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"Putting back the puzzle pieces" of life after domestic abuse. A pilot study on the effects of Dance Movement Therapy on self-esteem and anxiety in women survivors of gender violence in the Netherlands

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ABSTRACT

Gender-based violence is a pervasive global problem that undermines the health, safety, and rights of millions of women and girls. Survivors frequently experience lasting mental-health consequences such as depression, anxiety, and post-traumatic stress. Creative, body-centered interventions have shown promise in supporting recovery and improving psychological well-being. This paper presents a pilot study of a 6-month Dance Movement Therapy (DMT) group intervention for women survivors of gender-based violence (GBV) at a major Dutch shelter, with particular emphasis on the use of Greek dance in therapeutic, social, and pedagogical contexts. Combining qualitative and quantitative data collection, insights drawn from participants' artwork, focus groups, and interviews revealed five key themes: embodiment, self-awareness, transformation, cultural identity, and social impact. Building on these themes, the qualitative data further illuminated specific mechanisms underlying self-esteem, including increased self-awareness and the establishment of personal boundaries. Quantitative outcomes based on the Rosenberg Self-Esteem Scale showed a statistically significant increase in self-esteem (Wilcoxon, $p = .05$), with a very large effect size ($r = .92$), consistent with individual Reliable Change Index (RCI) analyses. Change measured by the State-Trait Anxiety Inventory was mixed: two participants showed an increase, one a decrease, and one stable. While findings from this small sample cannot be generalized, this pilot study indicates DMT's potential for women survivors of domestic violence and the need for further research.

Introduction

Background

In the wake of COVID−19, global reports show an alarming rise in gender-based violence (GBV), revealing the urgent need for more trained professionals (Böök, 2021). In UN survey data from 13 countries, "*almost 1 in 2 women reported that they or a woman they know experienced some form of violence since the start of the COVID−19 pandemic*" (UN, 2021). Javed and Chattu (2020) noted that one-third of women worldwide experience GBV in their lifetime, marking it as one of the most widespread human rights violations. The European Commission defines GBV as violence disproportionately affecting individuals based on gender, including physical, sexual, psychological, and economic harm. Though women and girls are the most impacted, GBV also affects men, children, and broader communities.

Historical patterns show that GBV surges at times of social crises. During the Ebola outbreak, Guinea saw a 4.5% increase in GBV, including a doubling of reported rape cases (Shoman et al., 2017). According to the European Futures academic blog (2021), reports of domestic violence in France increased by approximately 32 % within a single week of the national lockdown compared with similar pre-lockdown periods. The same source notes that Lithuania experienced a roughly 20 % rise in domestic violence cases during the first three weeks of lockdown relative to the corresponding period in 2019. Today, GBV persists across domestic and public spaces. Movements like #MeToo have sparked accountability and reshaped discourse, offering hope for egalitarian gender relations. GBV takes many forms—domestic violence, harassment, female genital mutilation (FGM), forced marriage, online abuse, date rape, and femicide. For example, over 230 million

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women have undergone FGM globally (United Nations Children's Fund UNICEF, 2024), and a woman is killed by a partner or family member every 10 min (United Nations Office on Drugs and Crime UNODC, 2024). These abuses are deeply embedded in patriarchal norms, often normalized or silenced in many societies (United Nations High Commissioner for Refugees (UNHCR), 2020). Even today, the home is still recognized as one of the most dangerous places for women. Despite its significance, coercive control has only recently received scholarly attention. The World Health Organization (2021) reported that 736 million women have experienced intimate partner or non-partner sexual violence. In the EU, nearly half of women report psychological violence (European Institute for Gender Equality EIGE, 2022). While men can also be victims, the classic and most prevalent form involves male partners exercising control over women.

Psychological abuse, or coercive control, remains one of the least visible yet most damaging forms of GBV. Coined by Stark and Flitcraft (1996), coercive control refers to patterns of assault, threats, intimidation, or other behaviours used to isolate and dominate the victim. Victims often experience disorientation or "brain fog", making abuse hard to recognize—even to themselves. As Stark et al. (2018) argued, coercive control is a high-impact intimate crime, with victims trapped in a distorted reality defined by fear and confusion.

Societal norms play a central role in perpetuating coercive control. Studies show that boys who witness domestic abuse are up to 700 times more likely to replicate similar behaviours as adults (Sangeetha et al., 2022). Researchers like Stewart et al. (2021) and Pico-Alfonso (2005) emphasized how entrenched beliefs about male superiority continue to fuel GBV. In many regions, patriarchal structures continue to sustain alarmingly high rates of intimate partner violence, reaching 36% in the Democratic Republic of Congo and 35% in Afghanistan (Sardinha et al., 2022).

Historically, the abuse of women has been rooted in power dynamics. As Dixon (2011) explained, enslaved African women were exploited sexually without legal recognition of gross violations of their rights. Though times have changed, these patterns persist in various forms. The global prevalence of intimate partner violence is a stark reminder that GBV transcends geography, culture, and development status.

The complex, often invisible nature of coercive control makes detection and intervention difficult. It is not limited to extreme incidents but manifests in ongoing manipulation and control over personal freedoms. Stark et al. (2018) highlighted how legal systems fail to address these broader patterns, focusing instead on physical violence. They called for new, comprehensive laws and multidisciplinary responses to support survivors' recovery and reintegration.

Previous dance movement therapy (DMT) intervention studies and intimate partner violence (IPV)

Intimate partner violence (IPV) refers to behaviour by an intimate partner or ex-partner that causes physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse, and controlling behaviours (WHO, 2021). IPV imposes long-term mental health impacts. Survivors are three times more likely to develop depression or bipolar disorder (Mahase, 2019). Existing interventions include legal, community, and therapeutic strategies. Cognitive–behavioral therapy (CBT), long considered a gold standard, has been increasingly critiqued for its limited cultural sensitivity (Burnette & Hefflinger, 2016; Shapiro, 2020). Neuroscientific findings have further highlighted limitations in addressing trauma without incorporating bodily engagement (Logue et al., 2018). In response, creative and somatic therapies are gaining recognition for their transformative potential (Kuhfuß et al., 2021).

Özümerzifon et al. (2022) evaluated and applied Gina Gibney's Move to Move Beyond method, based on Herman's (1998) trauma recovery model, showing short-term emotional benefits. Similarly, Machorrinho et al. (2023) found the Feel-Own-Move psychomotor therapy program effective in reducing bodily dissociation and improving safety in Portuguese IPV shelters.

Body-based interventions show promise: Margolin (2019) explored creative dance for adolescents, while Simmonds (2022) highlighted the cultural power of Caribbean dance. Studies also demonstrate the effectiveness of yoga (Van der Kolk et al., 2014), tai chi, and music therapy (Rudstam et al., 2022) in trauma recovery. Research supports integrating arts and somatic methods with advocacy and trauma-informed care (Warshaw et al., 2013; Rivas et al., 2015), offering a more holistic path to recovery for IPV survivors. A qualitative study examining group art therapy with women survivors of intimate partner violence (Skopa et al., 2022) found that art therapy facilitated emotional expression, empowerment, and the development of coping strategies among participants.

Dance Movement Therapy promotes mind-body integration. In the Jungian psychoanalytic tradition, the Lover archetype, representing connection, intimacy, and passion (Hillman, 1975), aligns with DMT's emphasis on mind-body integration, as it encourages individuals to reconnect with their emotional and sensory experiences. Research by Levine (2005) and Ogden et al. (2006) demonstrates that trauma is often stored somatically and can be accessed and processed through movement, allowing survivors to reclaim embodied pleasure and relational capacity. By combining Jungian symbolic frameworks with somatic practice, DMT may offer a pathway for integrating affective, relational, and bodily dimensions of healing (Levine, 2005; Ogden et al., 2006).

Greek dances and their therapeutic application in IPV recovery

Greek folk dances, particularly circle dances like horo (χορός), have historically served as powerful expressions of unity, identity, and resistance—especially during the Ottoman occupation. They have traditionally assigned clear gender roles, often emphasizing masculine expressiveness and female restraint. Scholars like Butler (2008) and Bouna-Vaila and Papanis (2022) critiqued these norms yet acknowledged their cultural relevance. Despite these rigid frameworks, ethnic dance forms can be deeply therapeutic. Capello (2007) argued that folkloric dances, while culturally specific, can support healing and self-expression in dance/movement therapy (DMT).

Although research on dance/movement therapy (DMT) using Greek dance for survivors of gender-based violence is limited, related evidence is encouraging. Studies of Greek and sacred dance report reduced stress and anxiety and improved mood among cancer patients, breast-cancer survivors, older adults, and children (Douka et al., 2019; Frison et al., 2014; Kaltsatou et al., 2011; Karathanou et al., 2021; Mavrovouniotis et al., 2016; Venetsanou & Kambas, 2004), and even online or virtual programs have enhanced self-esteem, underscoring Greek dance's potential as a holistic mind–body therapeutic approach (Argiriadou et al., 2022).

General and specific objectives

This study aimed to support professionals working with women survivors of domestic abuse, ranging from therapists and healthcare providers to policymakers and researchers, by exploring DMT's therapeutic potential.

Specific goals include assessing whether group DMT improves self-esteem, reduces anxiety, rebuilds trust through circular dance (e.g., "horo"), and fosters empowerment and embodiment by embedding Greek folk dances elements. The central hypothesis posits that Greek folk dance integration within the DMT framework at the Dutch shelter will positively impact participants' self-esteem and anxiety levels.

Methodology

Design

This pilot study employed both qualitative and quantitative data to examine the effects of a Dance/Movement Therapy (DMT) intervention incorporating traditional Greek dances on women survivors of domestic abuse. Conducted in collaboration with shelter staff and as a final project for the Master of DMT at the University of Barcelona, the program was tailored to participants' diverse cultural backgrounds, with most coming from Turkey, Morocco, and Chechnya. The intervention, delivered over six months, integrated folkloric dance to reinforce cultural identity and promote emotional healing. Flexible session design prioritized participant autonomy and minimized the risk of revictimization, addressing the unique psychological dynamics often experienced by survivors of intimate partner violence.

Quantitative measures assessed changes in anxiety levels and self-esteem, while qualitative interviews captured participants' subjective experiences of empowerment, emotional expression, and connection to cultural identity. The integration of both data types provided a nuanced understanding of the therapeutic impact.

Participants and research sample

Six women participated, with five completing the program. Recruitment was facilitated via brochures and personalized outreach by a social worker. All the women who participated were volunteers and each signed an informed consent form. All data were anonymized. The project was conducted under an agreement with the shelter and the Autonomous University of Barcelona (UAB). The interventionist was in her final year of the Master's program at UAB while facilitating the DMT program at the shelter. She was engaged in intensive individual and group supervision, as well as her own personal therapy, ensuring a smooth process, responsiveness to participants' needs, and a supportive therapeutic environment. Participants were identified using anonymized, randomly assigned initials (for instance, client L, CL).

The sample included six participants, whose home countries included Chechnya, Morocco, Persia (Iran), Turkey and the Netherlands. Five of the women had children.

Data collection methods

Quantitative data were collected through pre- and post-intervention assessments using two standardized psychological instruments: the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and the State-Trait Anxiety Inventory (STAI-Y) (Spielberger et al., 1983). Qualitative data were gathered via participants' drawings, created during five of the sessions, post-program individual interviews, and a focus group held after the final session. The individual interviews focused on one particular question – *"Which of all your drawings from our meetings would you choose as most representative of how you feel right now? And why?"* Afterwards, the talk followed an unstructured approach, allowing deeper exploration, with the selected drawing used to facilitate the reflective unfolding of the interview (Brailas, 2020). The focus group invited participants to reflect on favourite movements, changes in well-being, unique aspects of the group, turning points during sessions, and whether they would recommend the program to other women. The focus group was audio-recorded. Both the interviews and focus group recordings were transcribed verbatim for subsequent analysis and triangulation.

Procedure

The DMT intervention at a pioneering Dutch shelter for survivors of domestic violence, consisted of 10 weekly sessions tailored to culturally diverse participants – all of whom were women survivors of domestic abuse. The program incorporated Greek folk dance elements, creative arts, symbolic movement rituals, and body-based techniques to promote healing, empowerment, and community building. Sessions addressed trauma through storytelling, expressive arts, somatic exercises, and choreographed movement, all emphasizing participant autonomy and emotional safety.

While the intervention followed a structured framework, the development of each session was dynamically informed by what emerged in previous sessions, the evolving individual and group processes, and ongoing clinical supervision. Importantly, it remained highly responsive to the participants' immediate moods, needs, and aspirations.

An emphasis on participant autonomy and emotional safety was central throughout. In the early stages (approximately sessions 1–4/5), participants showed a preference for visual expression, engaging more readily in drawing and artwork before feeling comfortable with movement, shared space, or verbal expression. Over time, this gradually shifted toward increased embodied participation. Participants were also invited to influence elements of the sessions, such as selecting music (e.g., Greek or Eastern).

The DMT program was delivered in two phases:

a) Preliminary Phase – 2 months: To ease anxiety and resistance, five open sessions were held to introduce women at the shelter to the DMT process. These sessions allowed participants to explore the method, ask questions, and decide on further engagement. Several women attended regularly, and six ultimately committed to the full 10-session program.
b) Main Phase – 4 months: The core intervention consisted of 10 weekly, 60-minute sessions in a closed-group format to ensure safety and build trust. Clinical supervision and initial observations confirmed that participants benefited from a consistent, secure group setting as they began to open up emotionally and physically.

Early on, drawing proved to be more accessible than movement, offering women a safe, imaginative space to process trauma. Movement was gradually introduced, starting with 5 min and increasing to 20 min as comfort grew. Adaptations were made to respect participants' pace, reduce re-traumatization, and foster a sense of control.

Key program adaptations included removing complex symbolic elements, such as the fairy tale enactment; focusing on Zorba's seated and standing postures to explore grounding and balance; incorporating leg kicks and arm expansions with scarves to reclaim personal space; introducing sword gestures to symbolize release; and integrating group Syrtaki dance in a circle to build cohesion and shared rhythm.

As seen in Fig. 1 below, the program followed 8 structured phases: 1) Talk – sharing past experiences; 2) Draw – transitioning from only words to expression and the unconscious; 3) Stretch – Zorba's eagle posture on the floor; 4) Stand & Balance – grounding through postural re-alignment; 5) Express Anger – through kicks, hip pushes, and sword movements; 6) Soften – using veils and gentle movement for integration; 7) Circle Dance – collective support via Syrtaki; 8) Envision Future – personal choreography symbolizing life ahead.

Greek dance was applied in a gender non-conformant way. While

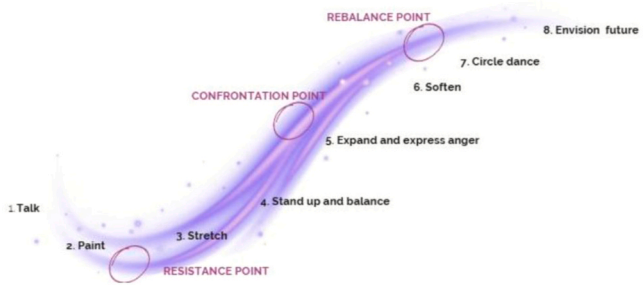

Fig. 1. *DMT Process Flow.*

traditional Greek dances often reinforce rigid gender roles, the program deliberately emphasized the typically male-embodied movements of Syrtaki to help women reclaim inner strength and resilience. Participants explored movements traditionally associated with male vigour, such as Zorba's kicks and grounded stances, not for role reenactment, but to rebuild personal agency. By adapting Syrtaki and other elements to focus on individual empowerment rather than performance or tradition, the DMT sessions offered survivors a path to reconnect with themselves both physically and emotionally, on their own terms.

Data analysis

Pre-tests were administered before the main therapeutic sessions began. Post-tests were conducted upon completion of the intervention. Quantitative data from the Rosenberg Self-Esteem Scale and STAI-Y were analysed using SPSS version 20 to assess pre- to post-intervention changes in self-esteem and anxiety. Given the limited sample size, a non-parametric Wilcoxon signed-rank test was applied to evaluate changes following the intervention. To further examine the clinical significance of the observed changes at the individual level, a Reliable Change Index (RCI; Jacobson & Truax, 1991) was computed for each participant and each variable. Individual change was considered reliable when $|RCI| \geq 1.96$. Qualitative data, including individual interviews, and the focus group, were conducted, recorded, transcribed, anonymized and analysed by the interventionist using inductive thematic analysis (Braun & Clarke, 2006). Triangulation was undertaken both across data sources and within the thematic analysis: two experts in qualitative methodology conducted independent analyses of verbal information, which were subsequently compared and discussed to reach consensus on the final themes, the prior process of coding and category development was conducted iteratively until data saturation was reached, thereby reducing potential bias. Participants' drawings were not subjected to formal triangulation but were used illustratively to contextualize and deepen the understanding of participants' subjective experience and therapeutic process, as interpreted through a Jungian symbolic perspective. The approach of giving women the space to speak about their drawings and their choice of symbols often leads to deeper insights from themselves, as no external interpretation is imposed (Huss & Cwikel, 2005).

Results

Qualitative results

Five central themes emerged from the inductive thematic analysis of interviews and focus group data, alongside the symbolic interpretation of participants' drawings: 1) Embodiment & therapeutic presence; 2) Self-discovery & awareness; 3) Transformation & growth; 4) Cultural context & interpersonal relationships, and 5) Impact on personal life & community. Table 1 is a full overview of the thematic analysis (codes, categories and final themes) with evidential examples for all identified categories. In Table 1, '*Ind. Interv.*' is used to denote quotes derived from individual interviews, and '*FG*' refers to focus group.

Drawings, reviewed through a Jungian lens, acted as mirrors of participants' internal journeys, illustrating a movement from fragmentation to integration. The spontaneous and open-ended drawing process allowed unconscious material to surface, giving form to unspoken pain and emergent insight. Revisiting these artworks at the program's end offered powerful moments of reflection, personal recognition, and identity restoration.

Participants frequently cited Greek dances, particularly Syrtaki, as liberating and emotionally restorative. Women described rediscovering "*kefi*," a joyful vitality, and reclaiming personal agency through embodied practice (Papataxiarchis, 1991). Trust, intuition, and the capacity to say "no" all reemerged during the six-month process, signalling restored boundaries and self-worth. Other notable outcomes included: increased self-awareness and emotional expression, strengthened body connection, enhanced boundary-setting abilities, reduction of displaced aggression, improved self-care and personal routines, greater trust in healthy relationships and reconnection with goals and aspirations.

Reflections revealed that many had long internalized roles of

Table 1
Thematic Analysis Overview of the Individual Interviews and Focus Group Texts.

Themes (number of quotes)	Categories	Codes	Illustrative quotes
Embodiment and Therapeutic presence *(25)*	Bodily expressions	Body ache, corporeal changes	"Aches through the whole body" (*CL*)
	Emotions	Gratitude	"Really thank you for everything…" (*CM*)
	Change	Inner change, insight	"Everyone is so used to taking me for granted and offending me."(CN)
	Awareness	Acknowledgement, reality check	"I was so mad with my kids" *(CL)*
Self-discovery and awareness *(56)*	Intuition and implicit insight	Self-trust	"I told myself; I really need to do that, to follow the dance therapy program" (*CL*)
	Recreational needs	Connection to nature	"I cannot live without feeling nature. I need to feel it in me" *(CL)*
	Auto-consciousness	Mentalization	"If you don't believe in others, then it is impossible to make contact" *(CA)*
Transformation and growth *(88)*	Self-control	Affirming own identity	"All this (the group process) allows you to be who you are." *(CA)*
	Emotional regulation	Controlling negative impulses	" I wanted to beat them, to hit them - like before. But that night I stopped myself. I just grabbed my phone and went out." *(CL)*
	Challenges	Facing self-resistance	"I thought it is just my thoughts that are telling me this judgement, while others actually like my artwork." (CA)
	Defending personal space	Boundaries	"Now I feel ok to refuse. Before, I definitely couldn't do this" *(CA)*
Cultural context and interpersonal relationships *(37)*	Trust in others	Betrayal	"To believe in people is very hard." *(CL)*
	Social conditioning	Negative patterns	"I have always been told, "You must help others" *(CA)*
Impact on personal life and community (*28*)	Acceptance	Zest for life	"I love dancing and movement." *(CM.)*
	Personal drive	Giving and receiving	" Let me know if there are new sessions at some point." *(CM)*

emotional self-sacrifice and silence. Through movement, they began to rewrite these scripts. One woman summarized her journey: *"Now I have time – everything I do, I choose for myself."*

Within the safe and embodied container of the DMT sessions, art emerged as a silent, powerful witness to the women's inner transformations. The drawing process allowed unconscious material to rise naturally, offering insight into deep psychological processes that words alone could not express. Guided by Abt's (2005) Jungian framework for image interpretation and enriched by the women's personal reflections, the artworks revealed a rich tapestry of archetypes, inner shifts, and symbolic rebirth.

Client S journeyed through a visual cycle of death and renewal. Her first drawing—symmetrical branches and roots—reflected a deep desire for grounding. "*Before, I was almost dead… But now I feel strong, with base, I can grow,*" she said. As her drawings progressed, birds and water began to appear—symbols of freedom and emotional flow—while strong flower stems in her final image suggested clarity and resilience (Fig. 2). Despite the brightness of her palette, an early hesitancy to confront darker emotions echoed in both her images and initial resistance in movement.

Client N's single artwork radiated simplicity and rebirth. A vibrant red heart stood at the centre (Fig. 3), encircled by blue and red fingerprints—her own. "*This is me—who I am, my identity, my DNA,"* she explained. The absence of shadows or dark colours spoke to a fresh beginning, yet also hinted at deeper emotional material still awaiting integration. Although these interpretations may be seen as highly subjective, nevertheless, the role of drawings in emotional, nonverbal, expression was critical to the intervention.

Client M moved through imagery of complexity and spiritual longing. A river, winding and obstructed, appeared early representing life's difficulties. Over time, birds, sun, and a glowing path emerged. Her most symbolic drawing featured a half-visible face, curly hair, and a flowing river: "*I show only one side. The other relates to the pain"* (Fig. 4). This tension between concealment and emergence marked a critical phase of individuation. The archetype of the Great Mother appeared clearly in one of her drawings, signalling comfort and reconnection with Self.

Client L embraced symbols of transformation—sunbursts, butterflies, and bright, assertive strokes (Fig. 5). As she mentioned in the interview, nature is important for her. Her second drawing, though more chaotic, reflected a breakthrough in boundary-setting. "*This is one of the fields… where I really felt, wow, I have changed a lot,"* she said. Her third drawing, with a heart and her initial "L," marked the integration of her journey. When asked which image best reflected her process, her answer was simple and direct: "*I choose L. It is just like that."*

In the final group drawing, the women's symbols merged into a collective field of healing. The heart drawn by Client L took on wings—recalling the Sufi heart, suspended between soul and body, as described by James (2024). A heart appearing to be in sync with Client L words in the final session, when she drew the flying heart on the group drawing, *"Love for people. Love for others. Love for humanity."* (Fig. 6)

Suns appeared in multiple corners of the paper, signalling vitality and the rise of a healthy inner masculine -Animus (Greene, 2018).

Client N's part of the image grew bolder: now containing not just fingerprints, but a full name, sun, bee, flower, and heart—indicators of integration and acceptance of her whole self (Fig. 7).

Fig. 3. Client N's Drawing from the Process.

Reflections from Client A captured the essence of these transformations: *"Now, I'm new. I have changed. I wasn't able to speak calmly… to put limits. Now look, I receive too. All is good."* Client A's blooming tree in the final group drawing (Fig. 8) is also quite indicative of this newly acquired feeling of abundance, generosity and feeling of balance between giving and receiving.

While the Jungian interpretation of participants' drawings, guided by Abt's framework, offers deep symbolic insights, it is important to acknowledge the subjective nature of such analysis. Interpretations rooted in Jung's theory of collective archetypes can vary and may reflect the lens of the interpreter as much as the artwork itself. Some researchers, such as Silver (2013), advocated for participants to interpret their own drawings. Nonetheless, the Jungian perspective can serve as a generative device, shedding light on unconscious processes and symbolic dimensions that might otherwise remain unnoticed. It complements participants' own reflections and enriches the understanding of their transformative journeys.

Quantitative Results

Out of six women who initially enrolled in the program, five completed it. One participant dropped out after the pre-test phase. Of the five who completed the full program, four filled in both the pre- and post-tests. One participant, Client N, opted out of the quantitative assessments but participated in the qualitative data collection activities.

Final sample size was n = 4. Table 2 presents the descriptive statistics and Wilcoxon signed-rank test results together with Rosenthal's effect size. As shown in Table 2, participants' self-esteem significantly increased, with median scores rising from 18.0 to 25.5. Although the p-value was at the threshold of statistical significance (p = .05), the effect size was substantial (r = .92), indicating that the intervention had a meaningful clinical impact.

Individual-level analyses using the Reliable Change Index (RCI) supported the pattern observed in the Wilcoxon tests and provided evidence of clinical significance at the individual level (see Table 3). All four participants showed reliable improvement in self-esteem, with RCI values exceeding the ±1.96 criterion, reinforcing the robustness of the

Fig. 2. Client S's Drawings in Chronological Order.

Fig. 4. Client M's Drawings in a Chronological Order.

Fig. 5. Client L's Drawings in a Chronological Order.

Fig. 6. Client L Element on the Final Group Drawing.

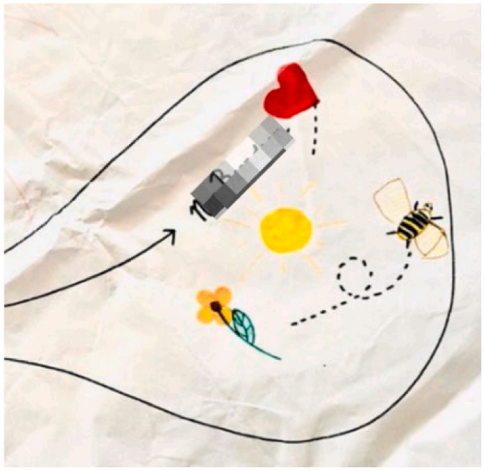

Fig. 7. Client N Element on the Final Group Drawing.

group-level findings. In contrast, changes in anxiety were more varied. Specifically, STAI-State scores showed heterogeneous profiles: one participant showed reliable decrease in anxiety, two showed reliable increase in anxiety, and one showed no reliable change. This mixed pattern is consistent with the non-significant Wilcoxon result for this variable and may reflect individual differences in how participants processed and expressed anxiety throughout the intervention. No

Fig. 8. Client A element on the final group drawing.

Table 2
Wilcoxon signed-rank test results for the studied variables (pre-post, n = 4).

Measure	Pretest M (IQR)	Posttest M (IQR)	z	p	Rosenthal's r
Self-esteem	18.00 (16.63–19.38)	25.50 (21.38–29.63)	−1.84	.05	.92
STAI-State	27.00 (25.13–28.88)	30.50 (26.75–34.25)	−0.92	.35	.46
STAI-Trait	30.50 (28.13–33.88)	31.00 (28.13–33.88)	1.34	.18	.67

Note. M = median; IQR = interquartile range; STAI = State-Trait Anxiety Inventory. Z = Wilcoxon test statistic; p = significance (two-tailed). Rosenthal's *r* indicates effect size.

participant reached the threshold for reliable change in STAI-Trait scores, which is expected given the stable nature of trait anxiety as a construct (Spielberger et al., 1983).

Discussion and limitations

This pilot study indicates that DMT integrating Greek folk dances, particularly circle and Syrtaki-inspired movements, can support psychological recovery among survivors of intimate partner violence (IPV). Quantitative results showed a meaningful increase in self-esteem, while qualitative data highlighted gains in embodiment, emotional

Table 3
Reliable Change Index (RCI) Results.

Participant	Self-Esteem	STAI- State Anxiety	STAI – Trait Anxiety
L	14.97	5.35	0.00
S	10.89	2.67	0.00
M	10.89	−2.67	0.63
A	4.08	1.34	1.26

Note. RCI = Reliable Change Index computed following Jacobson and Truax (1991). Positive values indicate an increase from pre- to post-intervention, whereas negative values indicate a decrease. An absolute RCI value ≥ 1.96 denotes reliable change at the 95% confidence level. Reliability coefficients (Rosenberg Self-Esteem Scale r = .88; STAI-State Anxiety r = .94; STAI-Trait Anxiety r = .93). For the interpretation of each RCI value, the scoring direction of each instrument should be taken into account: higher scores on the Rosenberg Self-Esteem Scale reflect greater self-esteem, whereas higher scores on both STAI-State and STAI-Trait reflect greater anxiety. Accordingly, a positive RCI for the Rosenberg and a negative RCI for the STAI scales indicate clinically favorable change.

expression, boundary setting, and interpersonal trust (Rodríguez-Jiménez & Carmona, 2020).

There was a non-significant increase in reported anxiety levels post-intervention. This could be interpreted as participants becoming more aware and emotionally open due to the therapy, allowing previously suppressed anxiety to surface for the first time. In women exposed to intimate partner violence, the development of self-esteem is closely linked to self-respect, self-determination, and an enhanced awareness of personal needs and rights. As individuals become more capable of recognizing their internal states and establishing clear interpersonal boundaries, they strengthen a coherent sense of self and personal worth, which constitutes a core component of self-esteem (Güler et al., 2022).

Participants' drawings and written elements reflected shifts in self-perception and engagement over the course of the intervention. One participant included in her final group drawing a handwritten note in Russian (language she shared with the Dance therapist facilitator) expressing gratitude and learning. Another depicted a blooming tree, labelling it "boom" (Dutch for "tree"), suggestive of growth. Notably, a participant who initially showed minimal engagement later wrote her (later anonymized) full name in the final group drawing, surrounding it with symbols such as a sun, bee, and flower. This progression indicates increased self-expression and participation within the group context.

Furthermore, although none of the participants were identified as Greek, the majority of the women came from Balkan, Slavic, or Middle Eastern backgrounds. On several occasions, they expressed appreciation for Greek music. Culturally, this may be explained by the fact that Greek culture felt more familiar and accessible to them than the host country culture of the Netherlands.

On the other hand, the lack of reduction in post-intervention anxiety — marked by a slight, statistically non-significant increase — may reflect the surfacing of previously suppressed affect and anticipatory stress related to leaving the shelter. Such responses align with trauma literature suggesting that emotional activation is often a necessary stage in healing (Van der Kolk et al., 2014). Integrating grounding practices and pacing exposure to deeper themes could help moderate this effect in future programs.

Dimopoulos et al. (2020) argued for the potent symbolism of dance as an analytical tool for understanding gender relations. Similarly, in the intervention, movement qualities, traditionally coded as masculine—firm stances, kicks, sword gestures—proved particularly empowering. By reinterpreting these elements outside rigid gender scripts, the sessions enabled participants to embody strength, assertiveness, and pleasure in safe, culturally resonant ways. The symbolic and imaginary dimensions of the artwork complemented the dance, revealing archetypal patterns (e.g., Great Mother, Animus, Self) and tracking participants' journey from fragmentation to integration.

Overall, these findings suggest that adapting traditional Greek dances within a trauma-informed DMT framework can foster resilience, self-worth, and social reconnection for IPV survivors. They also extend previous evidence on the therapeutic benefits of folk and sacred dances across diverse populations (e.g., Douka et al., 2019; Karathanou et al., 2021).

There are a few important factors to keep in mind when considering these findings. First, research on Greek dance as a therapeutic approach for survivors of gender-based violence is extremely limited. This study was an initial, exploratory effort—a first step in a largely uncharted area. Second, the group itself was very small. Only six women joined, five completed the program, and four provided full pre- and post-session data. While the intimate size created a safe and trusting space, allowing, for example, a participant who often avoided engagement to gradually open up, it also limits how broadly we can apply these results. Future studies with larger groups will be needed to see whether these benefits hold over time and across different contexts. Finally, the facilitator of the dance sessions was also the lead researcher, which naturally raises questions about potential bias. Steps like supervision and data triangulation with senior colleagues helped reduce subjectivity, but it's important to acknowledge that some influence is unavoidable. Overall, while these limitations temper the generalizability of the findings, they also highlight the deeply personal, exploratory nature of this work and the promise it holds for further research.

Despite these limitations, the program demonstrated clear potential for culturally grounded, movement-based interventions in IPV recovery. While further support remains crucial, the intervention clearly helped participants restore their embodied sense of dignity, reclaim emotional agency, and initiate meaningful life changes. As these symbolic journeys unfolded, a universal process became visible: movement from fragmentation to wholeness, from silence to voice, from numbness to presence. The archetypes that emerged— the Great Mother, the Animus (or Inner Masculine), the Self—reflected both individual healing and a collective rising. What was once hidden came into light, not through explanation, but through image, rhythm, and embodied transformation. These findings suggest that Greek traditional dance, when adapted as a therapeutic tool, can contribute meaningfully to the psychological recovery of women survivors of domestic violence. While traditional Greek dance has been shown to benefit various populations—children, older adults, individuals with cancer or cognitive impairments—this study is among the first to examine its therapeutic use for survivors of domestic abuse.

Ultimately, this study contributes insight into innovative, culturally grounded approaches for addressing the complex needs of women recovering from gender-based violence.

Conclusions and recommendations

Based on the positive impact on the self-esteem of the participants after the intervention, future research should replicate it, involving a larger sample, multidisciplinary teams, mixed methods, and robust data triangulation to ensure greater validity. As this study focused on cisgender participants, it is also essential that future DMT programs explore how LGBTQIA + survivors of interpersonal trauma experience and benefit from Greek dance-based therapy. Notably, 3 of the participants expressed strong engagement with the dynamic aspects of Greek dance, particularly the Syrtaki dance. Many described these movements as emotionally releasing and empowering: *"Thanks to [Greek dances], I can release and let go of all the worries and stress."; "All out."; "For me, the best movement was the Greek dances."*

The pilot study findings, along with the above quotes, suggested to us that integrating more vigorous, traditionally masculine elements of Greek dance, such as leaps, kicks, and sudden directional shifts, may significantly enhance the therapeutic impact of DMT for women survivors of domestic abuse. Drawing on Laban Movement Analysis (Laban, 1980; Bartenieff & Lewis, 1980), these movement qualities seemed to us to evoke strength, decisiveness, and grounded presence, potentially

supporting participants in reclaiming a sense of agency, emotional expression, and resilience. Future interventions may benefit from intentionally incorporating these elements to deepen empowerment and foster embodied recovery.

CRediT authorship contribution statement

Rosa-María Rodríguez-Jiménez: Writing – review & editing, Writing – original draft, Validation, Supervision, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Alexis Brailas:** Writing – review & editing, Investigation, Data curation. **Liliya Foteva:** Writing – original draft, Investigation, Formal analysis, Data curation.

Declaration of Competing Interest

We have nothing to declare.

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Data availability

Data will be made available on request.

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