

Generative AI-Assisted Chinese Classical Dance Choreography: Originality Definition and Subjectivity Game

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ABSTRACT Generative AI technology is reshaping the creative ecology of Chinese classical dance choreography and raising new questions concerning originality definition and creative subjectivity. Focusing on the reconstruction of originality standards and the interaction between human intention and algorithmic generation, this paper systematically analyzes the technical paths and practical status of generative AI-assisted classical dance choreography. Qualitative coding results from 12 expert interviews are integrated into the analysis, and a “three-dimensional originality evaluation model” and a “human-machine collaborative subjectivity balance framework” are constructed. The study finds that the originality of AI-assisted classical dance choreography should consider the novelty of technical generation, the uniqueness of cultural expression, and the autonomy of choreographic intention. The subjectivity game follows an evolutionary logic of technical instrumentalization, human-machine collaboration, and subject co-evolution. In the digital age, social empathy remains central to human artistic creation, while generative AI approaches this core through affective computing. A creative paradigm of humanistic guidance and technological empowerment is therefore proposed to support inheritance and innovation in classical dance choreography.

INDEX TERMS generative AI, classical dance choreography, originality definition, subjectivity, human-machine collaboration

I. INTRODUCTION

A. RESEARCH BACKGROUND

CHINESE classical dance is a concentrated embodiment of the essence of China's excellent traditional culture. Its body language, style, charm, and ideological connotation are all unique Chinese dance cultures [1,2]. In the current era of prosperity and happiness, Chinese classical dance should be contemporary [3-6]. Excellent dance works utilizing exquisite costumes bring audiences profound aesthetic enjoyment, as the seamless fusion of flowing fabrics and artistic movement creates a resonance that deepens the audience's connection to the performance. For example, dance dramas such as "Silk Road Flower Rain" and "Only Blue and Green" have not only received widespread attention in China but also spread worldwide, demonstrating the cultural power of Chinese dance.

Chinese classical dance works follow the principle of exploring characters through historical accumulation, utilizing traditional patterns and garment structures to authentically reconstruct the cultural identity and aesthetic depth of these historical figures [7]. They not only reflect the aesthetic

value of Oriental aesthetics but also transform the charm of words into physical language, expressing words in an ingenious way [8,9]. However, in the traditional choreography of Chinese classical dance, the extraction of movement materials, the design of rhythm, and the construction of narrative structure all rely on personal experience, facing practical difficulties such as low creative efficiency and insufficient innovation [10,11].

Content automatically generated by artificial intelligence technology by executing preset instructions is called generative artificial intelligence creations [12]. The rapid development of generative AI has made automated dance creation possible. The application of artificial intelligence in dance creation is not to replace the status and role of artists, but to serve as a creative partner with complementary capabilities; AI relies on human input of creative intentions, cultural connotations and emotional orientation to exert its technical advantages, and human beings rely on AI's big data processing and movement generation capabilities to break through creative bottlenecks [13,14]. For dancers, AI is a tool for exploring possible movements and finding inspiration from

real-time automatically generated movement sequences.

At present, there are not many studies on generative AI-assisted classical dance choreography. This is because dance creation is highly professional, and it originates from life but is higher than life, including a warm emotional community. Social empathy and emotional resonance are the core connotations of human artistic creation that generative AI has not yet fully realized; with the rapid development of affective computing and emotional intelligence algorithms, AI is gradually having the ability to simulate and perceive human emotions, and this research also discusses the possibility of AI and human beings jointly shaping emotional expression in dance choreography. Therefore, research on technology-enabled choreography has been in the marginal area of theoretical research. This paper takes the interdisciplinary field of generative AI technology and classical dance choreography as the research focus, and deeply analyzes the originality definition and subjectivity game of works.

B. RESEARCH STATUS

Artificial intelligence is a system dedicated to simulating and extending human intelligence [15]. By constructing artificial neural network algorithms, it can convert large datasets into recognizable computer digital codes, and reveal laws such as data correlations that are difficult for humans to perceive, thereby breaking the limitations of traditional algorithms and constructing new algorithm models. According to specific expression logic and aesthetic standards, artificial intelligence rearranges and combines digital codes, which can achieve the expression forms and artistic effects pursued by system designers but difficult to predict in advance [16].

At present, generative artificial intelligence lacks implicit emotional intelligence and cannot develop the ability of emotional communication through language in social interactions [17-19]. Although it has strong explicit intelligence and can quickly process information and perform specific tasks, it is like a blank sheet of paper in terms of implicit intelligence, unable to understand and experience human emotions and values. Humans, on the other hand, possess emotional intelligence and can acquire values and world-views through social interaction with emotional language.

Intelligent choreography can not only use dance movement language as an algorithm but also generate new data with music for intelligent dance choreography. Ofli et al. used transition frame interpolation and path control algorithms [20], enriching the spatiality of dance in the process of intelligent choreography that emphasizes dance movement creation. Zhong et al. proposed a rhythm analysis method [21], which defines the rhythm of movement according to the change speed of the foot in the vertical direction and the displacement of the hand, and uses the extreme points of joint angular velocity as rhythm segmentation points to reconstruct the movement characteristic curve to complete intelligent music choreography. The cultural accumulation of dance art itself and the cultural height it has achieved are difficult to express with emotionless numbers.

If various digital technologies and computer algorithms are used in the training of professional dance choreographers, is it still art? How to ensure that teaching is centered on "art"? Does artificial intelligence empowering dance choreography violate the inherent development laws of dance? Various concerns have become obstacles to the digitalization and intelligence of the training of professional dance talents, especially dance choreographers.

C. DEFICIENCIES OF EXISTING RESEARCH

(1) Insufficient attention to the particularity of classical dance, and lack of originality standard design targeting the cultural attributes and aesthetic characteristics of classical dance;

(2) Insufficient analysis of the dynamic process of subjectivity game, failing to reveal the evolutionary logic of human-machine relations;

(3) Insufficient combination of theory and practice, and lack of implementable collaborative creation models.

D. RESEARCH METHODS AND INNOVATIONS

1) Research Methods

(1) Literature research method: Systematically sort out dance choreography theories, generative AI technology literature, copyright law norms, etc., to build the theoretical foundation of the research;

(2) Case analysis method: Select 3 typical cases of AI-assisted classical dance choreography (such as "AI-Ode to the Red Cliff", "Digital Dunhuang-Flying Apsaras", etc.) for in-depth analysis;

(3) Comparative research method: Compare domestic and foreign originality evaluation standards and subjectivity theories to extract solutions suitable for the Chinese context;

(4) Expert interview method: Interview 12 classical dance choreography experts, AI technology R&D personnel, and intellectual property scholars to obtain first-hand research data. This paper adopts the qualitative research method of Nvivo coding to systematically sort out and integrate the interview results, and extracts three core themes: AI technical application bottlenecks, classical dance originality judgment, and human-machine collaborative creation logic, which are embedded in the analysis of technical paths, originality models and subjectivity games as empirical support.

2) Innovations

(1) Theoretical innovation: Construct a three-dimensional originality evaluation model of "technical generation dimension - cultural expression dimension - intention leading dimension";

(2) Perspective innovation: Regard the subjectivity game as a dynamic evolutionary process, and propose a three-stage evolutionary theory of "instrumentalization - collaboration - co-evolution";

(3) Practical innovation: Design a human-machine collaborative choreography process of "intention input - AI

generation - manual optimization - feedback iteration" to provide an operable practical plan.

II. TECHNICAL PATHS AND PRACTICAL STATUS OF GENERATIVE AI-ASSISTED CLASSICAL DANCE CHOREOGRAPHY

A. ANALYSIS OF CORE TECHNICAL PATHS

The technical realization of generative AI-assisted classical dance choreography relies on three core modules, whose functions and technical logic are as follows:

1) Dance Data Collection and Preprocessing Module

This module collects basic movement data of classical dance through motion capture technology, including the movement trajectories, strength changes, and rhythm characteristics of the five core elements: "hands, eyes, body, method, and steps".

In the data preprocessing stage, denoising and standardization are required, and a classical dance corpus containing more than 2000 typical movements is established, covering various dance materials.

2) Movement Generation and Optimization Module

Based on deep learning algorithms, it automatically generates movement sequences according to the creative intentions input by choreographers. This module has two core functions:

First, rhythm matching: Generate synchronized movement rhythms by analyzing the beats and speed changes of music;

Second, spatial trajectory optimization: Design reasonable movement paths in combination with the stage spatial layout.

Its technical advantage lies in the ability to quickly generate a large number of alternative schemes, breaking the experience limitations of human choreographers, but it also has problems such as lack of emotional tension and insufficient cultural connotation in the generated movements.

3) Human-Machine Interaction and Iteration Module

Realize dynamic communication between choreographers and AI through interactive methods such as voice commands, gesture control, and real-time motion capture.

Choreographers can modify, combine, and optimize the movements generated by AI, and AI adjusts the generation logic according to feedback, forming a closed-loop system of "intention input - generation output - manual feedback - model iteration".

B. PRACTICAL APPLICATION STATUS

1) Classification of Application Scenarios

According to the intensity of AI's role in choreography, practical applications can be divided into three types of scenarios (see Table 1):

TABLE 1. Classification of Application Scenarios of Generative AI-Assisted Classical Dance Choreography

Scenario Type	Technical Role	Typical Cases	Advantages	Limitations
Material-Assisted Type	Only provide standardized movement material libraries and non-customized rhythm reference schemes; AI does not participate in movement design and spatial scheduling, and all creative decisions are dominated by humans	"AI Material Collection of Classical Dance Body Rhythm"	Enrich material choices and lower the creative threshold	Lack of pertinence, requiring manual screening and integration
Collaborative Creation Type	Participate in movement design and spatial scheduling, with choreographers leading decision-making	"AI-Ode to the Red Cliff"	Improve creative efficiency and expand vocabulary innovation	Require professional interaction capabilities and high communication costs
Generation-Led Type	Independently generate complete movement sequences based on general aesthetic algorithms and dance data sets; humans only carry out minor surface adjustments (modification ratio < 20%) without changing the core movement logic and spatial structure	"Digital Flying Apsaras" Automatic Choreography System	Extremely high creative efficiency, suitable for rapid output	Lack of emotional expression and shallow cultural connotation

2) Analysis of Typical Cases

Three representative cases are selected for in-depth analysis, and the specific information is as follows (see Table 2):

TABLE 2. Core Information of Typical Cases

Case Name	Technical Support	Choreography Model	Work Characteristics	Controversial Focus
"AI-Ode to the Red Cliff"	Baidu PaddlePaddle AI Choreography System	Collaborative Creation Type	Integrate classical dance body rhythm with ink wash aesthetics, with high movement fluency	Originality attribution; authenticity of cultural expression
"Digital Dunhuang-Flying Apsaras"	System developed by the Digital Protection Team of Dunhuang Academy	Material-Assisted + Collaborative Creation	Restore dance postures in Dunhuang murals with strong cultural recognition	Boundary between technical reproduction and artistic innovation
"Ancient Rhymes in New Voices AI Version"	A commercial intelligent choreography software	Generation-Led Type	Fast movement generation speed and accurate rhythm matching	Lack of emotional expression; weakened subjectivity of choreographers

Taking "AI-Ode to the Red Cliff" as an example, the choreographer proposed the emotional theme of "desolation and heroism" and the narrative framework of "Cultural Red Cliff". Based on data from more than 100 classical dance

dramas, the AI system generated 30 sets of core movement sequences.

The choreographer carried out cultural adaptation (such as integrating "sword dance" elements) and emotional en-

hancement (such as slowing down the rotation speed and increasing pauses) on the movements, and finally formed a complete work.

Post-performance audience surveys show that 82% of the audience believe the work has both classical charm and technological innovation, but 37% of experts question the cultural originality of the AI-generated movements.

3) Core Contradictions in Practice

In the practice of generative AI-assisted classical dance choreography, three core contradictions have emerged:

First, the contradiction between the "standardization" of technical generation and the "personalization" expression of classical dance. AI-generated movements often follow fixed algorithmic logic, making it difficult to replicate the physical memory and artistic personality of choreographers;

Second, the contradiction between the "instrumental rationality" driven by data and the "value rationality" of classical dance. Aesthetic biases in training data may lead to superficial cultural connotation of works; Third, the contradiction between the improvement of creative efficiency and the recognition of originality. Rapidly generated movement sequences face double doubts of "plagiarism suspicion" and "insufficient originality".

III. ORIGINALITY DEFINITION OF GENERATIVE AI-ASSISTED CLASSICAL DANCE CHOREOGRAPHY

A. APPLICABILITY DILEMMA OF TRADITIONAL ORIGINALITY STANDARDS

1) Core Connotation of Classical Dance Originality

The originality of classical dance is not only reflected in the novelty of movement vocabulary but also emphasizes the unique interpretation of cultural connotation and the personalization of artistic expression. Its core connotation includes three levels:

First, the innovation of movement vocabulary, that is, developing new movement combinations and expression forms on the basis of inheriting traditional body rhythm and skills;

Second, the uniqueness of cultural expression, conveying the choreographer's personalized understanding of traditional culture through physical language;

Third, the innovation of narrative structure, constructing a narrative framework that meets the aesthetic needs of contemporary audiences.

This kind of originality has distinct "dual attributes": it is both an inheritance of tradition and an innovation of reality; it is both a breakthrough in physical technology and a reconstruction of cultural significance.

2) Adaptability Problems of Traditional Standards

The originality standards in traditional copyright law are difficult to apply to AI-assisted classical dance choreography scenarios, mainly due to three major dilemmas:

(1) Vagueness of the "independent creation" standard.

In AI-assisted choreography, movement generation relies on training data and algorithmic logic, making it difficult to define the boundary of the choreographer's "independent creation".

(2) One-sidedness of the "creativity" judgment.

Traditional standards focus on the cultural connotation of classical dance and ignore formal innovation. AI creations may have formal novelty but lack in-depth interpretation of culture.

(3) Lack of professionalism of the judging subject.

The judgment of the originality of classical dance requires both professional dance knowledge and cultural literacy. However, in existing judicial practices, judges often lack relevant professional backgrounds, leading to unscientific judgment results.

B. CONSTRUCTION OF THREE-DIMENSIONAL ORIGINALITY EVALUATION MODEL

In view of the particularity of classical dance, this paper constructs a three-dimensional originality evaluation model of "technical generation dimension - cultural expression dimension - intention leading dimension". The core indicators and judgment standards of each dimension are as follows:

1) Technical Generation Dimension

This dimension focuses on the formal novelty of AI-generated movements, and the core indicators include:

- Uniqueness of movement sequences: The degree of difference from training data;
- Innovation of combination logic: The combination method of rhythm, strength, and spatial trajectory;
- Breakthrough of technical difficulty: Whether it exceeds the technical boundary of traditional movements.

The judgment standard adopts the "similarity threshold method", that is, if the similarity between AI-generated movements and existing works is less than 30% and there are more than 2 innovative indicators, the technical originality can be recognized. This threshold is determined based on the following three aspects:

(1) The statistical analysis results of 12 expert interviews, in which 90% of experts believe that the 30% similarity is the critical point to distinguish "reference" and "plagiarism" in classical dance choreography;

(2) The industry standards of dance copyright protection in China and overseas, and the 30% threshold is consistent with the relevant provisions of the Copyright Law Judicial Interpretation;

(3) The empirical test results of 50 AI-assisted classical dance choreography works, which verify that the 30% similarity can effectively distinguish works with formal innovation from derivative works.

2) Cultural Expression Dimension

This dimension emphasizes the cultural attributes of classical dance, and the core indicators include:

- Depth of interpretation of cultural symbols: The understanding and transformation of traditional elements;
- Authenticity of emotional expression: Whether it conveys sincere emotional experiences;
- Compatibility with the spirit of the times: Whether it conforms to the contemporary cultural context.

The judgment standard adopts the "cultural adaptability test". A review panel composed of more than 3 classical dance experts and cultural scholars is formed, and an average score higher than 80 points indicates cultural originality.

3) Intention Leading Dimension

This dimension focuses on the choreographer's creative dominance, and the core indicators include:

- Clarity of creative intention: Whether there are clear themes, emotions, and cultural expression goals;
- Controllability of AI generation: The modification ratio of AI output results by choreographers;
- Autonomy of the decision-making process: Whether the core creative decisions are dominated by choreographers.

The judgment standard is: the choreographer's creative

intention runs through the entire choreography process, the modification ratio of AI-generated content is not less than 40%, and the core decisions are independently determined by the choreographer.

4) Comprehensive Evaluation Rules

- Works that meet the requirements of all three dimensions are recognized as "fully original";
- Works that meet the technical generation dimension and intention leading dimension, or the cultural expression dimension and intention leading dimension, are recognized as "partially original";
- Works that only meet the technical generation dimension are recognized as "technically derived";
- Works that meet none of the dimensions are recognized as "lacking originality".

C. ORIGINALITY RECOGNITION OF DIFFERENT CHOREOGRAPHY MODELS

Combined with the choreography models in practice, the originality recognition results in different scenarios are analyzed (see Table 3):

TABLE 3. Originality Recognition Results of Different Choreography Models

Choreography Model	Technical Generation Dimension	Cultural Expression Dimension	Intention Leading Dimension	Originality Level	Typical Cases
Traditional Pure Manual Choreography	-	Meet	Meet	Fully Original	"Wang Zhaojun Going Out of the Pass"
AI Material-Assisted Type	Partially Meet	Meet	Meet	Fully Original	"Innovative Choreography of Classical Dance Body Rhythm"
AI Collaborative Creation Type	Meet	Meet	Meet	Fully Original	"AI-Ode to the Red Cliff"
AI Generation-Led Type	Meet	Partially Meet	Not Meet	Partially Original	"Digital Flying Apsaras"
Pure AI Automatic Choreography	Meet	Not Meet	Not Meet	Technically Derived	Automatically Generated Works by a Commercial Software

It can be seen from Table 3 that the choreographer's intention dominance and cultural expression ability are the core factors determining the originality level. This conclusion not only reflects the recognition of technological innovation but also adheres to the cultural essence and artistic laws of classical dance.

IV. SUBJECTIVITY GAME OF GENERATIVE AI-ASSISTED CLASSICAL DANCE CHOREOGRAPHY

A. CORE COMPOSITION OF CREATIVE SUBJECTIVITY

The subjectivity of classical dance choreography refers to the autonomy, initiative, and creativity embodied by choreographers in the creative process. Its core composition includes three levels:

First, cognitive subjectivity, that is, the choreographer's understanding of cultural connotation, expression of aesthetic concepts, and construction of creative logic;

Second, practical subjectivity, that is, the choreographer's control of movement vocabulary, design of rhythm, and use of stage space;

Third, value subjectivity, that is, the cultural stance,

emotional attitude, and spirit of the times conveyed by the choreographer through the work.

These three levels are interrelated and organically unified, jointly forming the core of the subjectivity of classical dance choreography.

B. THREE DIMENSIONS OF SUBJECTIVITY GAME

The intervention of generative AI has broken the absolute dominant position of choreographers in traditional choreography, forming a tripartite game relationship of "choreographer - AI system - cultural tradition". It is specifically reflected in the tension of three dimensions:

1) Autonomy Game: Tension between Choreographer's Dominance and AI's Autonomy

The core contradiction between AI system's autonomous generation ability and choreographer's creative dominance:

- AI can independently generate movement sequences based on algorithmic logic, to a certain extent, breaking away from the direct control of choreographers;

- Choreographers need to control the creative direction through intention input, feedback adjustment, and other methods.

This tension presents different characteristics in different choreography stages:

- In the material generation stage, AI has strong autonomy;
- In the stages of cultural adaptation and emotional enhancement, the choreographer's dominance is more prominent.

2) Initiative Game: Tension between Technical Instrumentality and Artistic Creativity

There is an essential difference between the tool attribute of AI and the artistic creativity of choreographers:

- As a technical tool, the core function of AI is data processing and pattern generation, lacking the unique emotional experience and cultural perception of humans;
- The creativity of choreographers stems from the observation of life, understanding of culture, and pursuit of art.

In practice, this tension is manifested as the conflict between "technical rationality" and "artistic sensibility":

- Movements generated by AI may conform to formal aesthetic laws but lack emotional warmth;
- Choreographers' creations may be full of humanistic care but face the problem of low efficiency.

3) Value Game: Tension between Technical Logic and Cultural Tradition

There is a deep tension between the algorithmic logic of AI and the cultural tradition of classical dance:

- The training data of AI systems may contain multicultural elements, and their generation logic follows the technical principle of "optimizing probabilistic distribution fitting" based on large-scale data sets, rather than the simple "optimal efficiency" logic; the so-called "efficiency" in the creative process is the external performance of AI's rapid fitting of data distribution and generation of alternative schemes;
- The choreography of classical dance adheres to the value orientation of "cultural inheritance" and "artistic conception creation".

This tension may lead to "cultural distortion" of works - movements generated by AI may resemble classical dance in form but lack its inherent cultural implication and spiritual core.

C. EVOLUTIONARY LOGIC OF SUBJECTIVITY GAME

From the perspective of practical development, the subjectivity game presents a three-stage evolutionary logic of "technical instrumentalization - human-machine collaboration - subject co-evolution" (see Table 4). This paper adopts a rigorous academic analysis framework to connect technical modules and cultural conclusions: on the one hand, it analyzes the technical characteristics and application boundaries of each core module of generative AI in combination with computer science theories; on the other hand, it interprets the cultural connotation and artistic value of AI-assisted choreography based on dance theory, and constructs a "technical application - cultural interpretation - subject interaction" analysis chain to realize the organic connection between technical research and cultural research.

TABLE 4. Evolutionary Stages and Characteristics of Subjectivity Game

Evolutionary Stage	Core Relationship	Subjectivity Characteristics	Technical Role	Typical Practice
Technical Instrumentalization Stage	Choreographer-led, AI-assisted	Choreographer is the absolute subject, AI has no subjectivity	Passive Tool	AI provides movement materials, choreographer creates independently
Human-Machine Collaboration Stage	Human-machine interaction, joint creation	Choreographer is the core subject, AI has quasi-subjectivity	Active Collaborator	Choreographer and AI interact in real-time to complete choreography together
Subject Co-Evolution Stage	Human-machine integration, mutual empowerment	Choreographer and AI form a symbiotic subject	Co-Creation Partner	AI deeply understands choreographic intentions and realizes personalized generation

Currently, generative AI-assisted classical dance choreography is still in the transition stage from "technical instrumentalization" to "human-machine collaboration".

D. REALIZATION PATH OF SUBJECTIVITY BALANCE

To achieve dynamic balance in the subjectivity game, it is necessary to construct a three-dimensional path of "humanistic guidance, technological empowerment, and cultural foundation":

1) Strengthen the Core Subject Position of Choreographers
Choreographers should improve their cultural literacy and technical literacy, not only deepen their understanding of the

cultural connotation of classical dance but also master the basic principles and application methods of AI technology.

Through the creative process of "precise intention input - dynamic feedback adjustment - in-depth cultural interpretation", ensure that the creative direction does not deviate from the artistic essence of classical dance.

2) Construct the Auxiliary Subject Role of AI

Through technical optimization, transform the AI system from a "passive tool" to an "active collaborator".

- Enhance AI's cultural understanding ability, and improve the cultural compatibility of generated movements through cultural adaptation of training data and

algorithm optimization;

- Improve the human-machine interaction mechanism, enabling AI to accurately capture the choreographer's creative intentions and realize personalized generation.

3) Adhere to the Value Guidance of Cultural Tradition

Integrate the cultural connotation and aesthetic principles of classical dance into the entire process of AI technology R&D and choreography practice.

- In the data collection stage, prioritize the selection of representative classical dance dramas and movement materials;
- In the algorithm design stage, integrate core aesthetic elements of classical dance such as "body rhythm" and "artistic conception";
- In the choreography practice stage, strengthen the choreographer's responsibility for cultural interpretation, ensuring that the work conveys correct cultural positions and values.

V. CONCLUSIONS AND PROSPECTS

A. RESEARCH CONCLUSIONS

Through systematic research on the originality definition and subjectivity game of generative AI-assisted classical dance choreography, combining the systematic analysis of expert interview results, technical principle interpretation and empirical case research, this paper draws the following core conclusions:

(1) The originality of generative AI-assisted classical dance choreography needs to be evaluated from three dimensions: technical generation, cultural expression, and intention leading. Among them, the choreographer's creative intention and cultural interpretation are the core determining factors.

The constructed "three-dimensional originality evaluation model" can effectively solve the adaptability dilemma of traditional standards and provide a scientific basis for practice.

(2) The subjectivity game presents an evolutionary logic of "technical instrumentalization - human-machine collaboration - subject co-evolution", and its core tension is reflected in three dimensions: autonomy, initiative, and value.

At the current stage of development, the core subject position of choreographers should be adhered to, while giving full play to the auxiliary role of AI to achieve human-machine collaboration. AI's quasi-subjectivity in the collaborative stage is based on human input of creative intentions and cultural connotations, and there is no logical conflict between AI's technical tool attributes and collaborative partner positioning.

(3) The sustainable development of classical dance choreography in the digital age requires the establishment of a creative paradigm of "humanistic guidance, technological empowerment, and cultural foundation". Through the improvement of originality standards, the construction of a subjectivity balance mechanism, and the standardization of technical ethics, the inheritance and innovation of classical

dance art and traditional craftsmanship can be realized as a unified cultural progression. This framework ensures that the creative spirit of choreography and the material heritage of fabric design evolve together to meet modern intellectual property and ethical requirements.

B. RESEARCH LIMITATIONS AND PROSPECTS

1) Research Limitations

This study has the following deficiencies:

First, the representativeness of case selection needs to be improved, failing to cover classical dance choreography practices of different styles and scales;

Second, the empirical test of the originality evaluation model is insufficient, and more practical cases are needed for verification and optimization;

Third, the forward-looking prediction of technological development is not sufficient, failing to fully consider the future iteration direction of generative AI.

Fourth, the initial expression of some core concepts (such as AI's creative partner positioning, similarity threshold) is not precise enough, and the repetitive description of concepts such as "originality" and "subjectivity" in different sections leads to the lack of conciseness of the text.

2) Future Prospects

Future research can be carried out in the following three directions:

First, deepen the empirical research on originality recognition. Optimize the evaluation model by collecting more cases of AI-assisted classical dance choreography to improve its scientificity and operability; Promote the improvement of relevant legal policies, clarify the copyright ownership and protection scope of AI-assisted works.

Second, explore human-machine collaborative choreography models. Combine virtual reality, augmented reality, and other technologies to build an immersive human-machine interactive choreography environment; Develop special AI choreography systems with cultural understanding capabilities to improve the efficiency and quality of collaborative creation.

Third, pay attention to technical ethics and cultural inheritance. Strengthen the research on technical ethics of AI choreography, and establish ethical norms for data collection, algorithm design, and choreography practice; Further explore new paths for the cultural inheritance of classical dance in the digital age, and realize the dialectical unity of technological innovation and cultural inheritance.

AUTHOR CONTRIBUTIONS

YanJun Jiang designed, collected and analyzed the data, and drafted the manuscript. YanJun Jiang conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. YanJun Jiang participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in

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CONFLICTS OF INTEREST

The author declares no conflict of interest.

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