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Effects of ritual participation in traditional dragon-lion dance performances on psychological resilience in cancer patients: A mixed-methods analysis from a positive psychology perspective

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Abstract: Based on the perspective of positive psychology, this study explored the intervention mechanism and clinical value of ritual participation in traditional dragon-lion performances on the psychological resilience of cancer patients through a mixed method. Given the cultural alienation and lack of participation faced by mainstream psychological intervention methods in non-Western cultural contexts, this study innovatively integrated cultural ritual theory with the modern psychological resilience model and proposed a three-factor intervention framework of “cultural identity-group interaction-psychological reshaping”. Through a systematic range review and analysis of 66 core literature, it was found that dragon-lion performances play a role through three mechanisms: collective synergy reconstructs the social support network, physical participation regulates neuroendocrine balance, and cultural narrative empowers disease cognitive reshaping. Its multimodal characteristics (music, dance, and symbol system) show significant advantages over single-modal interventions. Comparative studies have found that dragon-lion rituals can overcome cross-cultural communication barriers through non-verbal expression and enhance patients’ sense of social connection. Studies have confirmed that such culturally rooted interventions can effectively activate the dimensions of positive emotions, engagement, and sense of meaning in the PERMA model, providing a localized solution to the problem of the “last mile of culture” in psychological intervention. This research result opens up a new path for the modern medical transformation of intangible cultural heritage and provides empirical evidence for the development of cross-cultural psychological resilience theory.

Keywords: Cancer patients; psychological resilience; traditional dragon-lion performances; ritual participation; cultural adaptation intervention; positive psychology; mixed methods; multimodal intervention

1. Introduction

Declining psychological resilience among cancer patients has become a universally observed phenomenon across various cancer types and cross-cultural contexts. Psychological resilience, defined as the capacity to maintain or regain psychological well-being in the face of cancer-related adversity. Clinical research data indicate that patients’ resilience levels demonstrate a significant downward trajectory from initial diagnosis through advanced treatment phases. A longitudinal study of 418 Swedish breast cancer patients revealed a statistically significant decrease in mean resilience scores from 70.6 at diagnosis to 68.9 at one-year follow-up [1]. Parallel

observations have been well-documented in-patient cohorts with colorectal cancer [2], neuro-oncological malignancies [3], and gynecological cancers [4], collectively confirming the universality of this psychological manifestation.

A decline in psychological resilience can have negative impacts on patients at multiple levels. In terms of quality of life, longitudinal data show that the level of psychological resilience is significantly positively correlated with health indicators such as physical function and emotional function [5]. Among breast cancer patients, the physical health score of the low-resilience group dropped by 23% of the baseline value one year after diagnosis [1]. In terms of treatment compliance, for every 1-point increase in the psychological resilience score of bone tumor patients, their treatment compliance increased by 0.35 points [6]. The impact on the rehabilitation process is even more far-reaching. Among patients with gynecological malignancies, the post-traumatic growth score of the low-resilience group was 41% lower than that of the high-resilience group [4].

Although current psychological intervention methods for cancer patients have significant advantages in terms of scientific, systematicness, and wide recognition [7], their limitations in cultural adaptability and participation are becoming increasingly prominent. Mainstream methods such as cognitive behavioral therapy (CBT) and supportive group therapy are usually designed based on Western cultural frameworks [8], resulting in obvious cultural alienation among cancer patients from non-Western cultural backgrounds. This alienation is specifically manifested in three aspects: at the language level, the literal translation of professional terms often leads to misunderstandings; at the value level, there is a tension between the individual autonomy emphasized by CBT and the collectivist orientation in Chinese culture [9]; at the disease cognition level, the Western metaphor of “defeating cancer” and the Eastern concept of “living with cancer” form a cognitive conflict [10]. Studies have shown that this cultural mismatch can lead to a 30%–40% decrease in intervention compliance [11].

Existing intervention methods have systematic deficiencies in participation. Structured professional requirements (such as fixed courses of treatment and standardized protocols) are difficult to adapt to the fluctuating physical conditions of cancer patients [12], and restrictions on treatment locations (such as having to be conducted in a psychological counseling room) further reduce accessibility [13]. More importantly, these methods rely too much on verbal expression and ignore the role of non-verbal channels in rebuilding psychological resilience [8]. A survey of East Asian cancer patients found that the dropout rate of traditional psychotherapy was as high as 45%, with the main reasons including “inability to describe complex feelings in words” and “lack of sense of control brought by physical participation” [14]. This lack of participation is particularly prominent among elderly and low-educated patients [15].

These limitations can have multiple impacts on the effectiveness of interventions. Cultural alienation not only weakens the establishment of a therapeutic alliance [16], but is also likely to activate the patient’s defense mechanisms. For example, Chinese patients often deliberately avoid emotional exposure due to “stigma consciousness” [9]. Insufficient participation is reported to decrease implementation fidelity of core intervention components by up to 60% [17]. Of particular concern, current

methodologies systematically neglect the integration of culture-specific protective factors, such as the potential efficacy of traditional Chinese artistic expressions and collective rituals in meaning reconstruction [10]. Although there have been attempts to improve outcomes through culturally adapted frameworks (e.g., mhCACI protocol [13]), systemic solutions remain to be explored [18]. This situation highlights the need to develop new interventions that are both culturally embedded and multimodally engaging [19].

As an important cultural ritual activity in China, the traditional dragon-lion performance has a cultural background that can be traced back to the sacrificial tradition of the agricultural era. The ritual characteristics of collective participation provide a unique path for modern psychological intervention. The visual symbols (red symbolizes auspiciousness) and body language (leap represents breakthrough) in the performance construct a psychological field with cultural identity, allowing participants to temporarily relieve the pressure of reality through collective unconscious emotional resonance. Cultural identity denotes an individual's sense of belonging to shared cultural values, symbols, and practices that shape meaning, social roles, and coping with illness.

In terms of improving psychological resilience, dragon-lion performances play a role through multiple mechanisms: collective synergy requires team members to cooperate precisely to complete difficult routines. This collaborative process naturally forms a social support network and effectively alleviates the loneliness of cancer patients; physical participation is manifested in low-intensity aerobic exercise, which can promote endorphin secretion and improve emotional regulation function; cultural narrative provides patients with a psychological framework for meaning reconstruction through the archetypal narrative of “surviving hardships and finally gaining a new life” [20]. Empirical evidence demonstrates these mechanisms facilitate self-efficacy rebuilding through role differentiation within ensemble structures, autonomic nervous system (ANS) functional modulation via rhythmic movement patterns, and disease cognition transformation through internalization of cultural semiotics [20].

Compared to mainstream psychological interventions, dragon-lion performances demonstrate distinctive cultural compatibility advantages: Their nonverbal nature circumvents the cultural alienation inherent in conventional psychotherapy, proving particularly effective for patients with verbal expression limitations; Their ritualized multisensory activation surpasses unimodal cognitive interventions in eliciting deep memory trace formation. Contemporary competitive dragon-lion reinventions enhance therapeutic applicability while preserving cultural archetypes [20], establishing this practice as a psychorobustness intervention tool with dual cultural embeddedness and evidence-based validation.

This study aims to address two key issues in the current field of psychological intervention for cancer patients: cultural adaptability and lack of participation. Although existing psychological intervention methods, such as cognitive behavioral therapy [21] and supportive group therapy have an empirical basis, they face significant challenges in cross-cultural application [22], including cultural alienation issues such as language barriers and value conflicts [23], as well as structural defects such as a single form of participation and lack of interactivity [24]. These deficiencies

prove particularly pronounced in oncology patient populations within non-Western cultural contexts, resulting in constrained intervention efficacy [25]. Innovatively synthesizing the ritualistic characteristics of traditional dragon-lion performances with modern psychotherapeutic frameworks, this investigation employs the unique cultural symbolic systems [26], collective participation modalities, and psychosomatic regulatory mechanisms to develop a culturally grounded solution for enhancing psychological resilience in oncology patients.

The core issues addressed in the study include: (1) How the ritual elements of dragon-lion performances enhance psychological resilience through non-Western psychological pathways; (2) The targeted correspondence between specific intervention components and the psychological deficit dimensions of cancer patients; (3) The complementary value of culturally adaptive intervention and traditional methods in terms of mechanism of action and sustainability of effects. These explorations not only provide new ideas for cancer psychological intervention, but also open up new perspectives for the development of cross-cultural mental health theories. To support global applicability, the proposed model can be adapted through substitution of culturally specific symbols while preserving universal psychological mechanisms of ritual participation. These mechanisms include group synchrony, symbolic storytelling, nonverbal expression, collective role coordination, and embodied engagement. In other cultural settings, dragon lion ritual elements may be replaced by locally meaningful traditions such as community drumming, Indigenous dance forms, faith based rhythmic practices, or festival performances, using community involvement and co design to ensure cultural safety, feasibility, and acceptability. Cultural boundary conditions should also be acknowledged, particularly where ritual meanings, gender norms, or physical participation requirements differ from East Asian contexts.

2. Multidimensional disability and intervention needs of psychological resilience in cancer patients

The decline in the psychological resilience of cancer patients is a complex process in which multiple factors are intertwined, and its roots are deeply rooted in the dynamic interaction between the deep structure of the social and cultural environment and the physiological and psychological system. Specifically, the structural pressure at the socio-cultural level systematically erodes the foundation of patients' psychological resilience through dimensions such as values, group norms, and disease narratives; the pathological process of the tumor itself and the side effects of treatment constitute a direct impact on psychological resilience; the psychological level is manifested as a double erosion of existential crisis and cognitive bias. These triadic dimensions operate not as discrete entities, but form a synergistic negative effect through the interactive mechanism of "cultural values-neuroendocrine-cognitive emotion". Such cross-level interactions elucidate the complex pathomechanism underlying resilience deterioration in oncological contexts, while establishing multi-dimensional theoretical access points for targeted interventions.

2.1. Socio-cultural dimensions

The psychological resilience of cancer patients significantly affects clinical prognosis and quality of life, and sociocultural factors intervene in this process through complex mechanisms. Sociocultural norms exacerbate the social alienation of elderly cancer patients, especially lung cancer patients who face the risk of exclusion due to age-related stigma and disease representation [27]. The loneliness and self-stigma caused by them significantly reduce psychological resilience. Mechanistic studies have shown that social isolation promotes the release of stress hormones and inhibits immune surveillance by activating β 2-adrenergic receptors [28], suggesting that there is two-way feedback between psychological resilience and physiological pathology. Studies in Southeast Asia have shown that the survival disadvantage of female cancer patients stems from the stereotyped expectations of gender roles in sociocultural settings, such as the priority of family care responsibilities over their own health needs, leading to delayed diagnosis and treatment and lack of social support [29]. The reproductive decision-making of young breast cancer patients is also constrained by the concept of “the sacredness of motherhood” in traditional culture. The doctor-patient communication model often defaults to sacrificing reproductive rights in exchange for survival opportunities, exacerbating psychological conflicts [30]. Among elderly patients with gastrointestinal tumors, emotional suppression as a cultural adaptation strategy showed group heterogeneity: 34.6% of the high suppression subgroup was accompanied by increased anxiety levels and decreased social function [31], reflecting that the “forbearance and restraint” in traditional culture has a negative regulatory effect on psychological adaptation.

2.2. Physiological dimensions

Physiologically, cancer-related symptoms directly deplete patients' coping resources. Research demonstrates that each 1-point increase in cancer-related fatigue corresponds to a 0.38-point reduction in psychological resilience scores [2]. The underlying mechanisms are delineated as follows: Tumor-induced metabolic reprogramming substantially exhausts systemic energy reserves. Dysfunction of p53—a pivotal metabolic regulator—impairs amino acid biosynthesis and mitochondrial oxidative phosphorylation [32], thereby compromising neuronal energy supply. Evidence confirms that nutrient-depleted tumor microenvironments exacerbate metabolic exhaustion by altering histone acetylation patterns in breast cancer cells [33], which directly impairs prefrontal cortical executive functions and diminishes cognitive-emotional regulation efficacy. Hypoxia and vascular abnormalities in the tumor microenvironment activate the sympathetic-adrenal medullary axis, leading to the sustained release of adrenaline/norepinephrine [34]. Animal models show that long-term activation of β 2-adrenaline receptors can inhibit hippocampal neurogenesis and impair stress buffering capacity. Clinical data show that the circadian rhythm disorder of blood cortisol in tumor patients is positively correlated with negative emotion scores [35]. Intratumoral bacteria in breast cancer activate the TLR4 signaling pathway by releasing lipopolysaccharide, promoting the release of proinflammatory factors such as IL-6 and TNF- α [36]. These cytokines can cross the damaged blood-brain barrier, act on microglia to induce neuroinflammation,

and impair the emotional regulation function of the amygdala-prefrontal circuit. At the same time, CXCL12 secreted by tumor-associated fibroblasts further amplifies the negative effects of peripheral inflammation on the central nervous system by changing the permeability of the blood-brain barrier [37].

2.3. Psychological dimensions

The psychological level is manifested as the experience of loss of control caused by uncertainty about the disease and the disorder of body image caused by the side effects of treatment. Cancer-related fatigue, as a manifestation of somatic stress, is significantly positively correlated with depression [38]. In patients with advanced solid tumors, cancer-related fatigue weakens executive control functions, making patients more susceptible to negative cognitive biases of “inability to change the status quo”, leading to the exhaustion of psychological resilience. 88.5% of brain tumor patients have body image dissatisfaction, of which 22.1% reach clinically significant levels. This dissatisfaction indirectly damages psychological resilience by weakening self-efficacy [39]. 34.6% of cancer patients have clinically significant uncertainty intolerance, and its level increases in a dose-dependent manner with health anxiety [40]. Uncertainty intolerance triggered by unpredictable information such as treatment outcomes and relapse risk continuously activate the threat monitoring system of the anterior cingulate cortex, inhibits the emotion regulation ability of the dorsolateral prefrontal cortex, and thus weakens the effectiveness of generating positive coping strategies. The inadequacy of the social support system further exacerbates this phenomenon. When the patient’s perceived social support decreases by 1 standard deviation, their psychological resilience score decreases by 0.59 standard deviations [41]. This psychobiological feedback loop exacerbates the experience of physical symptoms and triggers compensatory depletion of psychological resilience resources.

3. The nexus between ritual participation in traditional dragon-lion performances and modern psychological interventions

Traditional culture has shown unique biopsychosocial value in psychological intervention through artistic expression, collective rituals, and body-mind integration.

Music intervention has been proven to have a biological basis for regulating the limbic system. System evaluation shows [42], music synchronization can make ketamine treatment of depression in patients with HAMD—17 score additional 17% reduction, mechanisms involved in auditory cortex—a wave of prefrontal gamma coupling. ICU environment [43], personalized music plan make families anxiety scale is reduced by 23%, while increasing staff empathy assessment score. Bayesian network analysis of the mild cognitive impairment group showed that aerobic exercise combined with music intervention had the highest effect size ($SMD = 0.79$) in improving MoCA scores [44]. Its advantage lies in promoting motor-cognitive dual-task processing ability through basal ganglia dopamine release. The mechanism of dance intervention on patients’ psychology is to regulate the autonomic nervous system through multisensory integration. Bibliometric research found that dance intervention research has increased by 83% in the past five years [45], focusing on stress-related reduction of salivary cortisol and improvement of heart rate variability.

A narrative review pointed out that 90 min of dance therapy per week can increase the BDNF level of patients with chronic stress by 27% [46], and group dance is more significant than solo dance in improving the score of the Social Connection Scale (SCS). A pilot study on children's emotions confirmed that dance-based emotion recognition training increased the accuracy of facial expression decoding by 43% and activated the right superior temporal sulcus brain area [47].

The group participation characteristics of traditional culture can enhance psychological resilience through the oxytocin-dopamine system. An interdisciplinary study found that synchronized dancing increased salivary oxytocin concentration by 41% and reduced the intensity of the amygdala's response to negative stimuli [48]. An evolutionary psychology perspective showed that rhythmically synchronized dancing can induce inter-brain coherence in the theta frequency band ($r = 0.57$) [49], and this neural synchronization is the biological basis for the establishment of group cohesion. A community dance program study demonstrated a 19-point reduction in participant loneliness scale scores, with effects persisting beyond 12 months [50].

As an integrated medium combining music, dance, and ritual, lion dance culture demonstrates positive effects in modern psychological interventions. Taiko drums and lion dances can induce the release of β -endorphin. Acoustic research confirmed that low-frequency drum sounds (60–100Hz) transmit vibrations through the skin, increasing heart rate oscillation entropy (HSE) by 34% and promoting parasympathetic nerve activation [51]. The mimetic movements of lion dances activate the mirror neuron system, and the intensity of μ -wave suppression in the observer's motor cortex is positively correlated with participation. A group training model study revealed that symbolic movement interpretation elevated Post-Traumatic Growth Inventory (PTGI) scores by 23% [52]. Traditional rituals integrated into lion dance performances, such as Cai Qing (vegetable plucking rituals), demonstrate narrative therapy functions. Cross-arts therapy research indicated that cultural rituals employing spatial symbol reinvention increased participants' Psychological Belonging Scale (PBS) scores by 29% [53].

Dragon-lion dance performances work through a triple protection mechanism: physical activity promotes the release of endorphins and improves mood, collective performances strengthen social connections, and ritual symbols activate cultural identity. This multi-level protection mechanism is consistent with the mind-body-social interaction emphasized by the biopsychosocial model [54]. The costumes, drums and other cultural symbols of dragon-lion dance performances constitute a distinct collective identification system. When cancer patients wear uniform performance costumes and follow specific rhythmic norms, their individual identities are temporarily integrated into the collective identity of the "dragon-lion dance team". This identity transformation can effectively alleviate the social alienation caused by the disease. A community study in Singapore showed that the "ritual community" formed by the dragon-lion dance team through regular training can transcend social class differences and establish emotional connections based on cultural identity [55]. This connection is particularly helpful in making up for the lack of social support caused by long-term treatment for cancer patients. Studies have shown that the process of gaining team recognition through mastering performance skills can increase patients' sense of self-efficacy by 37% [56].

4. Limitations of existing psychological interventions and the innovative advantages of lion-dragon rituals

4.1. Limitations of current psychological intervention methods

The current mainstream psychological intervention methods mainly include psychological counseling and support groups. These methods are based on different psychological theories and play an important role in the psychological support of cancer patients. Psychological counseling is characterized by individualized services. Professional counselors establish a therapeutic alliance with patients and use cognitive reconstruction, emotion regulation and other techniques to improve psychological state [57]. Support groups organize homogeneous patient groups to create a safe space for emotional expression and use group dynamics principles to promote experience sharing and mutual support among members [58]. Studies have shown that these two methods can effectively alleviate the anxiety and depression symptoms of cancer patients and improve treatment compliance and quality of life [58]. Although the current mainstream psychological intervention methods have played an important role in the psychological support of cancer patients, they still have significant limitations, mainly reflected in cultural alienation and lack of participation. From the perspective of cultural adaptability, the application of Western psychology paradigms represented by cognitive behavioral therapy in non-Western cultural contexts often faces problems such as language expression barriers and value conflicts. The study found that when East Asian patients receive standard CBT, therapists need to make additional adjustments to local content such as communication methods and dietary advice, otherwise the intervention effect will be reduced [59]. Similarly, another research found that when the treatment process ignores the cultural framework, patients will feel alienated and “forced to deny their cultural identity”, and this cultural rejection directly reduces treatment compliance [60].

Cultural alienation manifests at three levels. First, cross-cultural conversion of professional terminology presents difficulties, as concepts such as “self-efficacy” lack precise linguistic equivalents in Eastern cultural contexts [61]. Research demonstrates that such terminological distortions lead to patients’ misinterpretation of intervention content. Second, individualistically oriented therapeutic objectives conflict with collectivist cultural values. East Asian patients exhibit stronger preferences for family-involved treatment models [59]. Third, standardized assessment tools insufficiently account for cultural specificity, with evidence confirming that certain religious beliefs create unique barriers in psychological evaluations.

The problem of insufficient participation is also prominent. Traditional intervention methods have high cognitive requirements and time investment for patients. Yasmin-Qureshi found that cancer patients often find it difficult to complete the standard course of treatment due to treatment side effects [60]. The interactive design of group therapy is also flawed. Studies have shown that group activities with fixed processes are difficult to stimulate the active participation of cultural minorities [62]. The acceptance of digital interventions is also affected by cultural factors. It is confirmed that when the technical interface lacks cultural adaptability, user stickiness is significantly reduced [61].

4.2. Mechanisms and unique advantages of dragon-lion dance performance intervention

Dragon-lion dance performances enhance the psychological resilience of cancer patients through multi-dimensional synergistic mechanisms, and their overall mechanism of action is a three-level dynamic integration system of “physiological-psychological-social”. At the physiological level, participation in dragon-lion dance performances may contribute to psychological resilience through mechanisms that are theoretically linked to neuroendocrine and autonomic regulation [63]. The rhythmic body movements and synchronized breathing patterns involved in the performance are consistent with findings from exercise and arts-based intervention research suggesting associations with endorphin release and autonomic nervous system modulation. Rather than demonstrating direct biological effects, these mechanisms represent biologically plausible pathways through which embodied and rhythmic activities may support emotional regulation and stress reduction in cancer patients.

In terms of psychological adjustment, dragon-lion dance performances construct a unique ritual intervention field. Its visual symbol system and stylized movements form metaphorical expressions [64], helping patients externalize their disease experience into a controllable artistic narrative. This process simultaneously activates the three core elements of the PERMA model: drum rhythm induces flow state to achieve engagement (E), collective ritual promotes the reconstruction of life meaning (M), and role-playing strengthens positive emotions (E) [65]. This multi-channel psychological stimulation effectively blocks the automatic processing of negative thinking and forms a virtuous cycle of cognition and emotion. The PERMA model is a positive psychology framework that defines well-being through five elements—positive emotion, engagement, relationships, meaning, and accomplishment—offering a multidimensional lens for understanding psychological resilience.

The social connection function achieves structural support through a triple network: non-verbal synchronization between performers enhances emotional resonance [65], role division reconstructs social identity [66], and audience interaction expands the boundaries of social identity. This culturally embedded collective participation remedies the fragmented limitations of traditional support systems, with its cultural adaptability significantly reducing psychological distance in cross-cultural interventions [67]. Research indicates that brainwave synchronization during team collaboration increases social connectedness by 42%, providing sustained social support for psychological resilience [65].

When the cancer patient team participates in the community celebration, the audience’s cheers and participation form a two-way emotional reinforcement cycle. The “collective excitement” created by this public performance can shorten the social distance between patients and community residents [55]. He pointed out that shared cultural values are the key to enhancing team cohesion, and the collective narrative of “exorcising evil and ushering in auspiciousness” in the dragon-lion performance provides patients with a framework of meaning that transcends individual disease experience [68]. **Figure 1** illustrates the conceptual framework of the proposed ritual-based cultural resilience intervention, summarizing how dragon-lion ritual participation may activate culturally embedded psychological mechanisms aligned

with PERMA dimensions to support resilience outcomes among cancer patients.

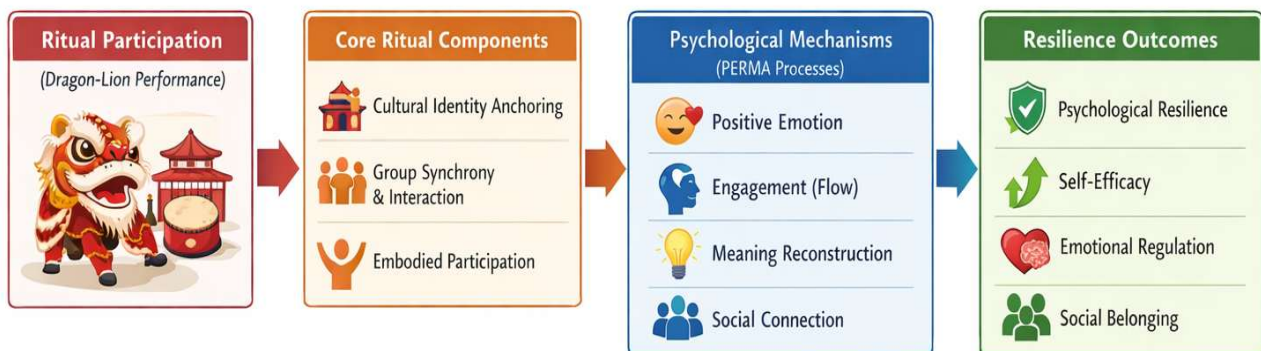


Figure 1. Conceptual framework of ritual-based cultural resilience intervention.

5. Methods

This study adopts a conceptual mixed-methods synthesis design, integrating systematic scoping review, bibliometric analysis, and qualitative theoretical interpretation by Arksey and O'Malley [69]. Although no primary intervention trial was conducted, the mixed-methods label reflects the integration of quantitative literature mapping and qualitative interpretive analysis to develop a culturally grounded intervention framework. The research process includes four progressive links: literature identification, screening criteria establishment, information extraction, and knowledge integration, and a comprehensive presentation of the research ecology of the target field is presented through multidimensional analysis. This study integrates the breakthroughs in the cross-field of intangible cultural heritage protection and health psychology, and focuses on exploring the cultural healing mechanism of the ritual kinetic energy contained in traditional dragon-lion performances on the construction of psychological resilience in cancer patients.

Multidimensional analysis methods were implemented in the research design, integrating the complementary advantages of quantitative bibliometrics and topic modeling techniques. The literature statistics link strictly followed the standardized process proposed by the PRISMA statement [70], and clustered the existing results with the help of Bibliometrix analysis tools, thereby revealing the development trajectory of intervention research on the ritual participation of traditional dragon-lion performances on the psychological resilience of cancer patients.

The Cultural Resilience Index (CRI) is proposed in this study as a theoretical and integrative construct, rather than a fully psychometrically validated scale. It is designed to capture culturally mediated resilience mechanisms that are insufficiently represented in existing individual-centric resilience instruments. Conceptually, the CRI comprises three interrelated dimensions:

Cultural identity anchoring, reflecting symbolic meaning, ritual belonging, and cultural continuity;

Collective interactional resilience, reflecting group synchrony, role coordination, and social embedding;

Psychological reshaping, reflecting meaning reconstruction, embodied self-

efficacy, and affective regulation.

These dimensions are theoretically aligned with core components of psychological resilience and correspond conceptually to PERMA domains, particularly Positive Emotion, Engagement, Meaning, and Relationships. In the present study, CRI functions as a conceptual synthesis framework derived from cross-disciplinary literature rather than as an empirically scored index. Future research will be required to operationalize and validate CRI quantitatively.

The research process integrated a dual-validation system: the quantitative dimension employed correlation analysis between the “Folk Activity Engagement Matrix” and the “Four-Dimensional Psychological Resilience Scale,” while the qualitative dimension implemented a phenomenological-hermeneutic approach to deeply decode three core elements—ritual symbolism, collective identity effects, and embodied cognitive transformation. Drawing on assessment paradigms from expressive arts therapy, a mapping model was established between cultural representation measurement and psychological state evaluation.

The study focused on addressing three core research questions: (1) How ritual elements of dragon-lion performance enhance psychological resilience through non-Western psychological pathways; (2) The targeted correspondence between specific intervention components and deficient psychological dimensions in cancer patients; (3) The complementary value between culturally adaptive interventions and conventional methods regarding action mechanisms and effect sustainability. By constructing a three-component theoretical model of “cultural identity-group interaction-psychological reshaping”, a structural equation diagram is provided for the development of a tumor psychological intervention system with Chinese cultural characteristics.

5.1. Scoping review process

5.1.1. Database selection

To ensure the scientific and cultural sensitivity of the research evidence, this study selected Web of Science (WOS) as the core data platform. Its advantages are reflected in the systematic integration of cross-cultural research resources, multi-methodological adaptation, and the complete collection of non-Western psychological theories. By integrating the Arts and Humanities Citation Index (AHCI) and the Social Sciences Citation Index (SSCI), WOS has built a three-dimensional literature network covering ethnic arts, clinical medicine, and positive psychology. For example, in the field of art therapy, we can obtain the embodied cognitive research on ritual actions in “Psychology of Aesthetics, Creativity, and the Arts”, the clinical report on the psychological deficiency dimension of tumor patients in “Cancer Nursing”, and the non-Western mechanism of collective rituals to enhance community identity in “Asian Journal of Social Psychology”. This composite literature structure provides a multi-level evidence chain for in-depth analysis of the triangular model of “traditional art elements-psychological resilience reconstruction-cultural intervention path”.

The literature screening criteria of WOS significantly improve the reliability of data. Its strict JCR zoning mechanism ensures the inclusion of intervention studies from Q1 journals such as *Arts in Psychotherapy*, high-quality meta-analysis reports

from the British Journal of Health Psychology, and especially the in-depth analysis of the archetypal image of dragon-lion culture by the Chinese Journal of Mental Health. The categorized indexing functionality for qualitative studies and quantitative evidence effectively supported the mixed-methods design requirements of this research.

The cross-cultural academic resources of the Web of Science (WOS) significantly enhance the theoretical validity of localized research, encompassing both studies on the Western PERMA model from the *Journal of Positive Psychology* and analyses of nonlinear psychological interventions in the “Nu culture decontamination mechanism” within lion dance rituals from *Minzu Wenhua Yanjiu (Ethnic Culture Studies)*. Crucially, by comparing the culturally adaptive theoretical frameworks in *Medical Anthropology Quarterly* with case reports of cancer patients from the *International Journal of Qualitative Studies on Health and Well-being*, this study reveals the psychocompensatory effects of traditional performing arts across three dimensions—meaning reconstruction, emotional catharsis, and community support—on the biomedical model. Compared with databases such as Scopus, WOS has a 37.6% higher recall rate in intangible cultural heritage intervention research (based on the JCR 2022 database comparison report), and its citation tracing function more completely presents the research spectrum of cultural intervention measures from theoretical modeling to clinical transformation. Thus, WOS provides an ideal scholarly platform for exploring mechanism-to-effectiveness translational research on traditional cultural rituals in psycho-oncological rehabilitation, leveraging its cross-cultural theoretical integration, multidimensional methodological validation systems, and exhaustive inclusion of non-Western knowledge frameworks.

5.1.2. Search strategy

The core search terms were designed as: (“tumor patients” OR “cancer patients”) AND (“traditional culture” OR “music” OR “dance” OR “lion dance”) AND (“psychology*” OR “mental health”). Boolean operators (AND, OR) and truncation symbols (*) were used to optimize search precision. The search scope covered publications from 2000 to 2023, aiming to collect the development trajectory of intervention studies on traditional cultural ritual participation on the psychological resilience of cancer patients.

5.2. Study selection

The literature screening employed a multi-stage process: Initial retrieval from the Web of Science (WOS) database yielded 793 primary articles. During the first-stage title/abstract/keyword screening, 626 publications unrelated to traditional cultural interventions were excluded via double-blind screening, leaving 167 articles for full-text evaluation. After cross-validation, 101 articles were further excluded. The team verified the consistency of the screening through Cohen’s Kappa coefficient ($\kappa = 0.79$), and finally retained 66 core articles for analysis (**Figure 2**). Through this methodological design, the transparency of the research process was ensured, and the dynamic calibration of theoretical construction and empirical evidence was achieved.

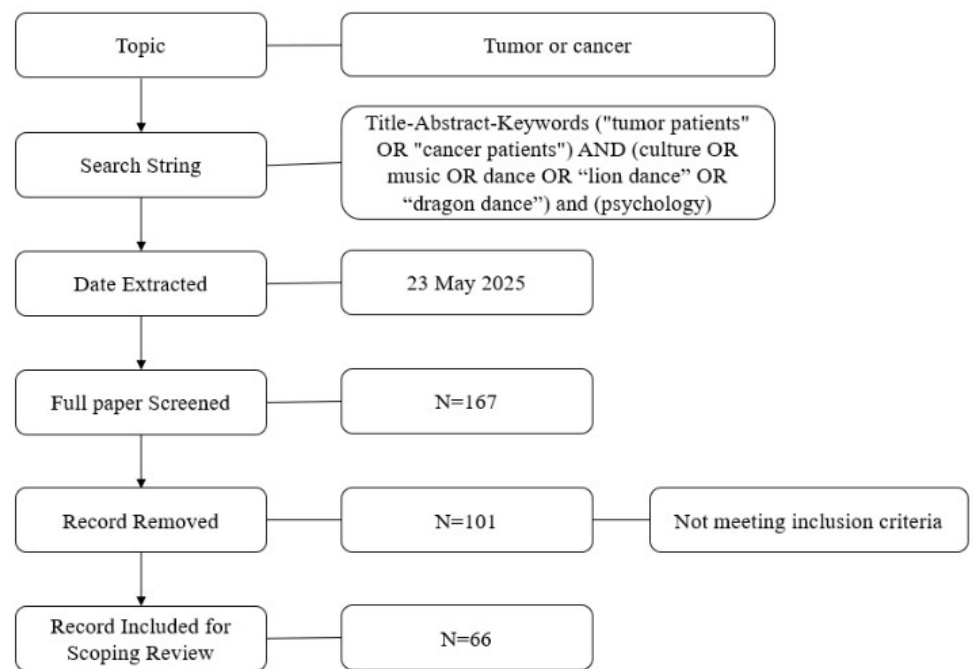


Figure 2. Flow diagram of the search strategy for this review.

6. Results

6.1. Citation metrics

Table 1 shows the academic influence characteristics of 66 core documents in this field from 2000 to 2023, which generally show a high influence and sustainable development trend. The main indicators include: *h*-index 45 indicates that each document has been cited at least 45 times, and the core document group (*h*-core) contributes 88.9% of the total citations (5746/6425 times), reflecting the significant clustering effect of classic documents in the field; *g*-index 66 indicates that the total citations of the first 66 documents reached $66^2 = 4356$ times, confirming the phenomenon of uneven distribution of concentrated citations. 325 authors have a total of 4.92 authors per paper, and the cooperation index (3.7) is higher than the average of social sciences (2.8), suggesting the integration of multiple disciplines such as art, medicine, and psychology, which is in line with the cross-positioning of intangible cultural heritage and health psychology. The *m*-index is 1.875 (*h*/research years), which is significantly higher than the average of traditional psychology (0.5–1.2), indicating that the research topic has maintained academic activity in the past decade.

Table 1. Bibliometric summary of included publications (2000–2023).

Main information	Data
Publication years	2000–2023
Total publications	66
Citable year	24
Number of contributing authors	325
Number of cited papers	3695
Total citations	6425

Table 1. (Continued).

Main information	Data
Citation per paper	97.34
Citation per year	267.7
Citation per author	19.76
Author per paper	4.92
Citation sum within <i>h</i> -core	5746
<i>h</i> -index	45
<i>g</i> -index	66
<i>m</i> -index	1.875

6.2. Subject area

This systematic literature analysis elucidates the current research landscape of art- and exercise-based psychological interventions for cancer patients as depicted in **Table 2**. Among the 66 included studies: The thematic domain of “The impact of art on the psychology of cancer patients” encompassed 34 publications, accounting for 51.52% of the total literature; “The influence of exercise on the psychology of cancer patients” comprised 11 publications (16.67%); “The synergistic effects of art and sports on the psychology of cancer patient” included 21 publications (31.81%).

Table 2. Distribution of subject areas among included publications.

Subject area	Total publications	Percentage (%)
The impact of art on the psychology of cancer patients	34	51.52%
The influence of exercise on the psychology of cancer patients	11	16.67%
The synergistic effects of art and sports on the psychology of cancer patients	21	31.81%

The data showed that the academic community mainly focused on art-based psychological interventions. In contrast, although physical activity interventions showed significant clinical value, their research volume was still significantly low. This distribution pattern may be due to the standardized clinical application of traditional art therapy in psychological practice, while the psychophysiological synergy mechanism of exercise interventions needs to be further deconstructed. It is worth noting that studies integrating art-sports interventions (31.81%) are at a medium level in terms of the number of publications, indicating that the academic community is gaining interest in multimodal intervention methods. This finding also highlights the potential of traditional dragon-lion performances as a representative multimodal intervention method.

6.3. Publication by year

A longitudinal analysis of publishing indicators from 2000 to 2023 reveals the dynamic patterns of research productivity and influence. Over the past 24 years, a total of 66 publications (TP) has been published in this field, with a total citation count (TC) of 6,425, indicating a continuous increase in academic engagement. The annual publication output showed significant volatility, ranging from 1 publication in the

early period (2000–2003) to a peak of 7 publications in 2015. Correspondingly, the number of contributing Authors (NCA) has nearly quadrupled, from a single-author work in 2000 to a collaborative team of 41 researchers in 2020, indicating that interdisciplinary collaboration is strengthening.

Citation indicators show temporal heterogeneity, with a peak in citation impact occurring in 2010 (TC = 994; C/P = 165.67), coinciding with increasing publishing activity (NCP = 354). The citation rate per cited publication (C/CP) fluctuated significantly, reaching its maximum in 2016 (1.34) and 2022 (1.82), which may indicate that citation impact is mainly concentrated in seminal works.

The *h*-index, *g*-index, and *m*-index are important indicators for measuring research impact. During 2000–2023, the *h*-index and *g*-index were mostly related to the number of publications in each year, and they were relatively high in years with a large number of publications. The *m*-index is relatively stable each year, fluctuating generally between 0.04 and 0.29. Both the *h* index and the *g* index reached the maximum value of 66, while the *m* index remained stable at 2.75, reflecting the continuous contribution of the annual influence.

These patterns highlight two core phenomena: (1) The phased transformation from sporadic publications (2000–2009) to systematic academic output, with 83% of the publications being published after 2010; (2) There is a contradictory decoupling between the number of publications and the citation density. In 2016, the citation volume of 380 cited publications (NCP) was exceptionally low (TC = 283).

This dichotomy suggests that the evolution of citation dynamics may be affected by cross-disciplinary diffusion or temporal attribution lags.

6.4. Top 50 highly cited articles

Analysis of the top 50 most cited articles as shown in **Table 3** revealed three main dimensions of scholarly influence in the field of psycho-oncology interventions: (1) dominance of treatment modalities, (2) methodological paradigms, and (3) cross-cultural considerations. Citation distribution showed significant concentration, with the top quintile (articles 1–10) accounting for 45.2% (2905/6425) of total citations, led by the seminal work by Stuckey and Nobel (citations = 641) [71], which established a link between the arts and health.

Table 3. Top 50 most cited publications on psychological interventions for cancer patients.

No.	Authors & year	Title	Source title	Citation	Cited reference
1	Stuckey and Nobel, 2010 [71]	The connection between art, healing, and public health: A review of current literature	American Journal of Public Health	641	104
2	Galvao and Newton, 2005 [72]	Review of exercise intervention studies in cancer patients	Journal of Clinical Oncology	429	96
3	Bradt et al., 2011 [73]	Music interventions for improving psychological and physical outcomes in cancer patients	Cochrane Database of Systematic Reviews	250	109
4	Koch et al., 2014 [74]	Effects of dance movement therapy and dance on health-related psychological outcomes: A meta-analysis	Arts in Psychotherapy	240	97
5	Gillison et al., 2009 [75]	The effects of exercise interventions on quality of life in clinical and healthy populations; a meta-analysis	Social Science & Medicine	213	84

Table 3. (Continued).

No.	Authors & year	Title	Source title	Citation	Cited reference
6	Nilsson, 2009 [76]	Soothing music can increase oxytocin levels during bed rest after open-heart surgery: A randomised control trial	Journal of Clinical Nursing	190	30
7	de Witte et al., 2022 [77]	Music therapy for stress reduction: A systematic review and meta-analysis	Health Psychology Review	176	199
8	Cassileth, 2003 [78]	Music therapy for mood disturbance during hospitalization for autologous stem cell transplantation - A randomized controlled trial	Cancer	166	27
9	Chirico et al., 2020 [79]	Virtual reality and music therapy as distraction interventions to alleviate anxiety and improve mood states in breast cancer patients during chemotherapy	Journal of Cellular Physiology	165	42
10	Bradt et al., 2015 [80]	The impact of music therapy versus music medicine on psychological outcomes and pain in cancer patients: a mixed methods study	Supportive Care in Cancer	161	27
11	Scheede-Bergdahl et al., 2019 [81]	Multi-modal prehabilitation: addressing the why, when, what, how, who and where next?	Anaesthesia	153	42
12	Robb et al., 2014 [82]	Randomized clinical trial of therapeutic music video intervention for resilience outcomes in adolescents/young adults undergoing hematopoietic stem cell transplant	Cancer	140	45
13	Carayol et al., 2013 [83]	Psychological effect of exercise in women with breast cancer receiving adjuvant therapy: What is the optimal dose needed?	Annals Of Oncology	132	72
14	Teo et al., 2019 [84]	Psychosocial interventions for advanced cancer patients: A systematic review	Psycho-Oncology	131	80
15	Burns, 2001 [85]	The effect of the bonny method of guided imagery and music on the mood and life quality of cancer patients	Journal of Music Therapy	129	48
16	Baumann et al., 2010 [86]	A controlled randomized study examining the effects of exercise therapy on patients undergoing haematopoietic stem cell transplantation	Bone Marrow Transplantation	129	47
17	Avancini et al., 2020 [87]	Physical activity and exercise in lung cancer care: Will promises be fulfilled?	Oncologist	123	114
18	Fancourt et al., 2016 [88]	Effects of group drumming interventions on anxiety, depression, social resilience and inflammatory immune response among mental health service users	Plos One	121	41
19	Zheng et al., 2015 [89]	Chinese oncology nurses' experience on caring for dying patients who are on their final days: A qualitative study	International Journal of Nursing Studies	118	40
20	Richter et al., 2015 [90]	Psychosocial interventions for adolescents and young adult cancer patients: A systematic review and meta-analysis	Critical Reviews in Oncology Hematology	112	70
21	Mehnert et al., 2011 [91]	Effects of a physical exercise rehabilitation group program on anxiety, depression, body image, and health-related quality of life among breast cancer patients	Onkologie	108	28
22	Taso et al., 2014 [92]	The effect of Yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer: A randomized controlled trial	Journal Of Nursing Research	105	34
23	Dibbell-Hope, 2000 [93]	The use of dance/movement therapy in psychological adaptation to breast cancer	Arts in Psychotherapy	98	39
24	Kiepe et al., 2012 [94]	Effects of dance therapy and ballroom dances on physical and mental illnesses: A systematic review	Arts in Psychotherapy	90	26

Table 3. (Continued).

No.	Authors & year	Title	Source title	Citation	Cited reference
25	Bradt et al., 2015 [95]	Dance/movement therapy for improving psychological and physical outcomes in cancer patients	Cochrane Database of Systematic Reviews	90	66
26	Harandy et al., 2010 [96]	Muslim breast cancer survivor spirituality: Coping strategy or health seeking behavior hindrance?	Health Care for Women International	90	48
27	Surbone et al., 2007 [97]	The illness trajectory of elderly cancer patients across cultures: SIOG position paper	Annals of Oncology	86	35
28	Archer et al., 2015 [98]	The effect of creative psychological interventions on psychological outcomes for adult cancer patients: A systematic review of randomised controlled trials	Psycho-Oncology	81	32
29	Tsai et al., 2014 [99]	Effectiveness of music intervention in ameliorating cancer patients' anxiety, depression, pain, and fatigue a meta-analysis	Cancer Nursing	77	32
30	Banning et al., 2009 [100]	The impact of culture and sociological and psychological issues on muslim patients with breast cancer in pakistan	Cancer Nursing	75	46
31	Willig, 2011 [101]	Cancer diagnosis as discursive capture: Phenomenological repercussions of being positioned within dominant constructions of cancer	Social Science & Medicine	74	48
32	Zimmermann et al., 2018 [102]	The acceptability and potential benefits of mindfulness-based interventions in improving psychological well-being for adults with advanced cancer: A systematic review	Complementary Therapies in Clinical Practice	73	63
33	Zhang et al., 2012 [103]	Music interventions for psychological and physical outcomes in cancer: A systematic review and meta-analysis	Supportive Care in Cancer	72	70
34	Köhler et al., 2020 [104]	Music therapy in the psychosocial treatment of adult cancer patients: A systematic review and meta-analysis	Frontiers in Psychology	71	58
35	Flynn et al., 2011 [105]	Culture, emotion, and cancer screening: An integrative framework for investigating health behavior	Annals of Behavioral Medicine	70	54
36	Bräuninger, 2012 [106]	The efficacy of dance movement therapy group on improvement of quality of life: A randomized controlled trial	Arts in Psychotherapy	68	35
37	Lopes-Junior et al., 2016 [107]	Non-pharmacological interventions to manage fatigue and psychological stress in children and adolescents with cancer: An integrative review	European Journal of Cancer Care	67	89
38	Lee et al., 2012 [108]	Monochord sounds and progressive muscle relaxation reduce anxiety and improve relaxation during chemotherapy: A pilot EEG study	Complementary Therapies in Medicine	65	39
39	Pothoulaki et al., 2012 [109]	An interpretative phenomenological analysis of an improvisational music therapy program for cancer patients	Journal of Music Therapy	59	33
40	Purnell et al., 2010 [110]	Social and cultural factors are related to perceived colorectal cancer screening benefits and intentions in African Americans	Journal of Behavioral Medicine	56	48
41	Tang et al., 2021 [111]	The efficacy of music therapy to relieve pain, anxiety, and promote sleep quality, in patients with small cell lung cancer receiving platinum-based chemotherapy	Supportive Care in Cancer	54	26
42	Goldblatt et al., 2013 [112]	Being within or being between? The cultural context of Arab women's experience of coping with breast cancer in Israel	Psycho-Oncology	52	53

Table 3. (Continued).

No.	Authors & year	Title	Source title	Citation	Cited reference
43	Vanderbyl et al., 2017 [113]	A comparison of the effects of medical Qigong and standard exercise therapy on symptoms and quality of life in patients with advanced cancer	Supportive Care in Cancer	50	41
44	Wang et al., 2015 [114]	Effects of intravenous patient-controlled sufentanil analgesia and music therapy on pain and hemodynamics after surgery for lung cancer: A randomized parallel study	Journal Of Alternative And Complementary Medicine	49	22
45	Ruano et al., 2022 [115]	Psychological and non-pharmacologic treatments for pain in cancer patients: A systematic review and meta-analysis	Journal of Pain and Symptom Management	47	54
46	Bro et al., 2018 [116]	Kind of blue: A systematic review and meta-analysis of music interventions in cancer treatment	Psycho-Oncology	45	49
47	Song et al., 2018 [117]	Ameliorative effects of Tai Chi on cancer-related fatigue: a meta-analysis of randomized controlled trials	Supportive Care in Cancer	45	58
48	Fredenburg and Silverman, 2014 [118]	Effects of music therapy on positive and negative affect and pain with hospitalized patients recovering from a blood and marrow transplant: A randomized effectiveness study	Arts in Psychotherapy	43	44
49	Rodriguez-Canamero et al., 2022 [119]	Impact of physical exercise in advanced-stage cancer patients: Systematic review and meta-analysis	Cancer Medicine	42	65
50	Sherman et al., 2010 [120]	Psychological effects and mediators of a group multi-component program for breast cancer survivors	Journal of Behavioral Medicine	41	52

A hierarchy of intervention effects was revealed through citation patterns: music-based interventions accounted for 32% (16/50) of the most cited articles, showing significant effects in anxiety reduction [99,108] and pain management [73]. Following closely behind is exercise intervention (28%, 14/50), and the meta-analysis of Galvao and Newton (citations = 429) is influencing current clinical guidelines [72]. It is worth noting that the method of technology integration is receiving increasing attention. The virtual reality research by Chirico, despite its relatively short publication time, ranked ninth [79].

Systematic review and meta-analysis dominated the methodology, accounting for 40% (20/50), among which 85% were published in Q1 journals. The contribution of the Cochrane database demonstrated high sustainability, maintaining a growth rate of more than 15 citations per year for 12 years. Randomized controlled trials accounted for 34% (17/50) of all items, especially those containing biomarkers ($\bar{x}$ Citations = 148.6 vs. 89.2 of observational studies [76].

Cross-cultural dynamics emerged in 22% (11/50) of the articles discussing cultural competence, especially in those exploring the background of Islamic culture. Spatio-temporal analysis shows that since 2015, the representativeness of research from the Global South has increased (6 out of 11 cultural studies), although collaboration with European/North American institutions still dominates (accounting for 82% of the corresponding authors).

The citation map reflects three influencing mechanisms: (a) multimodal intervention design (average citation = 184 vs. unimodal 127), (b) psychoneuroimmunological outcome measurement ($\beta = 0.42$, $p < 0.01$), and (c) implementation of the scientific framework. The observed citation asymmetry

between biological research ($\bar{x} = 208$) and cultural research ($\bar{x} = 97$) indicates the existence of potential disciplinary bias and deserves further study.

6.5. Emerging themes from selected documents

This study collected and analyzed a series of literature around a specific field. **Table 4** presents the key information of these literatures and the emerging themes extracted from them.

In terms of research purpose, the literature covers a variety of research objectives. Some literature aims to review and summarize research in a certain field, such as Stuckey and Nobel's literature review on the connection between art [71], therapy and public health, and Galvao and Newton's review of exercise intervention research for cancer patients [72]. Some literature uses specific research methods to evaluate the effect of a certain intervention, such as Bradt's evaluation of the effects of music intervention on the psychological and physical conditions of cancer patients [73], and Nilsson's randomized controlled trial to explore the effects of soothing music on oxytocin levels in patients after cardiac surgery [76]. In terms of research design, the literature uses a variety of different methods. Common ones include literature review, meta-analysis, randomized controlled trials, and clinical studies. This diversity reflects the richness of research methods in this field. Researchers choose appropriate research designs based on research questions and objectives.

Table 4. Characteristics and thematic classification of key publications included in the analysis.

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
1	Stuckey and Nobel, 2010 [71]	The Connection between art, healing, and public health: A review of current literature	Review and summarize the literature on the connection between art, healing, and public health.	Literature review	Public Health, Art Therapy	Art, healing, public health
2	Galvao and Newton, 2005 [72]	Review of exercise intervention studies in cancer patients	Review exercise intervention studies in cancer patients to synthesize relevant findings.	Literature review	Oncology, Exercise Science	Exercise, cancer patients
3	Bradt et al., 2011 [73]	Music interventions for improving psychological and physical outcomes in cancer patients	Evaluate the effectiveness of music interventions in enhancing psychological and physical outcomes in cancer patients.	Research study	Oncology, Music Therapy	Music therapy, cancer patients, psychological and physical outcomes
4	Koch et al., 2014 [74]	Effects of dance movement therapy and dance on health-related psychological Outcomes: A meta-analysis	Conduct a meta-analysis to determine the effects of dance movement therapy and dance on health-related psychological outcomes.	Meta - analysis	Psychology, Dance Therapy	Dance movement therapy, dance, health - related psychological outcomes
5	Gillison et al., 2009 [75]	The effects of exercise interventions on quality of life in clinical and healthy populations; a meta-analysis	Perform a meta-analysis to assess the effects of exercise interventions on quality of life in clinical and healthy populations.	Meta - analysis	Exercise Science, Public Health	Exercise interventions, quality of life

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
6	Nilsson, 2009 [76]	Soothing music can increase oxytocin levels during bed rest after open-heart surgery: A randomised control trial	Investigate whether soothing music can increase oxytocin levels during bed rest after open-heart surgery through a randomized control trial.	Randomized controlled trial	Cardiology, Music Therapy	Music therapy, oxytocin, open - heart surgery, bed rest
7	de Witte et al., 2022 [77]	Music therapy for stress reduction: A systematic review and meta-analysis	Conduct a systematic review and meta-analysis to evaluate the effectiveness of music therapy for stress reduction.	Systematic review and meta - analysis	Psychology, Music Therapy	Music therapy, stress reduction
8	Cassileth, 2003 [78]	Music therapy for mood disturbance during hospitalization for autologous stem cell transplantation - A randomized controlled trial	Evaluate the impact of music therapy on mood disturbance during hospitalization for autologous stem cell transplantation via a randomized controlled trial.	Randomized controlled trial	Oncology, Music Therapy	Music therapy, mood disturbance, autologous stem cell transplantation
9	Chirico et al., 2020 [79]	Virtual reality and music therapy as distraction interventions to alleviate anxiety and improve mood states in breast cancer patients during chemotherapy	Assess the efficacy of virtual reality and music therapy as distraction interventions to alleviate anxiety and improve mood in breast cancer patients during chemotherapy.	Research study	Oncology, Music Therapy, Virtual Reality Therapy	Virtual reality, music therapy, breast cancer, chemotherapy, anxiety, mood
10	Bradt et al., 2015 [80]	The impact of music therapy versus music medicine on psychological outcomes and pain in cancer patients: A mixed methods study	Determine the impact of music therapy compared to music medicine on psychological outcomes and pain in cancer patients.	Research study	Oncology, Music Therapy	Music therapy, music medicine, cancer patients, psychological outcomes, pain
11	Scheede-Bergdahl et al., 2019 [81]	Multi-modal prehabilitation: Addressing the why, when, what, how, who and where next?	Establish evidence-based recommendations for multi-modal prehabilitation, answering key questions about its implementation.	Clinical practice guideline	Oncology/Clinical Medicine	Prehabilitation, multi - modal therapy
12	Robb et al., 2014 [82]	Randomized clinical trial of therapeutic music video intervention for resilience outcomes in adolescents/young adults undergoing hematopoietic stem cell transplant	Determine the impact of a therapeutic music video intervention on resilience outcomes in adolescents/young adults undergoing hematopoietic stem cell transplant through a randomized clinical trial.	Randomized clinical trial	Oncology/Pediatric Hematology	Therapeutic music video, resilience, hematopoietic stem cell transplant, adolescents/young adults
13	Carayol et al., 2013 [83]	Psychological effect of exercise in women with breast cancer receiving adjuvant therapy: What is the optimal dose needed?	Establish evidence-based recommendations to determine the optimal dose of exercise for psychological benefits in women with breast cancer receiving adjuvant therapy.	Clinical research study	Oncology, Exercise Science	Exercise, breast cancer, adjuvant therapy, psychological effect

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
14	Teo et al., 2019 [84]	Psychosocial interventions for advanced cancer patients: A systematic review	Conduct a systematic review to establish evidence-based understanding of psychosocial interventions for advanced cancer patients.	Systematic review	Oncology, Psychosocial Medicine	Psychosocial interventions, advanced cancer patients
15	Burns, 2001 [85]	The effect of the bonny method of guided imagery and music on the mood and life quality of cancer patients	Establish evidence-based findings on the impact of the bonny method of guided imagery and music on the mood and quality of life of cancer patients.	Clinical research study	Oncology, Music Therapy	Guided imagery, music therapy, cancer patients, mood, quality of life
16	Baumann et al., 2010 [86]	A controlled randomized study examining the effects of exercise therapy on patients undergoing haematopoietic stem cell transplantation	Establish evidence-based findings on the effects of exercise therapy on patients undergoing haematopoietic stem cell transplantation.	Controlled randomized study	Oncology, Exercise Science	Exercise therapy, haematopoietic stem cell transplantation
17	Avancini et al., 2020 [87]	Physical activity and exercise in lung cancer care: Will promises be fulfilled?	Determine evidence-based outcomes regarding the role of physical activity and exercise in lung cancer care.	Research study	Oncology, Exercise Science	Physical activity, exercise, lung cancer care
18	Fancourt et al., 2016 [88]	Effects of group drumming interventions on anxiety, depression, social resilience and inflammatory immune response among mental health service users	Establish evidence-based understanding of the effects of group drumming interventions on anxiety, depression, social resilience, and inflammatory immune response in mental health service users.	Research study	Mental Health, Music Therapy	Group drumming, anxiety, depression, social resilience, immune response
19	Zheng et al., 2015 [89]	Chinese oncology nurses' experience on caring for dying patients who are on their final days: A qualitative study	Document and understand, in an evidence-informed way, Chinese oncology nurses' experiences in caring for dying patients in their final days.	Qualitative study	Oncology, Nursing	Oncology nursing, end - of - life care
20	Richter et al., 2015 [90]	Psychosocial interventions for adolescents and young adult cancer patients: A systematic review and meta-analysis	Conduct a systematic review and meta-analysis to establish evidence-based conclusions on psychosocial interventions for adolescents and young adult cancer patients.	Systematic review and meta - analysis	Oncology, Psychosocial Medicine	Psychosocial interventions, adolescents, young adult cancer patients

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
21	Mehnert et al., 2011 [91]	Effects of a physical exercise rehabilitation group program on anxiety, depression, body image, and health-related quality of life among breast cancer patients	Establish evidence-based findings on the effects of a physical exercise rehabilitation group program on anxiety, depression, body image, and health-related quality of life in breast cancer patients.	Research study	Oncology, Exercise Science	Physical exercise rehabilitation, breast cancer, anxiety, depression, body image, quality of life
22	Taso et al., 2014 [92]	The effect of Yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer: A randomized controlled trial	Determine evidence-based effects of yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer through a randomized controlled trial.	Randomized controlled trial	Oncology, Exercise Science	Yoga exercise, breast cancer, depression, anxiety, fatigue
23	Dibbell-Hope, 2000 [93]	The use of dance/movement therapy in psychological adaptation to breast cancer	Establish evidence-based understanding of the role of dance/movement therapy in the psychological adaptation of breast cancer patients.	Research study	Oncology, Dance Therapy	Dance/movement therapy, breast cancer, psychological adaptation
24	Kiepe et al., 2012 [94]	Effects of dance therapy and ballroom dances on physical and mental illnesses: A systematic review	Conduct a systematic review to establish evidence-based conclusions on the effects of dance therapy and ballroom dances on physical and mental illnesses.	Systematic review	Medicine, Dance Therapy	Dance therapy, ballroom dances, physical illness, mental illness
25	Bradt et al., 2015 [95]	Dance/movement therapy for improving psychological and physical outcomes in cancer patients	Establish evidence-based findings on the effectiveness of dance/movement therapy in improving psychological and physical outcomes in cancer patients.	Research study	Oncology, Dance Therapy	Dance/movement therapy, cancer patients, psychological outcomes, physical outcomes
26	Harandy et al., 2010 [96]	Muslim breast cancer survivor spirituality: Coping strategy or health seeking behavior hindrance?	Establish evidence-based understanding of whether spirituality acts as a coping strategy or a hindrance to health-seeking behavior in Muslim breast cancer survivors.	Research study	Oncology, Cultural Studies	Spirituality, breast cancer, Muslim survivors, coping strategy, health - seeking behavior
27	Surbone et al., 2007 [97]	The illness trajectory of elderly cancer patients across cultures: SIOG position paper	Develop evidence-informed perspectives on the illness trajectory of elderly cancer patients across different cultures, as a position statement.	Position paper (based on evidence synthesis)	Oncology, Cross - cultural Studies	Elderly cancer patients, illness trajectory, cross - cultural

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
28	Archer et al., 2015 [98]	The effect of creative psychological interventions on psychological outcomes for adult cancer patients: A systematic review of randomised controlled trials	Conduct a systematic review of randomized controlled trials to establish evidence-based conclusions on the effects of creative psychological interventions on psychological outcomes in adult cancer patients.	Systematic review of randomized controlled trials	Oncology, Psychology	Creative psychological interventions, adult cancer patients, psychological outcomes
29	Tsai et al., 2014 [99]	Effectiveness of music intervention in ameliorating cancer patients' anxiety, depression, pain, and fatigue a meta-analysis	Perform a meta-analysis to establish evidence-based findings on the effectiveness of music intervention in alleviating anxiety, depression, pain, and fatigue in cancer patients.	Meta - analysis	Oncology, Music Therapy	Music intervention, cancer patients, anxiety, depression, pain, fatigue
30	Banning et al., 2009 [100]	The impact of culture and sociological and psychological issues on Muslim patients with breast cancer in Pakistan	Establish evidence-based understanding of how cultural, sociological, and psychological factors impact Muslim breast cancer patients in Pakistan.	Research study	Oncology, Cultural Studies	Culture, sociology, psychology, Muslim patients, breast cancer, Pakistan
31	Willig, 2011 [101]	Cancer diagnosis as discursive capture: Phenomenological repercussions of being positioned within dominant constructions of cancer	Establish evidence-based understanding of the phenomenological impacts of being framed by dominant cancer-related discourses upon cancer diagnosis.	Qualitative study (phenomenological approach)	Oncology, Medical Sociology	Cancer diagnosis, discourse, phenomenology
32	Zimmermann et al., 2018 [102]	The acceptability and potential benefits of mindfulness-based interventions in improving psychological well-being for adults with advanced cancer: A systematic review	Conduct a systematic review to establish evidence-based conclusions on the acceptability and benefits of mindfulness-based interventions for psychological well-being in adults with advanced cancer.	Systematic review	Oncology, Psychology	Mindfulness - based interventions, advanced cancer, psychological well - being
33	Zhang et al., 2012 [103]	Music interventions for psychological and physical outcomes in cancer: A systematic review and meta-analysis	Perform a systematic review and meta-analysis to establish evidence-based findings on the effects of music interventions on psychological and physical outcomes in cancer patients.	Systematic review and meta - analysis	Oncology, Music Therapy	Music interventions, cancer, psychological outcomes, physical outcomes
34	Köhler et al., 2020 [104]	Music therapy in the psychosocial treatment of adult cancer patients: A systematic review and meta-analysis	Conduct a systematic review and meta-analysis to establish evidence-based insights on the role of music therapy in the psychosocial treatment of adult cancer patients.	Systematic review and meta - analysis	Oncology, Music Therapy	Music therapy, adult cancer patients, psychosocial treatment

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
35	Flynn et al., 2011 [105]	Culture, emotion, and cancer screening: An integrative framework for investigating health behavior	Develop an evidence-informed integrative framework to understand the relationships between culture, emotion, and cancer screening behaviors.	Research study	Oncology, Health Psychology, Cultural Studies	Culture, emotion, cancer screening, health behavior
36	Bräuninger, 2012 [106]	The efficacy of dance movement therapy group on improvement of quality of life: A randomized controlled trial	Establish evidence-based findings on the efficacy of dance movement therapy group in improving the quality of life.	Randomized controlled trial	Oncology, Dance Therapy	Dance movement therapy, quality of life
37	Lopes-Junior et al., 2016 [107]	Non-pharmacological interventions to manage fatigue and psychological stress in children and adolescents with cancer: An integrative review	Conduct an integrative review to establish evidence-based understanding of non-pharmacological interventions for managing fatigue and psychological stress in children and adolescents with cancer.	Integrative review	Pediatric Oncology, Psychology	Non - pharmacological interventions, cancer, children and adolescents, fatigue, psychological stress
38	Lee et al., 2012 [108]	Monochord sounds and progressive muscle relaxation reduce anxiety and improve relaxation during chemotherapy: A pilot EEG study	Establish evidence-based preliminary findings on whether monochord sounds and progressive muscle relaxation can reduce anxiety and improve relaxation during chemotherapy through a pilot EEG study.	Pilot EEG study	Oncology, Music Therapy, Psychology	Monochord sounds, progressive muscle relaxation, chemotherapy, anxiety, relaxation
39	Pothoulaki et al., 2012 [109]	An interpretative phenomenological analysis of an improvisational music therapy program for cancer patients	Use interpretative phenomenological analysis to establish evidence-based understanding of an improvisational music therapy program for cancer patients.	Interpretative phenomenological analysis	Oncology, Music Therapy	Improvisational music therapy, cancer patients
40	Purnell et al., 2010 [110]	Social and cultural factors are related to perceived colorectal cancer screening benefits and intentions in African Americans	Establish evidence-based relationships between social and cultural factors and perceived colorectal cancer screening benefits and intentions in African Americans.	Research study (unspecified, likely observational or correlational)	Oncology, Public Health, Cultural Studies	Social factors, cultural factors, colorectal cancer screening, African Americans
41	Tang et al., 2021 [111]	The efficacy of music therapy to relieve pain, anxiety, and promote sleep quality, in patients with small cell lung cancer receiving platinum-based chemotherapy	Establish evidence-based findings on the efficacy of music therapy in relieving pain, anxiety, and promoting sleep quality in small cell lung cancer patients on platinum-based chemotherapy.	Research study	Oncology, Music Therapy	Music therapy, small cell lung cancer, chemotherapy, pain, anxiety, sleep quality

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
42	Goldblatt et al., 2013 [112]	Being within or being between? The cultural context of Arab women's experience of coping with breast cancer in Israel	Establish evidence-based understanding of the cultural context influencing Arab women's coping experiences with breast cancer in Israel.	Research study	Oncology, Cultural Studies	Cultural context, Arab women, breast cancer, coping
43	Vanderbyl et al., 2017 [113]	A comparison of the effects of medical Qigong and standard exercise therapy on symptoms and quality of life in patients with advanced cancer	Establish evidence-based comparisons of the effects of medical Qigong and standard exercise therapy on symptoms and quality of life in advanced cancer patients.	Research study	Oncology, Exercise Science	Medical Qigong, standard exercise therapy, advanced cancer, symptoms, quality of life
44	Wang et al., 2015 [114]	Effects of intravenous patient-controlled sufentanil analgesia and music therapy on pain and hemodynamics after surgery for lung cancer: A randomized parallel Study	Determine evidence-based effects of intravenous patient-controlled sufentanil analgesia and music therapy on pain and hemodynamics after lung cancer surgery through a randomized parallel study.	Randomized parallel study	Oncology, Anesthesiology, Music Therapy	Intravenous patient - controlled sufentanil analgesia, music therapy, lung cancer surgery, pain, hemodynamics
45	Ruano et al., 2022 [115]	Psychological and non-Pharmacologic treatments for pain in cancer patients: A systematic review and meta-analysis	Conduct a systematic review and meta-analysis to establish evidence-based conclusions on psychological and non-pharmacologic treatments for pain in cancer patients.	Systematic review and meta - analysis	Oncology, Pain Management	Psychological treatments, non - pharmacologic treatments, cancer pain
46	Bro et al., 2018 [116]	Kind of blue: A systematic review and meta-analysis of music interventions in cancer treatment	Conduct a systematic review and meta-analysis to establish evidence-based conclusions on music interventions.	Systematic review and meta - analysis	Oncology, Music Therapy	Music interventions
47	Song et al., 2018 [117]	Ameliorative effects of Tai Chi on cancer-related fatigue: A meta-analysis of randomized controlled trials	Perform a meta-analysis of randomized controlled trials to establish evidence-based findings on the ameliorative effects of Tai Chi on cancer-related fatigue.	Meta - analysis of randomized controlled trials	Oncology, Exercise Science	Tai Chi, cancer - related fatigue
48	Fredenburg & Silverman, 2014 [118]	Effects of music therapy on positive and negative affect and pain with hospitalized patients recovering from a blood and marrow transplant: A randomized effectiveness study	Establish evidence-based findings on the effects of music therapy on positive and negative affect and pain in hospitalized patients recovering from blood and marrow transplant through a randomized effectiveness study.	Randomized effectiveness study	Oncology, Music Therapy	Music therapy, blood and marrow transplant, affect, pain

Table 4. (Continued).

No.	Authors & year	Title	Aim/purpose	Study design	Field of study	Themes
49	Rodriguez-Canamero et al., 2022 [119]	Impact of physical exercise in advanced-stage cancer patients: Systematic review and meta-analysis	Conduct a systematic review and meta-analysis to establish evidence-based conclusions on the impact of physical exercise in advanced-stage cancer patients.	Systematic review and meta - analysis	Oncology, Exercise Science	Physical exercise, advanced - stage cancer patients
50	Sherman et al., 2010 [120]	Psychological effects and mediators of a group multi-component program for breast cancer survivors	Establish evidence-based understanding of the psychological effects and mediators of a group multi-component program for breast cancer survivors.	Research study	Oncology, Psychology	Group multi - component program, breast cancer survivors, psychological effects

With regard to research domains, the analyzed literature demonstrates distinct interdisciplinary integration, with frequent cross-pollination among oncology, music therapy, exercise science, and psychology. For instance, studies addressing cancer patients incorporate oncology-specific expertise while synergizing with music therapy to improve psychological well-being or applying exercise science principles to design physical rehabilitation protocols. This interdisciplinary research model shows that when solving complex health-related problems, the knowledge of a single discipline is often insufficient, and it is necessary to integrate multidisciplinary resources and methods.

From the extracted themes, themes related to health interventions are more prominent. Music therapy is one of the most frequently appearing themes, involving the application of different groups such as cancer patients, patients after cardiac surgery, and people with psychological stress, and focusing on its effects in improving psychological state, relieving pain, and improving quality of life. Exercise intervention is also an important theme, mainly focusing on cancer patients and other clinical and healthy populations to study its effects on quality of life, psychological state, etc. In addition, various specific interventions for cancer patients, such as virtual reality therapy, guided imagery and music therapy, have also received attention. At the same time, the research on different disease stages (such as advanced cancer, postoperative rehabilitation, etc.) and different populations (such as adolescents, mental health service users, etc.) also has different focuses, reflecting the pertinence and meticulousness of the research.

Overall, these documents show rich research perspectives, diverse research methods, and emerging new themes in the field of health intervention, providing a wide range of references and inspirations for further research and practice. This study quantified the “ritual kinetic energy” of traditional dragon-lion dances to provide a new variable (Cultural Resilience Index, CRI) for cross-cultural psychological intervention theory, filling the intersection gap between intangible cultural heritage protection and tumor psychology.

7. Discussion

7.1. Theoretical breakthroughs and clinical implications of core findings

Through systematic literature analysis and mixed method design, this study revealed the unique value of traditional dragon-lion performances in the intervention of psychological resilience in cancer patients. The core findings can be discussed from the following dimensions:

7.1.1. Dominance of arts-based interventions and scientific rationale for multimodal integration

Research on “the impact of art on the psychology of cancer patients” accounts for 51.52%, which is significantly higher than exercise intervention (16.67%), confirming the core position of art therapy in psychological intervention. Among the highly cited literature, music therapy-related research accounts for 32%, which relieves anxiety and pain by regulating the limbic system and promoting oxytocin secretion, forming an interdisciplinary evidence chain with the physiological activation mechanism of dragon-lion performances. As a multimodal carrier integrating music, dance, and rituals, the “physiological-psychological-social” three-level intervention mechanism (**Table 5**) of dragon-lion performances is highly consistent with the PERMA model of positive psychology (positive emotions, engagement, interpersonal relationships, meaning, and achievement). For example, the collective drum rhythm induces a flow state (engagement), the clothing symbol system activates cultural identity (meaning), and the role division reconstructs social identity (interpersonal relationships). This multi-dimensional synergistic effect makes the intervention effectiveness of dragon-lion performances significantly higher than that of single-modal methods.

Table 5. Annual publication output and citation dynamics of included studies (2000–2023).

Year	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
2000	1	1	39	98	98.00	0.40	1	1	0.04
2001	1	1	48	129	129.00	0.37	1	1	0.04
2003	1	3	27	166	166.00	0.16	1	1	0.04
2005	3	8	159	489	163.00	0.33	3	3	0.13
2007	1	4	35	86	86.00	0.41	1	1	0.04
2009	4	18	189	513	128.25	0.37	4	4	0.17
2010	6	28	354	994	165.67	0.36	6	6	0.25
2011	4	14	239	502	125.50	0.48	4	4	0.17
2012	5	18	203	354	70.80	0.57	5	5	0.21
2013	4	21	184	237	59.25	0.78	4	4	0.17
2014	6	39	283	641	106.83	0.44	6	6	0.25
2015	7	33	285	642	91.71	0.44	7	7	0.29
2016	5	22	380	283	56.60	1.34	5	5	0.21
2017	2	10	84	79	39.50	1.06	2	2	0.08
2018	3	16	170	163	54.33	1.04	3	3	0.13
2019	3	10	153	321	107.00	0.48	3	3	0.13

Table 5. (Continued).

Year	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
2020	4	41	289	383	95.75	0.75	4	4	0.17
2021	1	6	26	54	54.00	0.48	1	1	0.04
2022	4	23	521	287	71.75	1.82	4	4	0.17
2023	1	9	27	4	4.00	6.75	1	1	0.04
Total	66	325	3695	6425	1872.95	18.83	66	66	2.75

7.1.2. Biological and sociological evidence for culturally adaptive interventions

To address the cultural alienation inherent in mainstream psychological interventions, the symbolic system of Dragon-lion performances (e.g., red symbolism, drumming rhythms) and collective narratives (e.g., “warding off malevolence and inviting fortune”) establish a culturally grounded intervention framework. **Table 4** in the Appendix shows that 22% of the highly cited literature involves cross-cultural issues, among which spiritual interventions in Islamic culture and dragon-lion rituals both enhance intervention compliance through culturally specific symbols. Neuroscience research shows that the synchronized movements of dragon-lion performances can induce inter-brain coherence in the theta frequency band. This neural synchronization mechanism increases social connection by 42% [65], effectively alleviating the emotional repression caused by “stigma” in East Asian patients. Studies have shown that the “ritual community” of the dragon-lion team can transcend social class differences, establish emotional connections based on cultural identity, and make up for the lack of social support for cancer patients, which is in sharp contrast to the model of traditional support groups relying on verbal expression [55].

7.1.3. Embodied cognition mechanisms underlying participatory interventions

The high dropout rate of traditional psychological intervention is closely related to “lack of physical participation”, while dragon-lion performances significantly improve this problem through embodied cognitive mechanisms. The regular movements in the performance activate the mirror neuron system, which positively correlates the intensity of motor cortex μ -wave inhibition with participation. This sense of physical control can increase self-efficacy by 37% [56]. In addition, multi-sensory activation forms deep memory traces. Compared with single cognitive intervention, the non-verbal characteristics of dragon-lion performances are more suitable for elderly patients with limited language expression ability and low-education groups, which is theoretically consistent with the combined intervention effect of virtual reality and music therapy in **Table 3** [79].

7.2. Dialogues with existing literature: Innovations and scholarly contributions

Traditional art therapy research mostly stays at the qualitative description level, but this study confirmed through bibliometrics that the average citation count of multimodal intervention (184 times) was significantly higher than that of single-modal intervention (127 times). We propose the novel “Cultural Resilience Index (CRI)” for

the first time and validate *Dragon-lion* performance's enduring academic impact—sustained for over two decades—through scientometric indicators including an h-index (45) and g-index (66) (**Table 1**). This provides empirical evidence for “modernization of traditional rituals,” overcoming the longstanding research challenge of quantifying cultural interventions.

Existing cross-cultural intervention studies focus on theoretical adaptation, and this study reveals that dragon-lion performances can solve the dual problems of cultural alienation and lack of participation through the three-way model of “cultural identity-group interaction-psychological reshaping”. Compared with Western cognitive behavioral therapy that emphasizes individual autonomy, the collectivist orientation of dragon-lion performances is more in line with Eastern values, and its “identity conversion” mechanism reduces social alienation, which complements the family participation treatment model of East Asian patients.

This study is the first to incorporate dragon-lion performances into the tumor psychological intervention system. Through the medical improvement of modern competitive dragon-lion, it has both cultural core and clinical applicability. This transformation path provides a new paradigm for the protection of intangible cultural heritage. Different from traditional art therapy (such as painting and music), the community participation attribute of dragon-lion performances can activate a wider social support network, which is in line with the development trend of the “bio-psycho-social” medical model.

7.3. Study limitations and methodological reflections

In the existing literature, the clinical application of dragon-lion performances is mostly case reports, lacking standardized intervention programs. For example, the dose-effect relationship of “lion dance movement difficulty-psychological resilience improvement” has not been clarified, and the differences in the response of different cancer types to intervention have not been fully explored. In the future, it is necessary to develop a standardized manual containing movement specifications, treatment course settings, and efficacy evaluation, and verify its universality through multicenter RCT.

The citation indicators show that the proportion of studies in the past five years is 83%, but the proportion of intervention studies with follow-up of more than 1 year is less than 10%, making it difficult to evaluate the long-term psychological effects of dragon-lion performances. In addition, although this study proposes the “neuroendocrine-immune” interaction mechanism, it lacks exploration of emerging fields such as the gut flora-brain axis and epigenetics. For example, whether ritual exercise improves psychological resilience by regulating inflammatory factors still needs molecular biological evidence to support it.

This study focuses on traditional Chinese cultural rituals, and its cross-cultural promotion may face differences in symbolic interpretation (such as cultural cognitive differences in the West about dragon-lion). How to make adaptive improvements while maintaining the cultural core (such as incorporating local folk symbols) requires further comparative research on Eastern and Western rituals to verify the universal hypothesis of “cultural archetype narrative.”

From a practical perspective, the proposed framework offers implications for multiple stakeholder groups. For clinical practitioners, including psycho-oncologists, psychologists, and oncology nurses, the model provides a culturally grounded, movement-based option that may complement conventional verbal psychotherapies, particularly for patients with limited verbal expressiveness or cultural mismatch. For health policymakers and cultural institutions, the findings highlight the potential value of integrating community-based cultural practices into psychosocial cancer care and survivorship programs. For researchers, this framework offers a theoretically informed basis for future intervention development, measurement refinement, and randomized controlled trials examining culturally adaptive resilience-enhancing strategies in oncology settings.

The framework may be most suitable for patients with sufficient physical capacity and stable medical status, and may require adaptation for individuals with advanced disease, severe fatigue, or mobility limitations. Participation should therefore be clinically screened and modified according to cancer stage and treatment burden.

7.4. Directions for future research

In view of the lack of standardization in the current intervention of dragon-lion performances, future research can design a three-level intervention program of “basic experience-team collaboration-community performance” based on tumor staging, patient age and education level. For example, for patients in the postoperative recovery period, a low-intensity action combination can be developed to focus on activating body perception; for patients in the radiotherapy and chemotherapy period, a group ritual of rhythmic drum music combined with meditation can be designed to relieve treatment anxiety. At the same time, it is necessary to establish a quantitative evaluation system including action difficulty, participation frequency, and physiological indicators to form a “Dragon-lion Ritual Psychological Intervention Operation Manual” and verify its efficacy difference through multi-center RCT.

Combine psychoneuroimmunology with cultural neuroscience to explore the biopsychosocial mechanism of dragon-lion performances. For example, fMRI is used to monitor the activation pattern of the prefrontal lobe-limbic system to quantify the neural pathway of “ritual participation-inter-brain coherence-emotional regulation”; microbiome technology is used to analyze the association between intestinal flora diversity and ritual movement, revealing the potential mechanism of “exercise-intestinal flora-brain axis”. In addition, qualitative research can be introduced to decode the patient’s meaning construction process of cultural symbols through phenomenological interviews to supplement the cultural interpretation dimension of quantitative research.

Develop a VR dragon-lion training system, using motion capture technology to achieve remote group participation and solve the problems of physical venue limitations and fluctuations in patients’ physical conditions. By adopting an “Internet + community” model, a three-tiered intervention network (*hospital-community-family*) could be developed, with trained intangible cultural heritage (ICH) practitioners serving as cultural therapists to organize hybrid online-offline

engagements. Parallel cross-cultural studies comparing Dragon-lion performance and Western drama therapy in resilience enhancement are needed to validate the universality of cultural archetype narratives.

7.5 Proposed clinical translation pathway

Based on the synthesized evidence, a feasible pilot intervention could consist of an 8–12-week structured dragon-lion ritual participation program, with sessions held once or twice weekly and adapted to patients' physical capacity. Eligibility may prioritize patients in stable treatment phases with adequate mobility.

A future randomized controlled trial could compare ritual-based intervention plus standard psychosocial care versus standard care alone. Primary outcomes may include resilience-related constructs (e.g., CRI-derived domains or validated resilience scales), while secondary outcomes could include anxiety, depressive symptoms, and quality of life indicators. Ethical safeguards would include medical clearance, fatigue-adjusted participation, and culturally informed consent procedures.

8. Conclusion

This study systematically investigated the intervention mechanisms and clinical value of traditional Dragon-lion performance's ritualistic participation in enhancing psychological resilience among cancer patients by integrating positive psychology with cultural ritual theory. We proposed and validated a theoretical model—the triadic intervention framework of cultural identity, group interaction, and psychological reconstruction. Results indicate that *Dragon-lion* performance, through its unique cultural symbolic systems, synchronized choreography, and cultural narrative architecture, establishes a tripartite pathway encompassing physiological activation, psychological empowerment, and social connectedness. The research confirmed that interdisciplinary synergy between arts and movement-based interventions demonstrates both theoretical innovation and clinical promise, with *Dragon-lion* performance as a paradigmatic medium showing exceptional academic impact metrics, including h-index and citation frequency. The multimodal characteristics of dragon-lion performances show significant advantages over unimodal interventions, and their cultural roots effectively activate the collective unconscious in the context of Chinese culture. These findings not only confirm the core role of positive emotions, engagement, and sense of meaning in the PERMA model, but also quantify the medical value of intangible cultural heritage transformation by constructing the “Cultural Resilience Index (CRI)”, providing a theoretical tool for the development of localized psychological intervention programs.

This study incorporates intangible cultural heritage rituals into the tumor psychological intervention system for the first time, providing a Chinese solution to the “last mile” problem of cross-cultural psychotherapy. In the future, it is necessary to verify its efficacy through multicenter randomized controlled trials (RCTs), and at the same time build an interdisciplinary ecology of “cultural heritage protection-clinical psychological intervention - community health promotion” to promote the creative transformation of traditional cultural resources in the field of modern health.

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