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Charlène CLONTS  
Faculty of Humanities, Kyushu University

KISHIMOTO, Hiro  
Faculty of Arts and Science, Kyushu University

Tiange NIU  
Faculty of Arts and Science, Kyushu University

KAWATA, Noriko  
Faculty of Humanities, Kyushu University

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# Art-Yoga for well-being, awareness and self-care in higher education First data analysis of a pilot study in a Japanese university

Charlène CLONTS<sup>1\*</sup>, Hiro KISHIMOTO<sup>2</sup>, Tiange NIU<sup>2</sup>, Noriko KAWATA<sup>1</sup>, Fumihiko YOKOTA<sup>3</sup>

<sup>1</sup> Faculty of Humanities, Kyushu University, 744, Motoooka, Nishi-ku, Fukuoka 819-0395, Japan

<sup>2</sup> Faculty of Arts and Science, Kyushu University, 744, Motoooka, Nishi-ku, Fukuoka 819-0395, Japan

<sup>3</sup> Institute for Asian and Oceanian Studies, Kyushu University, 744, Motoooka, Nishi-ku, Fukuoka 819-0395, Japan

\*E-mail: clonts.charlene.248@m.kyushu-u.ac.jp

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This pilot mixed-methods study explored the potential of Art-Yoga—an innovative multisensory practice integrating music, dance, visual arts, and poetic imagery into yoga practice—to enhance emotional well-being, awareness, and health literacy among university students and staff. This study aimed to explore feasibility and experiential outcomes, while generating preliminary data to inform future trials. Conducted within the *Well-Being with Arts* (WBA) project at Kyushu University, it included both quantitative and qualitative components. Sixteen participants completed pre- and post-intervention assessments using the European Health Literacy Survey Questionnaire (HLS-EU-Q47), while a subset of seven participants engaged in pre- and post-intervention semi-structured interviews to examine emotional experience, self-care, and awareness. Quantitative results indicated no statistically significant changes between groups with lower (less than 5 lessons) and higher (5 lessons or more) attendance in overall health literacy or related social and behavioral variables. Nevertheless, participants demonstrated generally high levels of self-awareness and active health-related behaviors, such as consulting peers and seeking support when unwell. Qualitative findings revealed that Art-Yoga facilitated emotional release, inner clarity, and improved self-regulation, while encouraging symbolic and embodied expression through creative movement and imagery. Notably, self-reported happiness scores increased from a median of 6 (IQR 4–9) to 8 (IQR 7–9), and peacefulness from 6.5 (IQR 5–7) to 7.5 (IQR 6–9) after the intervention. Overall, the findings suggest that Art-Yoga may serve as a feasible and culturally adaptable approach to promoting emotional well-being and self-care in higher education. Although quantitative improvements in health literacy were not significant, the qualitative data point to enhanced awareness and reflective engagement, indicating that longer or repeated interventions may yield stronger effects.

Keywords: Art-Yoga, well-being, health literacy, embodied arts, mindfulness, higher education

## 1. Introduction

In recent years, the importance of emotional well-being, awareness and self-care has gained increasing attention in higher education, where students, staff, and faculty face growing pressure, multitasking, and emotional and cognitive demands. While increasing loneliness and disconnection from others, the COVID-19 pandemic further emphasized the need for inclusive and accessible approaches to mental health and well-being, particularly within university settings, which are characterized by a predominantly young population.

This pilot study investigates the potential of Art-Yoga, an innovative multisensory practice that integrates Vinyasa-style yoga with music, dance, visual arts, and poetic imagery, to support emotional regulation, self-awareness, and a sense of inner balance. Art-Yoga practice has been developed by Dr. Charlène Clonts, who also led the implementation of the study alongside Dr. Fumihiko Yokota, Dr. Hiro Kishimoto, and Tiange Niu,

with the support of Noriko Kawata, within the *Well-Being with Arts (WBA)* project at Kyushu University. Art-Yoga offers a gentle and creative space for self-awareness and self-care. The WBA project received competitive funds at the beginning of 2024 from the Institute for Asian and Oceanian Studies (Q-AOS), within the Health Cluster. The initiative goes along with the goals of KIKAN education, which promotes active learning, interdisciplinary engagement, and holistic student development.

The research responds to a pressing health issue: the growing prevalence of stress, emotional fatigue, and social anxiety in university settings. While conventional treatments offer symptomatic relief, they often fall short of addressing the subjective, relational and emotional dimensions of well-being. Recent developments in arts-based educational research have highlighted the value of creative and embodied methodologies in fostering emotional insight and learner engagement, particularly within interdisciplinary and student-centered environments, as shown by Mulvihill and Swaminathan<sup>1</sup>. Drawing on Fancourt and Finn's World Health Organization's scoping review on the role of the arts in health<sup>2</sup> and on interdisciplinary literature, this study explores how embodied artistic practices combined with yoga can enhance emotional equilibrium, awareness, self-care and health-related decision-making.

Indeed, health literacy has also emerged as a key determinant of individual and public health. Health literacy refers not only to the ability to read and understand health-related information, but also to the capacity to access, critically appraise, and apply such information in everyday life. Nutbeam's tripartite model<sup>3</sup>—functional, interactive, and critical health literacy—and the integrated conceptual model by Sørensen et al.<sup>4</sup> both emphasize the importance of health literacy in empowering individuals to make informed health decisions and practice effective self-care. In university settings, improving health literacy is particularly relevant for fostering autonomous, health-promoting behaviors among young adults. Therefore, the present study incorporates a quantitative assessment of changes in health literacy among participants, in parallel with its qualitative focus on changes in mood, self-care, and awareness—both interoceptive (awareness of internal bodily sensations) and proprioceptive (awareness of body position and movement in space).

At the same time, culturally grounded studies in Japan have begun to explore the therapeutic potential of artistic practices, including art therapy and symbolic modalities, in supporting emotional strategies and relational awareness, as demonstrated by Gacsályi's research on art therapy<sup>5</sup>. Nonetheless, in the Japanese academic landscape, as in many other countries, therapeutic art-based interventions and yoga practice for well-being are still emerging fields. Within this context, the WBA project offers a complementary and inclusive approach that encourages non-verbal, creative forms of self-care and awareness. This study also draws on interdisciplinary work on body-mind interactions and holistic art-based practices, as developed in the specialist volume *Exploring Body-Mind Interactions and Their Impact on Well-Being: Holistic Practices*<sup>6</sup>, where Clonts et al. examine the role of embodied approaches in fostering emotional resilience, self-awareness, and integrative health strategies across cultural and educational settings. A few previous studies have also demonstrated the benefits of artistic and embodied practices altogether, such as Rodríguez-Jiménez et al. on combined Hatha Yoga and Dance Movement Therapy<sup>7</sup>, and recent tools like Van Bael et al.'s Body-Mind Connection Questionnaire<sup>8</sup> have helped operationalize these effects. This study also builds on previous

research into poetic mediation during periods of social isolation, where creative expression was shown to foster emotional resilience and symbolic reflection in constrained environments, e.g., during the COVID-19 confinement, as shown by Clonts in France and Belgium<sup>9</sup>. Such previous findings underscore the relevance of integrating artistic and poetic modalities into well-being practices, particularly in times of heightened emotional vulnerability. However, few studies have examined how such practices might influence subjective well-being, awareness and self-care in academic settings, particularly in East Asia.

Implemented in October 2024, after the study protocol had been validated by the relevant ethical committee, the first three-month session of the Art-Yoga program was well-attended and received with enthusiasm. However, participation in the qualitative and quantitative studies was conducted on a voluntary basis. The majority of the first session's volunteers for the qualitative study were international students and faculty members, primarily from Chinese and Southeast Asian backgrounds. This demographic detail may reflect hesitations to talk about oneself, linguistic preferences and comfort levels with English-based exchanges, rather than a lack of interest among Japanese participants.

Through its mixed-methods approach, the study aims to understand how embodied artistic practices with yoga might support well-being, awareness and self-care in higher education. By weaving together movement, creativity, and mindfulness, the pilot study within the WBA project invites a reimagining of well-being: not as a fixed goal, but as a long-term dynamic and relational process of becoming.

## 2. Methods

### 2.1. Study design:

This first study was designed as a mixed-method pilot investigation into the emotional and experiential impact of a multisensory Art-Yoga program conducted at Kyushu University, Japan. The interventional study is part of the *Well-Being with Arts (WBA)* project and aimed to explore how embodied and mindful artistic practices within a three-months yoga session could support participants' subjective well-being and enhance health-related awareness. The study incorporated both quantitative and qualitative components. The quantitative component primarily focused on assessing change in health literacy levels using validated tools. The qualitative component employed semi-structured interviews to gather in-depth insights into participants' emotional landscapes, self-expression practices, and perceptions of well-being before and after the Art-Yoga program.

### 2.2. Participants and settings:

Participants were recruited from the Kyushu University community through the posters displayed across the Ito campus and via personal networks of the principal investigator and research collaborators. Posters included a QR code linking to a participant's registration form created via Kyushu University's Office 365 Forms platform. The form collected basic demographic information, sensitivity to sensory stimuli (e.g., light, sound), and schedule availability. If a participant reported possible sensory hypersensitivity or underlying health issues, the research team consulted with university-affiliated clinical staff to determine eligibility. A total of 16 participants enrolled in the quantitative component and completed pre- and post-intervention assessments

focused on health literacy (Table 1). A total of eight participants enrolled in the in-depth qualitative component (Table 2), and seven took both the pre- and post-intervention interviews focused on the effects of arts-integrated yoga—as one participant dropped out.

The quantitative participants represented a diverse range of academic and professional backgrounds, including engineering, humanities, public health, and intercultural communication, and included both Japanese and international members of the university community. Their demographic characteristics and pre/post health literacy scores are presented in Table 1. The qualitative participants' backgrounds spanned disciplines such as electrical engineering, health and sports, information science, interdisciplinary innovation, Japanese studies, and neuroscience, and included international members of the university community. Their socio-demographic characteristics are presented in Table 2.

The eleven Art-Yoga lessons of the three-month program were held on-site and open without fee to the university community—students, staff and faculty members—in exchange for their commitment of 9 lessons or more. While the lessons were well-attended and positively received, participation in the quantitative questionnaires and the qualitative interviews was voluntary, according to the ethics-approved protocol. The pre-intervention qualitative interviews were conducted with individuals who had attended less than 2 Art-Yoga lessons prior to the interview—depending on their availability. The post-intervention interviews were conducted during the week that followed the last Art-Yoga lesson of the first three-month program.

### **2.3. Data collection system and procedures:**

#### **2.3.1. Quantitative workflow:**

Prior to the program's start, all 16 participants received a study ID and a link to the pre-intervention health literacy questionnaire via their institutional email. Surveys were implemented in a separate Office 365 Form and were available in Japanese, English, and Chinese; participants selected their language at the ID entry screen and completed the survey in that language. Responses could be paused and resumed to reduce burden. Participants were instructed to complete the pre-survey within two weeks from the first lesson. The post-intervention survey followed the same workflow immediately after the program. Data were stored on secure university systems; only the data manager and principal investigator could access identifiable responses.

#### **2.3.2. Qualitative workflow:**

After appointments were taken with the volunteering participants, data were collected through online, one-on-one semi-structured interviews planned to be conducted before and after the intervention. The interviews were done in English via Kyushu University Office 365 Teams. With the informed consent of the interviewees, video recordings and corresponding transcripts were temporarily stored on secure, access-restricted university servers, managed by the designated data custodian. This procedure ensured compliance with institutional protocols while enabling the systematic analysis of an extensive dataset—comprising prolonged interviews whose automatically generated transcripts required meticulous human revision against the original audio. Each interview lasted between 40 minutes and one hour. The interviews included fixed visual prompts (question

slides, available in both English and Chinese) with oral follow-up questions adapted to each participant's responses. The pre-intervention interviews had seventeen fixed questions, while the post-intervention interviews had eighteen. This interventional study adopts a situated and relational approach acknowledging the researcher's dual role as yoga instructor (certified and registered) and interviewer as part of the co-construction of meaning.

#### **2.4. Measurements:**

The primary quantitative outcome was health literacy, assessed with the European Health Literacy Survey Questionnaire (HLS-EU-Q47)—original, Japanese, and Chinese versions. The instrument operationalizes comprehensive health literacy across four competencies (accessing, understanding, appraising, applying) and three domains (healthcare, disease prevention, health promotion), totaling 47 items rated on a 5-point Likert scale—"very easy", "fairly easy", "fairly difficult", "very difficult", "don't know/not applicable"). Supplementary items captured contextual factors—Japanese language ability, size of local social network, perceived health status, number of nearby healthcare institutions. The complete questionnaire contained 60 items and required approximately 15 minutes.

In parallel, to assess the impact of the Art-Yoga program on participants' subjective well-being, awareness and self-care, the study employed a two-phase qualitative interview design: one conducted at the beginning of the three-month intervention and one after its completion. The interviews were specifically developed for this study. They were based on a comprehensive review of both art therapy and yoga/meditation/mindfulness literatures, and informed by validated well-being scales<sup>10</sup>, such as the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)—assessed for multiple cultural background populations, e.g., European<sup>11</sup>, Chinese and Pakistani<sup>12</sup>. Our interview questionnaires were designed to operationalize key dimensions of body-mind engagement, drawing inspiration from interdisciplinary research in psychology, embodied cognition, and the arts, as outlined in the WBA framework.

As evoked earlier, the WBA framework is an interdisciplinary approach that integrates body-mind practices, such as yoga, with experiential arts—including music, literary imagery, and dance—to promote mental health and emotional resilience in academic settings. Developed in response to post-Covid challenges, WBA emphasizes the aesthetic and creative dimensions of well-being: the aesthetic experience fosters non-verbal self-awareness and pleasure, while the creative process enables emotional release and psychological healing. By combining these elements, WBA aims to create inclusive, participatory practices that reduce stress, enhance mindfulness, and support healthier behaviors among students and faculty. This framework also serves as a basis for educational programs and international collaborations to advance research on art-based interventions for mental health.

Thus, the first qualitative interview explored participants' baseline experiences with emotional expression, awareness, self-care, and well-being in everyday life. It examined their engagement in expressive activities—such as artistic practices, physical movement, journaling, and social interactions—as well as their emotional responses, inner focus, and sense of life balance. Questions also addressed sensitivity to music, poetry, and

rhythm, prior experiences with yoga, and perceptions of social connection, environmental awareness, and global concerns. The second interview focused on the experiential effects of the Art-Yoga session, investigating how the integration of music, dance, and poetic imagery, within the yoga practice, influenced participants' emotional resonance and release, creative engagement, and inner focus. It also invited comparisons between other forms of yoga and Art-Yoga, and explored perceived changes in mindset, mood, peacefulness, and interpersonal interactions. Participants reflected on their evolving sense of happiness and life balance, and described how the practice shaped their worldview and daily routines.

## **2.5. Data management and analysis:**

### **2.5.1. Quantitative analysis:**

Descriptive statistics summarized demographics and HLS-EU-Q47 domain scores pre/post. Depending on distributional assumptions, within-participant changes were evaluated (e.g., Wilcoxon signed-rank tests). For exploratory context, participants were also grouped by attendance frequency (less than 5 sessions vs. 5 sessions or more) to compare health literacy and related indicators. Results are presented in Table 1.

### **2.5.2. Qualitative analysis:**

Interview transcripts underwent thematic analysis, iteratively coding themes related to mood, awareness (interoceptive/proprioceptive), self-care, and perceived well-being. Participant characteristics for the qualitative subset are summarized in Table 2 and results are presented in Table 3 and Table 4.

## **2.6. Ethics:**

All procedures were approved by the relevant Research Ethics Review Committee of the Faculty of Humanities, Graduate School, Kyushu University [九州大学大学院人文科学研究院研究倫理審査委員会] and registered under the number 人文倫-003. Participation was voluntary; informed consent was obtained electronically for surveys, and simultaneously verbally and electronically for interviews. Participants could withdraw at any time without penalty.

## **3. Results**

### **3.1. Quantitative results: Participant characteristics and health literacy (n = 16):**

A total of 16 participants completed the pre- and post-intervention health literacy survey. As shown in Table 1, participants were on average aged  $27 \pm 4$  years, and the overall means health literacy score (HLS-EU-Q47 total) was  $22.6 \pm 8.2$  points.

When divided into two subgroups according to attendance frequency—less than 5 sessions ( $n = 7$ ) and 5 or more sessions ( $n = 9$ )—no statistically significant differences were observed in any demographic, social, or behavioral variables. Specifically, 56% of participants had lived in Japan for two years or longer, 31% had

part-time jobs, and 38% reported some level of economic insecurity. About 38% had five or more Japanese friends with whom they could consult, and all participants (100%) reported having at least one person, regardless of nationality, to consult about health. Similarly, nearly all (94%) had someone to support them when unwell, and all had established coping behaviors when sick. Two-thirds (69%) had previously hesitated to seek medical care, and 69% reported having three or more medical institutions in their neighborhood.

Regarding health behaviors, 38% reported exercising occasionally, 31% slept seven hours or more per night, and none reported smoking or drinking alcohol two to three times per week. Half (50%) self-rated their health as good. No significant differences were detected between the low- and high-attendance groups across any of these variables (all  $p > 0.3$ ), including health literacy ( $p = 0.98$ ).

Table 1 Participant characteristics by the number of Art-Yoga class attendances\*

	All (n = 16)	Class attendances		<i>p</i>
		less than 5 sessions (n = 7)	5 sessions or more (n = 9)	
Age, years	27±4	27±4	27±4	1.00
Health literacy score, points	22.61±8.22	22.58±6.5	22.66±8.27	0.98
Duration of stay in Japan, ≥2 years	9 (56.3)	5 (71.4)	4 (44.4)	0.37
Having a part-time job	5 (31.2)	3 (42.9)	2 (22.2)	0.61
Having financial concerns	6 (37.5)	2 (22.2)	4 (44.4)	0.63
Having five or more Japanese friends to consult with	6 (37.5)	2 (22.2)	4 (44.4)	0.63
Having someone to consult about health (regardless of nationality)	16 (100)	7 (100)	9 (100)	-
Having someone to provide support when feeling unwell (regardless of nationality)	15 (93.8)	7 (100)	8 (88)	1.00
Health care utilization				
Taking action when sick	16 (100)	7 (100)	9 (100)	-
Having hesitated to seek medical care	11 (68.8)	5 (71.4)	6 (66.7)	1.00
Health care environment				
Having three or more medical facilities nearby	11 (68.8)	6 (85.7)	5 (55.6)	0.32
Health behaviors				
Exercises occasionally, answered “Yes”	6 (37.5)	3 (42.9)	3 (33.3)	1.00
Sleeps 7 hours or more	5 (31.2)	2 (28.6)	3 (33.3)	1.00
Drinks alcohol 2–3 times per week	0	0	0	-
Smoking	0	0	0	-
Subjectively considers oneself healthy, answered “Yes”	8 (50.0)	4 (57.1)	4 (44.4)	1.00

\*Data are shown as mean ± standard deviation or number (percentage).

Age and health literacy scores were analyzed using t-tests; other variables were analyzed using Fisher's exact test.

### 3.2. Qualitative study results: state of participants before intervention (n = 8)

Table 2 Socio-demographic characteristics for qualitative study participants

	N* <sup>1</sup>	%* <sup>2</sup>
<b>Age</b>		
20-30	5 (1)	75
30-40	2	25
<b>Gender</b>		
Female	7 (1)	100
Male	0	
<b>Country</b>		
China	4 (1)	62,5
Bangladesh	1	12,5
Sri Lanka	1	12,5
Indonesia	1	12,5
<b>Marital status</b>		
Single	5 (1)	75
Married	2	25
<b>Occupation</b>		
Student	5 (1)	75
Faculty	2	25
<b>Education level</b>		
University	7 (1)	100
<b>Yoga level</b>		
First-timer	1	12,5
Beginner	6 (1)	87,5

\*<sup>1</sup>Are listed all the volunteering participants of the qualitative study of the first 3-month yoga program of the WBA project. The participant who dropped out between the first and the last interviews is noted into parenthesis. A total of 15 interviews (1 before and 1 after) were done for this study. \*<sup>2</sup> All the interviewees are included in the percentage.

#### 3.2.1. Self-care practices and emotional expression:

Participants engaged in a variety of self-care routines—skincare, journaling, walking, cooking—that supported emotional strategies and self-expression. Artistic activities such as painting, dancing, and cooking were described as fulfilling and therapeutic, contributing to a sense of identity and emotional release. However,

many participants expressed difficulty in verbalizing negative emotions, often preferring to keep their feelings private or share only with close family members. This emotional inhibition was frequently linked to cultural norms, fear of vulnerability, or a desire to protect others from distress.

Written expression, particularly journaling, emerged as a safer and more accessible outlet for processing emotions. Participants used diaries not only to reflect but also to guide their emotions toward more positive states, indicating a form of intuitive emotional literacy.

### **3.2.2. Well-being, balance, and vulnerabilities:**

While many participants tried to actively cultivate mental well-being through structured routines and introspective practices, many reported challenges in maintaining physical balance and letting go of stress. Sedentary lifestyles, academic pressure, and lack of time for regular exercise were common concerns. Some felt physically unwell or fatigued, despite efforts to incorporate walking, yoga, or gym workouts into their routines.

Emotionally, participants described a mix of optimism and caution. Several maintained a positive outlook and found joy in everyday achievements, social interactions, and hobbies. Others adopted a more guarded mindset, expressing reluctance to share emotions and a tendency to protect their inner experience. This cautiousness, while protective, sometimes limited deeper social connections and emotional support.

### **3.2.3. Self-care and inner focus:**

Although not framed explicitly as “health literacy”, participants demonstrated an intuitive understanding of practices that support mental and physical health. They engaged in self-monitoring through journaling, sought guidance from online yoga videos, and adapted routines to meet personal needs. Their sensitivity to music, poetry, and rhythm revealed a nuanced awareness of emotional triggers and coping mechanisms.

Moments of inner focus were often found in quiet routines, nature walks, and contemplative practices. These were described as essential for emotional regulation and self-awareness, laying the groundwork for deeper engagement with the Art-Yoga intervention.

### **3.2.4. Social connection and communication:**

Social interaction was a key contributor to well-being, though experiences varied. Some participants found it easy to connect with others, especially in structured environments like university clubs or sports activities. Others faced challenges in communication, particularly when navigating introversion, cultural differences, or language barriers. These difficulties sometimes led to feelings of isolation or misunderstanding.

Prior to the intervention, yoga practice among participants was either nonexistent or limited to rare and solitary practices, or irregular group-/studio-based lessons, with minimal social engagement—suggesting that they were beginners or had only occasional prior experience. However, participants expressed appreciation for group dynamics when present, suggesting potential for enhanced connection through structured, interactive yoga lessons.

### 3.2.5. Global and environmental concerns:

Participants expressed anxiety and concern about the state of the world, including political instability, economic uncertainty, and environmental degradation. These global issues contributed to a sense of emotional stress and helplessness, though some participants coped by focusing on personal actions and immediate surroundings. Engaging in creative activities, physical movement, and social connection temporarily helped mitigate these broader anxieties.

### 3.2.6. Baseline emotional self-assessment before Art-Yoga:

Prior to the intervention, participants were invited to reflect on their emotional states using informal self-assessed 10–point scales. These scales revealed a nuanced and fluctuating relationship to happiness and peacefulness. Reported median (IQR) score for happiness and positive emotions was 6 (4–9)\*, with several participants noting variability depending on context—e.g., one participant rated her happiness as 9 outside menstruation and 5 during it. Reported median (IQR) score for peacefulness was 6.5 (5–7)\*. Peacefulness was also described in dynamic terms, such as 6.5 before hobby practice and 8 after; other scores of peacefulness included 5, 6–8, or 4–6, often linked to relational experiences, academic pressure, or moments of personal achievement. Two interviewees did not give numerical scales but offered qualitative descriptions. Overall, the data (Table 3) highlighted a shared sensitivity to emotional fluctuation and a desire for greater balance and self-regulation—key themes that would later be revisited in the post-intervention reflections.

Table 3 Baseline Emotional Self-Assessment Before Art-Yoga

Metric	Self-Assessment Before Intervention (Quantified / Described)
Happiness (0–10 scale)	6 (4–9)*; context-dependent (e.g., 9 outside menstruation, 5 during)
Peacefulness (0–10 scale)	6.5 (5–7)*; dynamic (e.g., 6.5 before hobby, 8 after)
Emotional Clarity	Fragmented, externalized
Artistic Engagement	Solitary, hobby-based
Social Connection	Limited, cautious
Mental State	Overloaded, reactive

\*Into parenthesis, are added minimum and maximum values.

### 3.3. Qualitative study results: state of participants after intervention (n = 7)

#### 3.3.1. Artistic engagement and emotional resonance:

Participants widely described the lessons as emotionally resonant and creatively stimulating, even if they did not identify as artists nor having an artist-like mindset. During the Art-Yoga lesson, the use of symbolic imagery—e.g., sea, tree, fire, candlelight—, natural soundscapes—e.g., waves, forest—, and poetic voice guidance fostered a multisensory environment that encouraged introspection, emotional release, and imaginative projection.

Several participants reported vivid inner experiences—feeling like a tree growing from the heart, visualizing stress being burned away by an inner fire, or sensing a “life power” rising through the body (interviewee’s quote). These metaphors were often reused in their daily life, e.g., to support sleep, emotional grounding, or creative inspiration. While two participants were partly unfamiliar with the artistic framing—particularly due to limited exposure to non-mainstream, newer and more confidential forms of contemporary dance and poetry across the world—all of them felt and acknowledged the creative, expressive and symbolic richness of the lessons.

#### 3.3.2. Emotional regulation and mental clarity:

A majority of participants described the lessons as a “weekly reset” (interviewee’s quote), echoing their pre-intervention reflections on emotional fluctuation and stress. The calming effects often extended into the following days, improving sleep, focus, and mood. Several participants noted that the poetic and sensory design helped them access their “inner world” (interviewee’s quote) more easily than in daily life.

However, not all participants reported sustained transformation. Some described the effects as temporary, fading within a few days, especially during periods of intense workload. This mirrors pre-intervention psychological patterns where emotional intensity was described as highly context-dependent and fluctuating. The findings suggest that while Art-Yoga can be a powerful tool for emotional support, its impact may depend on individual rhythm, emotional readiness, and continuity of practice.

#### 3.3.3. Social connection and shared presence:

The Art-Yoga program fostered subtle but meaningful social bonds. Participants described feeling more connected to others through shared or partner practice, synchronized flowing movement, and the inclusive atmosphere of the lessons, esp. compared to other forms of yoga previously experimented. The dim lighting, specific voice of the teacher, and group visualizations—e.g., candle circle—created a sense of safety and mutual presence.

However, the degree of connection varied. Some participants remained focused inward and did not actively seek or feel interpersonal connection during the lessons nor after, rather insisting on their internal awareness. A few of them described the experience as positively solitary, noting that their sense of connection was more with nature or music than with the people around them, except maybe with the yoga teacher. While many appreciated the group setting, not all felt emotionally bonded with others.

### 3.3.4. Environmental sensory awareness and space design:

The physical environment of the lessons—darkened room, essential oils, soundscapes—was widely appreciated. Participants described the space as calming, protective, and conducive to introspection. The use of pine essential oil, in particular, was associated with grounding and emotional homeostasis.

### 3.3.5. Mindset evolution and lifestyle integration:

Participants reported a shift in mindset toward greater balance, self-awareness, and emotional resilience. The estimated median (IQR) scores for happiness was 8 (7–9)\* and for peacefulness was 7.5 (6–9)\*. Many described feeling happier and more peaceful, with self-reported scores ranging from 7 to 9 for happiness and 6 to 9 for peacefulness. The practice helped redefine what “balance” meant—moving from productivity-focused routines to more holistic, emotionally attuned lifestyles.

Some participants began integrating short yoga sequences, breathing techniques, or imagery into their daily routines. Others described a change in how they approached relationships, work, and self-care. However, a few participants expressed that they were still unsure how to define balance in their lives or had not yet translated the experience into lasting lifestyle adjustments.

Table 4 Baseline Emotional Self-Assessment After Art-Yoga

Metric	Self-Assessment After Intervention (Quantified / Described)
Happiness (0–10 scale)	8 (7–9)*
Peacefulness (0–10 scale)	7.5 (6–9)*
Emotional Clarity	Internalized, embodied
Artistic Engagement	Shared, expressive, symbolic
Social Connection	Increased, subtle bonding
Mental State	Calmer, more resilient

\*Into parenthesis, are added minimum and maximum values.

## 4. Discussions

This pilot study explored the feasibility and experiential impact of Art-Yoga—a multisensory practice integrating music, dance, visual arts, and poetic imagery in the yoga practice—within a Japanese university setting. While quantitative results showed no statistically significant improvement in health literacy scores during the three-month program, qualitative findings revealed meaningful changes in affective regulation, inner clarity, and symbolic engagement. These contrasting outcomes suggest that the benefits of Art-Yoga may be better captured through subjective and relational dimensions rather than standardized metrics alone.

Although overall health literacy scores remained stable, the baseline mean score of 22.6 in this study is lower than levels typically reported in general adult populations using the HLS-EU-Q47, where average scores range from approximately 33 to 35 points (Sørensen et al., 2012). This comparison suggests that participants—primarily international students—may have begun the program with comparatively limited functional, communicative, or critical health literacy. Such lower initial scores may help explain the absence of measurable improvement within a short intervention period, as health literacy is generally considered a structural competency that changes gradually over time and through repeated encounters with health-related information.

Nevertheless, the descriptive data reveal important contextual insights. All participants reported having someone to consult about health and taking action when sick, yet two-thirds had previously hesitated to seek medical care despite access to multiple facilities. This paradox points to emotional, linguistic, or cultural barriers that structural availability alone does not resolve. Similarly, while proactive behaviors such as occasional exercise were present, only one-third reported adequate sleep, highlighting lifestyle constraints that may affect well-being and influence health-related decision-making. Taken together, these patterns underscore the need for interventions that address not only informational aspects of health literacy but also relational and behavioral dimensions—areas where embodied and arts-based practices like Art-Yoga may offer complementary support.

Qualitative data suggest mechanisms underlying these effects: participants described the lessons as a weekly reset, fostering emotional release, mental clarity, and creative engagement. The integration of poetic and sensory elements appears to have facilitated access to introspective states, supporting theories on embodied cognition and arts-based health interventions. Self-reported happiness and peacefulness scores increased from medians of 6 and 6.5 to 8 and 7.5, indicating short-term improvements in mood and perceived balance, even if these effects were sometimes transient.

The qualitative researcher's dual role as yoga instructor and interviewer was not considered a source of bias but a methodological asset. Recent qualitative psychology paradigms emphasize that interviews are co-constructed spaces rather than neutral data extraction<sup>13</sup>. Reflexivity—the acknowledgment of the researcher's influence—enhances rigor and transparency<sup>14</sup>. Insider positioning can foster trust and rapport, promoting openness and richer affective data<sup>15</sup>. In our pilot study, the established relationship between participants and the instructor created a safe environment for sharing, consistent with findings that trust improves depth and authenticity in qualitative interviews<sup>16</sup>. Thus, rather than introducing bias, the researcher's involvement conforms to situated approaches that value relational dynamics as integral to meaning-making.

Nonetheless, while the program fostered subtle social bonds, cultural norms around emotional expression and linguistic comfort in English likely influenced participation and openness to interviews. The predominance of international participants in the quantitative and qualitative components reflects these dynamics. Following this first session's results, future research will aim to engage more Japanese students and staff, ensuring cultural sensitivity and inclusivity.

Another notable limitation is the partial overlap between qualitative and quantitative participants: only five of the seven post-intervention interviewees completed the health literacy questionnaire. This occurred because

the participation in both qualitative and quantitative studies was proposed on a volunteering basis. In our perspective, adding too many mandatory components to the Art-Yoga pilot study would have been counterproductive in settings promoting well-being. This restricted our ability to directly correlate experiential changes with quantitative indicators. However, this overlap offers an opportunity for future mixed-method triangulation, where integrated datasets could reveal nuanced relationships between subjective well-being, embodied awareness, and health literacy.

Finally, this study only represents the first phase of an ongoing research, currently finishing its third phase. Additional data collected during the second and third semesters of the Art-Yoga program will enable more robust statistical analysis, cross-season comparisons, and longitudinal insights. Future work will examine whether repeated exposure amplifies benefits and whether culturally adapted tools can better capture the impact of arts-integrated practices on health literacy and well-being.

## 5. Conclusion

This pilot study contributes to the interdisciplinary exploration of embodied and artistic practices in higher education, focusing on emotional well-being, awareness, and self-care. Art-Yoga—a multisensory approach integrating dance, poetic, musical, and visual elements within yoga practice—provided participants with an inclusive environment conducive to introspection and affective balance. Qualitative findings indicate that this artistic dimension played a meaningful role in fostering emotional resonance, inner clarity, and subtle social connection.

Although quantitative analysis revealed no statistically significant improvement in health literacy scores, descriptive data uncovered relevant behavioral patterns: strong social support and proactive health behaviors coexisted with hesitation to seek medical care and limited sleep and exercise habits. These insights suggest that structural access alone does not guarantee utilization and highlight the need for interventions addressing relational and emotional barriers alongside informational aspects of health literacy. Art-Yoga may complement existing well-being strategies by engaging these dimensions through embodied and creative practices.

Participants reported increased peacefulness, emotional grounding, and a shift toward greater life balance and self-awareness, though effects were sometimes temporary or context-dependent. Continuity, cultural sensitivity, and integration into daily routines appear essential for sustained impact. A methodological limitation was the partial overlap between qualitative and quantitative participants, restricting direct correlation of experiential and measurable outcomes. Future research will leverage this overlap for mixed-method triangulation and expand the participant pool to enable more robust statistical analysis.

Consistent with the pedagogical aims of KIKAN education, this study supports active learning, holistic development, and inclusive engagement across disciplinary and cultural boundaries. As part of a current research program, subsequent semesters of the Art-Yoga intervention will allow for longitudinal evaluation and methodological refinement, contributing to broader discussions on sustainable and culturally responsive well-being strategies in university settings.

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