, understood as striking and vital point manipulation, a non-striking delivery approach was selected.

Slow tempo operating, within self-selected joint range limits. All activities where coached and prompted by the AEP, supporting mindful movement, and supporting the participant to be self-aware of speed of movement, the relationship between emotional state and movement, intensity, range of movement, and effort exertion. Self-awareness of the AEP was also a key consideration to promote an effective interaction.

Clear taps. This involved the participant having the understanding, agency, and capability to tap out, there by immeditately stopping the particular activity in that moment. Tapping out was a shared understanding between the participant and the AEP, and is a key consideration in JJJ training, and grappling martial arts in general. It involved both the participant or the AEP physically tapping, or verbally tapping ("stop" or "tap"), such as the participant tapping their hand of the AEP's back, to signal immediate stoppage of the acitivty. Importantly, this is a safety consideration for both students and instructors.

Mindful awareness of grappling injury profiles. The AEP supported the participant to be mindful of their body positioning and posture with respect to any past history of injury, pain, and safe anatomical positioning, whilst ensuring awareness of their own bodies and needs.

RESULTS

The current case was assessed using both phenomenological methods and the Multidimensional Assessment of Interoceptive Awareness–2 (MAIA-2). Given a key focus of the martial arts intervention was learning to use one's body to support self-regulation, interpersonal function and sense of empowerment linked with self-protection and safety, the present report focuses on the MAIA-2 domains of Emotional Awareness, Self-Regulation, and Body Listening. These domains were considered most directly relevant to the therapeutic processes addressed in the martial arts intervention. The phenomenological findings are presented alongside these MAIA-2 findings to illustrate areas of convergence in the participant's experience and changes over the course of intervention.

Quantitative (MAIA-2)

Table 1 displays the changes in MAIA-2 domains, Emotional Awareness, Self-Regulation, and Body Listening across the time points, pre, mid and post. Emotional Awareness refers to awareness of bodily sensations associated with emotional experiences; Self-Regulation refers to the use of bodily awareness to regulate emotional or psychological states; and Body Listening, refers to active attention to bodily sensations to inform understanding of one's physical and emotional state (Mehling et al., 2018).

Table 1. Multidimensional Assessment of Interoceptive Awareness-Version 2 (MAIA-2) – Presented Domains

ITEM	Pre	Mid	Post
Emotional Awareness	4.8	5	5
Self-Regulation	2.5	3.75	3.5
Body Listening	4.33	5	5

Qualitative (post-interview)

The current case report arose out of routine clinical practice, not academic research. The formulation of Table 2 was undertaken by the AEP guided by previously reported approaches for the meaning of lived experience (Danielsson & Rosberg, 2015; Lindseth & Norberg, 2004). The words are those of the participant.

A brief check-in at four weeks post-program (particpant self-report) indicated sustained sleep benefits, the continual ability to recognise the feelings of being triggered, and maintained intentional use of breath and voice drills (self regulation) for managing overwhelm (as understood as an embodied affective experience) and establishing interpersonal boundaries (social function) respectively.

Table 2. Phenomology Interview Themes and Quotes

Theme	Exemplar quote
Becoming comfortable being uncomfortable	"Now I feel strength in my body, I breath deeper and sit with the pain and communicate my feelings with a sense of clarity and power…"
Sleep, nightmares and trauma	"My nervous system was in over drive, I wasn't sleeping through the night, having constant flashbacks… I'm sleeping better five nights out of seven, Nightmares have completely gone, and the flashbacks have a different more empowered outcome"
Feeling safe and empowered by martial arts	"Every day I feel more confident…I have a tool-kit of moves to protect myself with, and I am finally using my voice"
Improved relationships with self and others	"I was paranoid in my current relationships…inflexible and afraid …I no longer feel embrassed or ashamed…I was always concerned when speaking my truth to others...I am now owning my power and directing that in positive ways…"
Assertiveness and setting boundaries	"I finally found my voice—using clear 'NO/GET BACK' cues."
Managing triggers and self regulation	"At first, the triggers which came up were completely overwhelming, however the tools for grounding worked immediately...The breathing to regain my composure and stop the crying and go from red to orange to green was excellent…I have a breathing technique I can use for the long-term."
Confidence / agency	"I am not afraid as much of the future I face now I have a toolkit of moves to protect myself…"

Interpretation

The observed changes (increases) in Emotional Awareness, Self-Regulation, and Body Listening were interpreted in relation to the participant's phenomenological account rather than against a fixed clinical cut-off. Increases across these domains were consistent with the participant's reported development of greater awareness of triggers, overwhelm, and use of body-based strategies for self-regulation, social (interpersonal) function, and sense of empowerment. The convergence of these quantitative changes with the phenomenological (qualatitive) findings provides complementary evidence of change in the specific embodied processes that were the focus of the clinical intervention. Given the absence of universally established thresholds for clinically meaningful individual change on the MAIA-2, the magnitude of change in the domains presented was not interpreted independently but in concert with the phenomology findings.

DISCUSSION

The current case report suggests a JJJ-informed, consent-based framework can operationalize interoceptive training for women with sexual assault-related mental health trauma and symptoms of PTSD. The staged design mirrored MABT (awareness → access → appraisal), with breath-voice-posture anchoring, autonomic regulation and kata/positional control providing predictable, repeatable exposure with agency. The case and approach presented is consistent with the principles of the American College of Sports Medicine's Exercise is Medicine initiative (Exercise is Medicine 2026). This case also suggests that martial arts training halls, as community mental health hubs can beneifit from integration with physiologically-oriented mind-body, movement and nervous system clinicians (e.g., clinical-exercise physiologists, sport scientists and physiotherapists) to support effective martial arts training and therapeutic gains when supporting persons with trauma histories. Clinical research should be undertaken to explore how these professionals supporting the Exercise is Medicine initiative can be effectively integrated with martial arts schools and instructors to best support vulnerable and diverse community populations.

In the current case report, collective gains revealed across the MAIA-2 and Post-interview suggest improvements in sleep behaviour, embodied safety, intentional body-based self regulation skills, and interpersonal functioning. Notably, gains in sense of empowerment ("Every day I feel more confident"), agency ("now I have a toolkit of moves to protect myself") and boundary assertion/regulation ("I finally found my voice, using clear 'NO/GET BACK' cues") were also seen. The current case findings are consistent with emerging evidence for mind-body exercise practices particulary those involving physical and psychological challenges, such as strength training, martial arts and combat sports (Ciaccioni et al., 2025; Vigue et al., 2023; Khoudari, 2021; Clapton & Hiskey, 2020; Moore et al., 2020) when taught with ethical pedagogy and inclusion. Moreover, the current presentation is also consistent with emerging trauma-informed martial arts frameworks that prioritise consent and safety (Ciaccioni et al., 2025; Clapton & Hiskey, 2020), and grappling studies in veterans that suggest clinically meaningful PTSD symptom reduction and better sleep (Willing et al., 2019).

From an embodied safety and interpersonal-interaction perspective, the traditional cultural role of martial arts in self-defence or self-protection may be of particular importance in vulnerable populations, to feel safe within themselves and in relation to others. In addition to body-based autonomic regulation ("The breathing to regain my composure and stop the crying … was excellent"), specifically learning practical martial arts strategies that support genuine self-protection – such as the ability to defend one's body, escape an attack, and regulate/assert boundaries ("I have a tool-kit of moves to protect myself with, and I am finally using my voice") – may be of key importance in embodied safety. Anecdotally, in the experience of the authors working across healthcare with clients and patients (over 30 years combined experience), and as training martial artists (over 40 years combined experience), the authors have learnt that a high number of survivors of violence and assault have turned to martial arts in order to feel safe again, with the intention of learning practical strategies to protect one's physical body. Martial arts and trauma recovery may indeed be an old tradition that requires innovation through integration with emerging practices.

Effective integration of clinicians supporting the Exercise is Medicine initiative with martial arts schools could be examined in academic research. Finally, clinicians and instructors should be aware that their own embodied presence (including nervous system states) form an important part of the relational context in which intervention and training occur. For example, through posture, facial expression, tone, movement, proximity, and pacing, and other embodied behaviours they may communicate cues of safety or threat that influence participants' physiological and emotional states, contributing to processes of interpersonal co-regulation (Porges, 2022; Skjaerven et al., 2019; Thornquist, 2022). This also highlights the relational nature of embodied interaction in martial arts, whereby the bodies of clinicians and instructors form part of the interpersonal environment rather than functioning as separate from it (Katz, 2024). This is particularly relevant when engaging with emotionally challenging material, which may influence the practitioner's own internal responses. Trauma-informed practice therefore warrants clinicians and instructors to consider practicing body awareness themselves, to engage in real-time self-regulation as required for intentional use of embodied presence in supporting participants' regulation (Gyllensten et al., 2010; Gard et al., 2020; Gyllensten et al., 2019; Skjaerven et al., 2019; Thornquist, 2022).

CLINICAL IMPLICATIONS

For trauma-exposed women, pair predictable kata and slow, consented partner work with interoceptive coaching; train

breathing and boundary-voice skills early; track MAIA-2 domains to individualize loading. Where appropriate, foster community continuity (e.g., women-only classes) to support adherence. Martial arts training halls, instructors, and fellow students may thus collectively serve an important cultural role in community mental health and wellbeing. Instructors and clinicians should be aware that their own embodied prescence is an important part of the training and intervention when working with participants in martial arts.

Limitations

The current case report presents on a single case only, using a brief dose of the intervention. Importantly, the case report arose out of routine clinical practice, not academic research, which may influence its generalizability. With respect to community-based martial arts application, effective delivery may require physiologically-oriented mind-body, movement and nervous system clinicians (e.g., clinical exercise physiologists, sport scientists and physiotherapists) to possess martial arts skills themselves. Collaboration with martial arts instructors may mitigate this limitation.

Future work

Research studies could explore implementation optimisation, longer follow up, and the role of psychophysiological indices (e.g., HRV) in progress monitoring. Additionally, psychological assessments on resiliency could also be integrated alongside phenomology in martial arts studies.

Clinical Practice Guidelines (CPGs)

No CPGs currently exist for martial arts–based interventions for trauma and PTSD. However, trauma and PTSD rehabilitation guidelines emphasize body-based therapies, graded exposure, and trauma-informed principles (eg, opt-out rules, safety planning, and interoceptive skill training). The intervention in this case adhered to these principles while adapting martial arts pedagogy to prioritize predictability, consent, and controlled (self-regulated) exposure.

Learning Points

1. Interoceptive skill-building can be embedded in JJJ pedagogy using breath-voice-posture, kata, and graded scenarios.
2. Consent, predictability, and choice are essential when using partner drills with sexual-violence survivors.
3. Expect early gains in Emotional Awareness/Body Listening; Trusting/Attention Regulation may fluctuate as boundaries recalibrate; plan follow-up practice(s)/approaches accordingly.
4. Grappling arts show promising mental-health outcomes when delivered with ethical safeguards and inclusion.
5. Instructors and clinicians should be aware of their own embodied prescence as part of the martial arts training and interventions

Declaration of competing interests

The authors affirm that they had no competing interests relevant to the work underpinning this manuscript.

Declaration of artificial intelligence use

The authors affirm that no artificial intelligence applications were used in the preparation of this manuscript.

Acknowledgements

The authors sincerely thank Dr Shaun Taylor, Japanese Jui-Jitsu (JJJ) 5th Dan Black Belt (International Jui-Jitsu Foundation), and Professor Daniel Lima, Brazillian Jiu-Jitsu (BJJ) 5th Degree Black Belt (Fight Club Jiu Jitsu), for opening their respective dojos to the authors personally and professionally, guiding, mentoring, and notably, supporting the authors in their journeys of helping fellow humans.

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ISSN: 2057-5696

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