RESEARCH ARTICLE

The public image perception of Quanzhou Nanyin from a social psychology perspective: An analysis based on data from the Tiktok platform

Mingsheng Lin[*]

Art department,International College, Krirk University,Bangkok,Thailand

* Corresponding author: Mingsheng Lin, misealin1982@gmail.com

ABSTRACT

The rapid development of social media has brought new communication channels for Quanzhou Nan Yin while also posing numerous challenges.This study explores the intrinsic mechanism of the public's perception of Quanzhou Nanyin's image from a social psychology perspective. This study selected the comment data of the 10 Quanzhou Nanyin videos with the most likes on the Tiktok platform as the research object, and using the crawler tool collected a total of 6,372 comments from the audience .Then using the Micro Word Cloud text analysis tool to analysis word frequency statistics and sentiment analysis of the comment data and reveal the public's attitudes and emotional tendencies towards Quanzhou Nanyin.The analysis results show that Quanzhou Nanyin is still concerned by many hobby groups on the Tiktok platform. The high frequency of words such as "pleasant hear" and "like" indicates that the public has a strong emotional identification with Quanzhou Nanyin. However, the analysis results also show that there are some obstacles for the audience to understand the content of Quanzhou Nanyin, and there are negative emotional feedbacks.Through the theory of social identity and emotional contagion, the study examined how public perception affects the further spread of Quanzhou Nanyin. It is suggested that in the process of protecting the most fundamental values of culture, design more interactive and educational communication methods, stimulate positive emotions among the public, shape public attitudes, and ensure the continuous dissemination of Quanzhou Nanyin in the era of social media.

Keywords: Quanzhou Nanyin; intangible cultural heritage; social media; image perception

1. Introduction

Chinese culture is the enduring value of Chinese civilization for five thousand years. Over the years, it has always been highly valued by national leaders and the government. And repeatedly emphasized: "The fine traditional Chinese culture is the crystallization and essence of the wisdom of Chinese civilization, the root and soul of the Chinese nation, and the foundation for China to stand firm in the world's cultural turmoil." From this, it can be seen that for a nation to stand firm, take root and have a lasting soul in the tide of history, ultimately, it is necessary to firmly uphold cultural confidence. Culture is the crystallization of human spiritual and material life and its creative process, and music, as an important component of culture,

carries unique value[1]. In the course of historical changes, music is not only an artistic expression of human emotions and thoughts, but also a form of language record that transcends time and space. Quanzhou Nanyin is a form of music that has developed and nurtured in the unique ecosystem of Minnan culture. As a pearl in the treasure house of traditional Chinese culture and art, it is deeply rooted in the soil of Minnan culture and possesses a long history and unique artistic charm. It originated in the Tang Dynasty and flourished in the Song Dynasty. It is one of the living fossils of ancient Chinese music and is hailed as "a treasure in the history of Chinese music"[2]. Nanyin, which originated from Quanzhou, Fujian Province, is known in the academic circle as "a living fossil in the history of Chinese music"[3]. Its musical forms are diverse, including solo singing, ensemble singing, and instrumental performances, with main instruments such as the pipa, dongxiao, and erxian. During performances, it is accompanied by beautiful singing, showcasing unique regional customs and profound cultural heritage.

However, in the rapid development process of modern society, the diversification of entertainment methods and the impact of fast-paced life have led to an increasing number of people's understanding of Quanzhou Nanyin gradually decreasing, and the inheritance and development of Quanzhou Nanyin are facing severe tests[4]. At present, the audience of Quanzhou Nanyin mainly consists of the elderly generation, while the younger generation pays less attention to it, resulting in a gap in its inheritance[5]. The endangered status of intangible cultural heritage is actually a crisis of cultural identity. Once a crisis of cultural identity occurs, intangible cultural heritage will lose its meaning of existence, leading to problems such as difficulties in inheritance, tight funds and a decline in status. To truly protect intangible cultural heritage, another key element lies in not being confined to traditional research methods, but rather in integrating fashionable, youthful and technological communication concepts and inheritance approaches[6]. In recent years, short videos have become an irreplaceable recording medium in people's lives. Huang Chuxin pointed out that long and short videos have shown a trend of integrated development in the competition, and "short videos + live streaming" has become a popular form of communication. Mainstream media are making strong moves to lay out short videos, and the social value of short videos in the deep integration of media is increasingly prominent[7]. Many Nanyin enthusiasts, artists and cultural institutions have been Posting content related to Quanzhou Nanyin on Douyin, including performance videos, teaching tutorials and event information, which has attracted a large number of users' attention and participation. According to the report, 99.74% of the short videos on Douyin cover national-level intangible cultural heritage projects, with a total of 372.6 billion video views and a total of 9.4 billion likes[8].

Cultural identity is the deepest form of identity and the root of ethnic unity and the soul of ethnic harmony. The key factor in promoting the protection and inheritance of intangible cultural heritage is to establish, highlight and share Chinese cultural symbols and the image of the Chinese nation. The emotional tendency of netizens towards Quanzhou Nanyin can reflect their cultural identification with it, and the longer-lasting emotional state can be contagious through the Internet[9]. After consulting and researching various forms of Internet platforms such as social media, online music platforms, and video websites, it is not difficult to find that the public's cognition, evaluation, and acceptance of Quanzhou Nanyin all present diverse characteristics.

However, at present, there are relatively few studies on the public's views and attitudes towards Quanzhou Nanyin on Internet platforms. Understanding the public's perception, preferences and existing misunderstandings of Quanzhou Nanyin is of great significance for the inheritance and development of Quanzhou Nanyin. Therefore, this study aims to deeply explore the public's views and attitudes towards Quanzhou Nanyin on the Internet platform. By collecting and analyzing relevant data, it reveals the current cognitive status, preference tendencies, and existing misunderstandings or prejudices of the public towards

this traditional art form. The goal of this research is to provide valuable reference basis for the inheritance and development of Quanzhou Nanyin in the new era. On the one hand, it helps Nanyin art better adapt to the Internet communication environment and optimize its display and promotion methods on the online platform. On the other hand, it is also hoped that it can promote the public's in-depth understanding and recognition of Quanzhou Nanyin, an intangible cultural heritage, enhance its influence and vitality in modern society, and thus contribute to the protection and inheritance of traditional culture.

2. Research background

In China, the protection and inheritance of intangible cultural heritage have drawn great attention from the state, and relevant policies and regulations have been successively introduced. For instance, in 2011, China implemented the "Law of the People's Republic of China on Intangible Cultural Heritage", which put forward a series of specific requirements and measures for the protection and inheritance of intangible cultural heritage. In addition, China has established intangible cultural heritage protection centers to provide support and guidance for the protection and inheritance of intangible cultural heritage. In the academic circle, research on intangible cultural heritage is also very active. Scholars explore the protection, inheritance and utilization of intangible cultural heritage from different perspectives. For instance, some scholars focus on the value and significance of intangible cultural heritage and study its influence in aspects such as culture, history and society[10]. Some scholars focus on the protection and inheritance methods of intangible cultural heritage, and study how to pass it on to the next generation. Some scholars also focus on the innovation and development of intangible cultural heritage, studying how to integrate it with modern society to create more cultural and economic value.

2.1. A review of Quanzhou Nanyin research

A Review of Quanzhou Nanyin Research \ n \ has one of the intangible cultural heritages with Fujian Province's characteristics and representing the ancient charm of Fujian, Quanzhou Nanyin is a "complex of the essence of multiple cultures"[11], and it also holds a unique historical status and cultural role. Quanzhou Nanyin, influenced by Minnan culture, is destined to be rich in the distinct characteristics of the Minnan region, which can be clearly seen from the language of its singing. It is not only Minnan culture, but also a precious product of traditional Chinese culture. In 2009, Quanzhou Nanyin was listed as a World Intangible Cultural Heritage by UNESCO (2009).

From the perspective of the research history of Nanyin, it can be traced back to the Ming and Qing dynasties. Subsequently, many scholars and Nanyin practitioners have conducted relatively detailed and serious research on Nanyin, covering various aspects such as Nanyin folk art, Nanyin performance, physical Nanyin (music scores, Musical Instruments, etc.), and the history of Nanyin. Entering the 21st century, the successful application for World Heritage status has brought Quanzhou Nanyin from musicology into the sociological field of vision. At the same time, the inheritance and development of Nanyin have attracted social attention, and many scholars have placed Nanyin in the perspective of music sociology for research. Among them, some scholars have conducted relevant research on the formation, development and historical origin of Nanyin from the perspective of music theory. For instance, Wu Shizhong[12] (1992) held that the Gongchi notation of Nanyin was independent of the Gongchi notation that was widely used throughout the country, and studied the relationship between the Gongchi notation of Nanyin and the laws of the Pre-Qin period from the perspective of musicology. Ma Chongqi[13] (1995) concluded through the parallel analysis of the human-tone, yin-tone and yang-tone rhymes between the northern and southern tunes that the main reason for the complex rhymes used in the "Three Sounds of Nanyin" is the influence of ci rhymes, local accents and the "Original Chinese Rhymes". In the papers on "The Inheritance and Development of Nanyin"

included in China National Knowledge Infrastructure (CNKI), the author classifies them according to different research contents into two major categories: research on the protection and development of Nanyin and research on its inheritance.

The cultural dissemination value of Nanyin as seen from its characteristics. Peng Zhaorong and Ge Rongling[14] (2007) hold that the value and significance expressed by Nanyin in the cultural space are multi-faceted. It is in line with the ancient music of Central Plains and has formed its own system by absorbing the culture of southern Fujian. Accompanying the Minnan people overseas, Liu Yang has become the way of life and life etiquette of the Minnan cultural group, and has also served as the cultural basis for the identity recognition of Minnan people at home and abroad and the bond that maintains social relations. The influence of Nanyin's cultural dissemination as seen from the Overseas inheritance of Nanyin. Zhou Hui[15] pointed out in her article "The Influence and Significance of the Inheritance of Fujian Nanyin in Overseas Countries (Regions)" that the inheritance and development of Fujian Nanyin overseas have brought about a series of positive impacts on the development of Quanzhou Nanyin. It has become a "medium for communication among overseas Chinese and a bond of kinship between overseas Chinese and the Chinese mainland", and a "bond of kinship between overseas Chinese and the Chinese mainland". Meanwhile, "The inheritance overseas has diversified the preservation methods of Nanyin scores", and "the frequent exchanges and performances among overseas Chinese have continuously elevated the status of Nanyin in the international community". An analysis of the current situation of Nanyin's dissemination in the Maritime Silk Road transportation reveals the patterns and significance of Nanyin's international dissemination. In the article by scholar Wang Zhou[16] (2016), it is pointed out that the dissemination of music in the maritime Silk Road transportation mainly manifests in two forms: "rooted dissemination" and "mobile dissemination". "Rooted dissemination" refers to promoting the inheritance and development of Nanyin and enhancing artistic exchanges with Southeast Asian countries by organizing Nanyin societies and editing and publishing Nanyin score collections in various countries and regions. "Mobile dissemination" refers to the spread of Quanzhou Nanyin in European countries through various forms such as mobile performances, individual investigation and exchange activities, and in-depth point-based academic research activities.

2.2. An overview of text sentiment analysis research

Sentiment analysis is an important information analysis and processing technology. Its research purpose is to determine the emotional tendency, mood expression, degree of likes and dislikes expressed in the text, and to convey the inner emotional tendency of the commenting subject. It is one of the most important research directions in the field of natural language processing.

Text sentiment analysis mainly starts from two perspectives: analyzing the polarity of the text content and the theme division of the text content. The polarity of the text content is usually used to describe the emotional tendency of the text, including positive, negative or neutral. The division of text content themes mainly involves mining the text content themes and obtaining the content that the relevant subjects want to express.

Turney[17] (2002) proposed dividing comments into two categories: recommended and unrecommended, and predicting emotions by analyzing the average semantic direction of the phrases of adjectives or adverbs in the comment texts. Bollen et al.[18] (2010) investigated whether the measured values of collective emotional states obtained from large-scale Twitter push notifications were related to the changes in the Dow Jones Industrial Average (DJIA) over time, and then compared their detection of the public's responses to events such as the 2008 presidential election and Thanksgiving Day. The emotional time series generated by popular events was cross-verified. Peng, J. et al.[19] (2016) explored the bit-level N-gram analysis method and

combined it with other statistical methods to identify the author identity through the Posting characteristics of users on online news opinion websites within two months. Rout J K et al.[20] (2018) employed a combination of supervised and unsupervised methods and different machine learning algorithms, such as polynomial Naive Bayes (MNB), maximum entropy, and support vector machine, to identify the sentiment of tweets and examine the validity of various feature combinations. Srishti Sharma[21] (2021) proposed a method based on fuzzy dictionaries for unsupervised sentiment analysis involving multiple dictionaries and datasets to evaluate the sentiment of blogs and microblogs. Yıldız AYDIN[22] (2023) evaluated and classified Twitter texts using a combined algorithm of word bags and the word2vec method, and was able to effectively identify movie reviews. Wu Qinglin et al.[23] (2016) combined the characteristics of short posts on Weibo, screened the high-frequency words in the text content for sorting to achieve rapid clustering. Then, they analyzed the emotional intensity of hot topics from two different perspectives, subjective and objective, and used the grey model to track and predict the tendency of public emotional changes. An Lu[24] et al. (2017) proposed that for the evolution events of Weibo public opinions in emergencies, the life cycle of Weibo public opinion evolution was divided. The themes of each stage were extracted respectively based on word2vec technology. The sentiment analysis method based on dictionaries was adopted, and multiple sentiment sources such as sentiment words and emojis were introduced. Fine-grained classification is made for the comment emotions under different topics to calculate the emotional intensity. Ding Meirong et al.[25] (2022) conducted a comparative analysis between the BiLSTM neural network algorithm based on deep learning and traditional machine learning algorithms (Naive Bayes, Support vector machine), taking the basic dictionary as the main body, and constructed an extended sentiment dictionary suitable for hotel reviews to conduct sentiment analysis on the review information in the hotel field.

2.3. Intangible cultural heritage + short videos

With the continuous progress and popularization of digital technology, the connection between intangible cultural heritage and digital communication platforms is becoming increasingly close. Intelligent technology is gradually penetrating into the content industry of media production, bringing about comprehensive upgrades and changes to content production, distribution and consumption[26]. The rise of short videos is undoubtedly an important milestone in the development of digital communication platforms. Shang Jing believes that it is necessary to firmly seize the opportunity of new media, advocate "applying new media technology, building a Nanyin database, and conducting self-media promotion", with the aim of "opening up a new situation for the digitalization and networking of traditional Chinese music", and achieving "resource sharing and development and utilization of intangible cultural heritage in the music category"[27].

Since the birth of the Viddy short-video app in the United States, short videos have rapidly become a global trend in digital content consumption. After being released, these videos can also be easily shared on social platforms such as Facebook, Twitter and YouTube, achieving rapid dissemination and sharing of the content[28]. Inspired by this, a series of short-video apps such as "Douyin", "Kuaishou", "Meipai" and "Huoshan Short Video" have been successively launched in China. Especially "Douyin", with its outstanding market performance, has gradually taken the leading position in the short-video market and led a new social wave centered on social short videos.[29] Nilobar Elti further pointed out that short videos have gradually formed a unique production model centered on social drive. This model evokes audience resonance through emotional stimulation, demonstrating the integration and collision of diverse values. Meanwhile, short video content also shows a trend of collaborative dissemination with other new media forms such as live streaming, jointly building a diversified and interactive information ecosystem[30]. As one of the most influential new media social platforms at present, Douyin platform has provided an unprecedentedly broad space and

convenient channels for the dissemination of Quanzhou Nanyin. By studying people's evaluations of Quanzhou Nanyin on the Douyin platform, we can gain an in-depth understanding of the public's cognition, attitude and emotional tendency towards this traditional art, which is of great significance for the inheritance and development of Quanzhou Nanyin.

2.4. Intangible cultural heritage and public psychological perception

The public's psychological perception and attitude are crucial to the protection and inheritance of ICH. Psychological perception is categorized into sensation and perception, which is the direct reflection of objective things in the human brain through the sensory organs. The perception of intangible cultural heritage is the premise of cognition and understanding of intangible cultural heritage. Dai Qiwen et al. found that tourists' overall perception of Guilin's intangible cultural heritage is low, and there are great differences in the perception of Guilin's intangible cultural heritage among tourists of different genders, ages and nationalities by studying tourists' perception of Guilin's intangible cultural heritage[31]. In view of the insufficient theoretical research on the combination of intangible cultural heritage and tourism from the tourists' point of view, Li Xiaoying and other scholars took Yulin City as an example to study its intangible cultural heritage.Yulin City is a city with a long history , has rich intangible cultural heritage resources and deep cultural heritage. Through the form of questionnaire to investigate the tourists' perception of intangible cultural heritage in Yulin city and their demand for intangible cultural heritage tourism in Yulin city. And cross-tabulation analysis is used to analyze the difference in different tourists' perceptions[32]. Li Yajuan and other scholars analyzed the differences in perception of intangible cultural heritage among intangible cultural heritage subjects with different sample characteristics through questionnaire surveys. They studied traditional craft intangible cultural heritage copper musical instruments as the research object , and found that different gender, occupation, education and income of the residents of the non-heritage culture of the perception and attitudes of the greater differences[33]. Wang Chongyuan explored the perception of intangible cultural heritage exhibitions, taking the audience of the 5th Intangible Cultural Heritage Expo as the research object. He found that the degree of intangible cultural heritage perception is not only related to watching technical performances, but also closely related to the surrounding environment of intangible cultural heritage exhibitions, such as the layout of exhibition spaces, exhibition forms, and service quality during exhibitions. Therefore, he proposed that in intangible cultural heritage exhibitions, it needs to be based on a certain thematic and emotional rationality, and the scene is again creatively processed, to create a cultural background atmosphere that coincides with intangible cultural heritage to stimulate the interest of the audience[34]. Ma Ning through the investigating college student groups' cognition and perception of Tibetan intangible cultural heritage, and found that Tibetan college students' overall cognition of Tibetan intangible cultural heritage is better, but it is mainly perceptual cognition[35]. Zhou Yulan summarized the problems existing in the current intangible cultural heritage enlightenment education, and believed that due to the insufficiency of intangible cultural heritage enlightenment education which leads to the weakening of the people's perception of intangible cultural heritage, including the teachers' lack of clear understanding of intangible cultural heritage education, insufficiently rich educational content, and a single form of education, etc..Then, she proposed that the government, preschool teachers, and parents should all make countermeasures and changes to the enlightenment education of intangible cultural heritage, and improve the perception of intangible cultural heritage through enlightenment education[36].

Through literature review, it is found that there are fewer relevant studies on the perception of intangible cultural heritage, and the research objects and methods are also more limited. It is also found that mostly questionnaire surveys for tourists at scenic spots or visitors at exhibitions, and nowadays there are also fewer relevant studies on the perception of intangible cultural heritage by short videos. Therefore, it is of great

practical significance to explore the audience's perception of intangible cultural heritage by taking online comments of short video viewers as the data source.

3. Research methods

3.1. Research subject and data

This study takes the review texts of "Quanzhou Nanyin Performance" on the Douyin platform as the research object. The main contents of the research include: analyzing the characteristics of high-frequency words in the comment texts of short videos; The emotional tendency characteristics of the audience, the co-occurrence semantic network characteristics, and the clustering characteristics of subject words. The theoretical framework of the research is to sort out the literature related to cultural identity and public psychological perception in the literature review section, and at the same time analyze the clustering results of the review texts, thereby deriving the image of Quanzhou Nanyin in the public's mind, that is, he same memory, the same rhythm, the same belonging (see **Figure 7**).

This study takes the popular social media platform Tiktok as the research object, focusing on analyzing the comments of the video content related to Quanzhou Nanyin on the platform. In this study, we chose to search for "Nanyin" as a keyword on the Tiktok platform, and selected the top 10 videos with the highest number of likes. By using a crawler program, we collected comment data under the target videos in an automated way for the top 10 videos with the highest number of likes on the Tiktok platform. A total of 6372 pieces of relevant information were collected by capturing data up to April 12, 2024.

Table 1. A summary of some video information

Video content	Release date	Publisher
In the creative short film of Quanzhou's culture and tourism during the May Day holiday, Quanzhou Nanyin was mentioned, claiming it to be one of the oldest existing musical genres in China. Its tunes are simple and elegant, and its melodies are gentle and beautiful.	2025-4-24	海丝泉州文旅之声
Showcase the combination of Quanzhou Nanyin and its beautiful scenery, emphasizing its unique cultural charm.	2021-12-25	陈陈趣旅行
A celebration video for the successful premiere of "The Eternal Legacy of String and Wind Music".	2024-10-11	泉州市南音传承中心
"Birds Returning to Their Nests" and the Lantern Festival	2023-2-6	新闻广角
"A bright and beautiful day in spring"	2024-10-29	星河辗转
"Qing ping diao"	2023-2-10	弘扬闽南文化
If you have the chance, you must come to Fujian to experience its intangible cultural heritage - Nanyin	2025-5-10	福建研究计划
"Spring Sunshine" : When Nanyin meets Zanhua Wei	2024-1-29	人民网
"Zou ma"	2021-1-14	泉州市南音传承中心
"Feng da li"	2023-6-10	点水南乐
The sounds from the living fossils of Chinese music history	2024-1-31	光明网
"Straight into the Garden"	2021-1-11	Lucky
"Three Thousand Taels of Gold"	2022-11-16	华夏文化网
"Three Thousand Taels of Gold"	2023-8-21	弘扬闽南文化
Nanyin Special Performance - "Let's Drink"	2022-8-12	泉州市南音传承中心

3.2. Analysis methods

The Douyin comment data related to Quanzhou Nanyin obtained through web crawlers contains a large amount of interfering information in the text, including irrelevant information, garbled emojis and punctuation marks, etc. Therefore, before conducting formal data analysis, the data must be cleaned to improve the accuracy and effectiveness of subsequent analysis.

Chinese word segmentation is to cut and decompose Chinese text according to the granularity of words. The main word segmentation tools include Jieba, HanLP and THULAC, etc. This article uses Jieba word segmentation to segment the cleaned text content. When conducting the initial word segmentation, it was found that splitting "Quanzhou Nanyin" into "Quanzhou" and "Nanyin" could easily lead to inchanges in subsequent analysis. Due to the characteristics of Douyin text and traditional Chinese music, local characteristic terms and some Internet words are added as custom dictionaries to improve the accuracy of high-scoring words. This also deletes words that have no practical meaning or carry less information in the actual context. Words such as "de", "is", and "in" frequently appear in the comment text. This article integrates five commonly used stop word libraries on github, namely "Stop Words of Sichuan University", "Stop Words of Harbin Institute of Technology", "Stop Words of Baidu", "Chinese Stop Words", and "The Most Comprehensive List of Chinese Stop Words (1893)", to construct a list of 2,695 stop words.

Subsequently, the Nvivo software was used for text sentiment classification to create three types of nodes: "positive emotion", "negative emotion" and "neutral emotion". Then, based on the Chinese sentiment dictionary - CNKI Sentiment Dictionary (HOWNET), automatic encoding was carried out to initially divide the keywords. Then, through manual item-by-item review, correct complex expressions such as irony and ambiguity, and supplement relevant domain terms (such as "living fossil" and "modernization"); Finally, cross-checking (such as the Kappa coefficient) is used to verify the coding consistency, and the sentiment distribution is visualized through word clouds and matrix charts to form quantitative conclusions.

4. The representation of the public psychological image of Quanzhou Nanyin

When studying how to spread Quanzhou Nan Yin , by analyzing the audience's comment data in Tiktok and using the micro-word cloud segmentation and graph cloud generation tools, we can visualize the high-frequency words that the audience discusses the most as well as their emotional distribution, so as to deeply understand how well the Quanzhou Nan Yin spreads in the digital media age nowadays.

4.1. Keywords and word frequency analysis

By sorting out and analyzing the content of the comments posted by the audience of Tiktok, and using the word segmentation and graph cloud tools of Micro Word Cloud to process them. The generated word cloud map can clearly see the words that are discussed the most, and then analyze the content that people are most concerned about Quanzhou Nanyin, so that we can understand the dissemination of Quanzhou Nanyin . The specific display is shown in **Figure 1**.

Figure 1. Word frequency

Table 2. Word frequency（The top ten higher）

Word	Word frequency	TF-IDF
NANYIN	683	0.052947434
Pleasant hear	593	0.049445131
Quanzhou	259	0.029955994
Beauty	161	0.021161888
Like	125	0.017616460
I don't get it.	124	0.017552352
Really	115	0.016692039
Culture	113	0.016807168
Minnan	106	0.015687083
Just	95	0.014466260

The analysis of the proportion of parts of speech can enrich the understanding of Quanzhou Nanyin in public discussions on social media, as shown in **Figure 2**
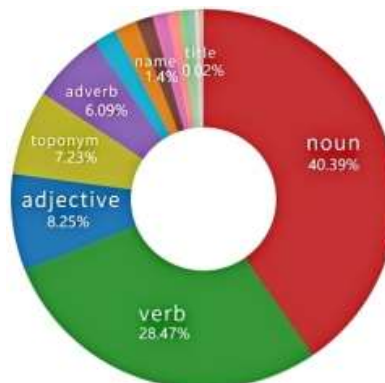

Figure 2. Word frequency pie chart

The social identity theory of the same memory, the same rhythm and the same belonging points out that regional identity is an important source of cultural identity[37]. Combining **Figure 1** and **Figure 2**, the high-frequency words "Nanyin" and "Quanzhou" occupy a core position in the comments (40.39% of the word frequency is a noun), indicating that the public regards Quanzhou Nanyin as a cultural symbol deeply bound to the regional culture of Quanzhou. Moreover, terms such as "traditional music" and "living fossil" are frequently mentioned in the comments (such as the definition of "living fossil of Chinese music" cited in the literature review), reinforcing its symbolic significance as a historical heritage.Such a situation shows that the audience prefers to use actual contents and concrete cultural things when discussing Quanzhou Nanyin and its related things, rather than speaking about those contents in the abstract. The public has developed a sense of belonging to their local culture by emphasizing the connection between "Quanzhou" and "Nanyin", considering Nanyin as "their own culture" rather than a generalized traditional art.

The theory of emotional contagion emphasizes the dissemination effect of aesthetic resonance[38].Adjectives such as "good-looking", "awesome" or "proud" are mainly used to express evaluation and attitude, through which we can see how the public feels about Quanzhou Nanyin's art form and cultural value, as well as how they feel about it. Among the positive emotional words, "pleasant hear" (high-frequency verbs), "good-looking" and "awesome" (high-frequency adjectives) account for a significant proportion, indicating the public's recognition of its musical beauty. Among the negative comments, "can't understand" (16.7% negative emotions) appeared frequently, reflecting the cognitive impairment of some audiences caused by the differences between the ancient Chinese lyrics of Nanyin, traditional musical forms and modern aesthetics. Although most people recognize the artistry of Nanyin, the negative emotion of "not understanding" may spread through the interaction of comments, forming a barrier of dissemination. For instance, young people who have not been exposed to Nanyin are prone to feel alienated due to the language barrier.

In the emotional contagion mechanism, the active sharing of positive emotions (such as UGC creation) can enhance the sense of belonging to the group[39]. The verbs "like" and "feel" accounted for 28.47%, indicating that the public establishes connections with Nanyin through emotional expression. For instance, comments such as "I like the melodious sound of Nanyin, which reminds me of my hometown" reflect emotional projection. Audiences with positive emotions (39.16%) may become the "seeds" of cultural dissemination and promote the spread of emotional resonance. If user participation is activated through interactive design (such as the "Nanyin Secondary Creation Challenge"), the image of Nanyin will transform from a "tradition to be watched" to a "cultural practice to be participated in".

There are also some neutral emotional expressions, mostly manifested as knowledge-based questions (such as "What kind of musical instrument is this?") This indicates that the public is in a "wait-and-see" stage and has not yet formed a stable cultural identity. The dynamics of social identity requires that traditional art adapt to the new context while maintaining its core values. Although the modernization attempts of Nanyin (such as integrating popular elements) have attracted attention, if they deviate too much from tradition, they may weaken its uniqueness as a "living fossil" and trigger an identity crisis.

The analysis of the above data shows that in this era of digital media, Quanzhou Nanyin not only maintains its cultural attractiveness, but also helps it to communicate and interact better with the contemporary society through social media platforms such as Weibo and Tiktok. However, the audience still has difficulties in understanding how Quanzhou Nan Yin can be inherited in the age of social media, so more attention should be paid to education and new methods of communication in order to protect and inherit it in the future.

4.2. Sentiment analysis

4.2.1. Emotion dimension analysis

Conducting analysis of positive and negative emotion words can quantify the public's emotional inclination towards Quanzhou Nanyin and provide measurable data support for the effects of cultural communication. In this part of the article, the Nvivo software is used to determine the sentiment polarity of the comment texts. After importing the Douyin comment texts crawled by the python software, three types of nodes, namely "positive sentiment", "negative sentiment" and "neutral words", are created. Subsequently, based on Chinese sentiment dictionaries (such as CNKI Dictionary), automatic encoding is carried out to initially divide the key words; The sentiment classification results of some key words are shown in the following **Table 3**

Table 3. NVivo preliminary result table of emotion classification

Sentiment Classification	Examples
Positive emotion	Pleasant to the ear, proud, traditional, proud, living fossil
Negative emotion	Incomprehensible, too modern, boring, unpleasant to listen to, old-fashioned, creepy
Neutral emotion	Musical Instruments, history, Quanzhou

After classifying the keywords related to emotions, it is still necessary to manually match each one and correct complex expressions such as irony and ambiguity. When expressing in context, people often use quotation marks, exclamation marks, parentheses and dog head emojis to supplement the true intention and enhance the contrast of the text intention[40]. An analysis of the text of Douyin comments reveals that the core contradictions regarding Quanzhou Nanyin currently mainly focus on "tradition vs. modernity", "form vs. content", and "cultural value vs. traffic orientation", aiming to call for a balance between innovation and tradition, as well as to enhance the affinity and educational value of dissemination. Therefore, when conducting this work, it is necessary to combine the context to determine whether it is irony, such as the proportion of likes/replies in interaction. It is also necessary to mark double negations or metaphors in the market, such as "living fossils"? I think it's "fossil music"! . In addition, it is necessary to customize the domain dictionary in NVivo and add the exclusive terms of Quanzhou Nanyin (such as "name of musical pieces" and "flute") to avoid the omission of key information in the general emotional dictionary.

The following are some sarcastic comments about Quanzhou Nanyin that appeared in the comment section of Douyin.

"Modified so 'modern', Nanyin has finally kept up with The Times!" Comments like "Let's just add electronic music next time. After all, no one cares about tradition anymore" seem to be praising, but in fact, they are questioning the traditiveness. The lyrics are really "easy to understand". I understood them completely after listening to them three times! (Actually, I didn't understand a single word), such comments are using irony to express comprehension obstacles. This "heavenly melody" instantly transported me back to the Tang Dynasty! Such comments as "wanting to switch songs immediately after listening" are expressing aesthetic fatigue in an exaggerated tone. The protection of intangible cultural heritage has been so "successful" that young people are indeed "eager to learn from it"! The phrase "The comment section is full of middle-aged and elderly people reminiscing" is an imitation of the official language to satirize the protective measures.

After manual coding correction and supplementation, the final sentiment analysis results can be obtained, as shown in **Table 4**

Table 4. NVivo result table of emotion classification

Sentiment Classification	Keywords	Percentage	Source
Positive emotion	Living fossils, traditional music, cultural heritage, Minnan culture, historical depth, cultural pride, national treasures, pleasant to the ear, melodious and graceful, elegant, charming, classic, artistic value, ancient charm, like, proud, moved, intimate, homesickness, sense of belonging, support for inheritance	39.16%	The melody of Nanyin is truly pleasant and melodious. It truly lives up to its reputation as a living fossil! "Hearing Nanyin makes me miss home. This is the pride of us people in southern Fujian!" "
Negative emotion	Incomprehensible, obscure, hard to understand, language barrier, ancient Chinese, complex terms, too modern, not traditional, failed adaptation, lost original flavor, commercialized, impetuous, boring, lengthy, monotonous, outdated, uninterested, disappointed	16.7%	I can't understand the lyrics at all. It feels disconnected from modern music. The adaptation is too modern. The original charm of Nanyin has been lost.
Neutral emotion	Musical Instruments (pipa, dongxiao), performance forms, names of musical pieces, inheritors, intangible cultural heritage protection, historical origins, how to learn, playing techniques, cultural background, protection measures, tradition and modernity, dissemination methods, young groups, internationalization, educational promotion	44.14%	Is the instrument in the video a pipa? I want to know the playing methods of Nanyin. How can Nanyin be promoted among young people? More forms of interaction are needed.

The cloud image of the clustered words is shown as follows. As can be seen from the sentiment feature map, positive sentiment accounts for 39.16%, negative sentiment accounts for 16.7%, while neutral sentiment accounts for 44.14%. This data provides a comprehensive view of the complex emotional responses of the public to Quanzhou Nan Yin.
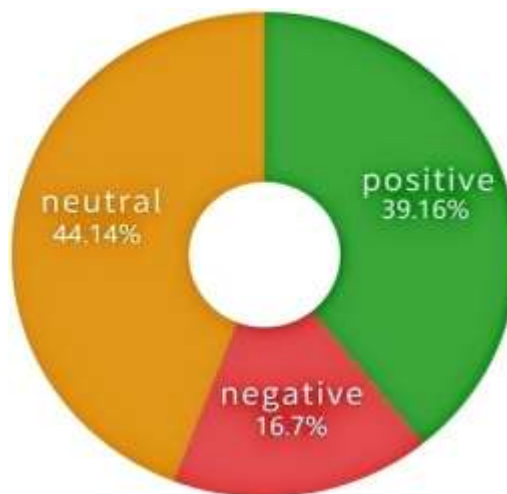

Figure 3. Emotionally characterized words pie chart

Source: Micro Word Cloud

4.2.2. Analysis of positive emotional words

In terms of the audience's positive emotional expression, the proportion of positive emotions was 39.16%, which is relatively high, indicating that many people have a positive attitude towards Quanzhou Nanyin. The analysis of the positive emotion words obtains the results as analyzed in **Figure 4**. Quanzhou Nanyin enjoys a positive and distinct image in the public's mind. From the perspective of cultural identity, as

a "living fossil", it carries profound historical heritage and is an indispensable part of Minnan culture. It is also a national treasure and cultural heritage, highlighting unique regional cultural characteristics and evoking people's cultural identity and pride. From the perspective of aesthetic praise, the melody of Nanyin is pleasant to the ear, melodious and graceful, rich in charm and extremely high in artistic value, presenting a classical beauty of ancient charm and bringing people a unique aesthetic experience. In terms of emotional resonance, Nanyin can touch people's hearts, evokes the audience's affection, pride and emotion, and becomes an important bond to maintain nostalgia and enhance a sense of belonging. It makes people feel support and inheritance for it from the bottom of their hearts. This emotional power also reflects the warmth and depth of Nanyin in the hearts of the general public.

Figure 4. Word cloud of positive emotion words

Source: Micro Word Cloud

Table 5. Positive emotions words word frequency （The top ten higher）

Word	Word frequency	TF-IDF
Pleasant hear	593	0.068229952
Good.	164	0.018869666
Pretty girl.	161	0.01852449
I like it.	125	0.014382368
It's good. It's good.	79	0.009089656
Yeah, yeah, yeah.	59	0.006788478
It's good.	58	0.006673419
It's okay.	49	0.005637888
Music.	46	0.005292711
It's good.	40	0.004602358

Summarize the top ten frequently occurring positive emotion words into a table，that is **Table 5**, we can see that words such as "pleasant hear", "good", "Pretty girl", and "like" are in large font sizes, which indicates that most people have a favorable opinion of Quanzhou Nanyin. Words like "nice to listen to", "good-looking" and "beautiful" demonstrate the public's admiration for the aesthetic level of Quanzhou Nanyin. The melody of Quanzhou Nanyin is described as "pleasant to the ear" and "melodious and graceful",

with unique charm and artistic value, providing people with aesthetic enjoyment. The video images related to Quanzhou Nanyin have the characteristic of "ancient charm". Its classic artistic form and expression techniques can showcase the charm of traditional culture and allow people to feel the beauty of the charm of classical music. While the words "like" 、"praise"、 "shock"and "good" It demonstrates the emotional resonance of the audience and can evoke the emotional resonance of the listeners, such as "like", "proud", "moved" and other emotions, allowing people to develop an emotional connection and a sense of belonging during the process of enjoying Nanyin. For many people in southern Fujian, Nanyin is a symbol of their hometown. Hearing Nanyin can trigger homesickness and evoke a sense of longing for their hometown. At the same time, it also helps to enhance the inheritance and support for local culture. Words such as "Classic", "Traditional", "Confident", "characteristic" and "best" can demonstrate cultural identity and are regarded as "living fossils". They have a long historical background and are an important part of Minnan culture, carrying rich cultural connotations. It is a national treasure and cultural heritage. As a distinctive cultural feature of the Minnan region, it has a distinct regional identity, which can make people develop a sense of identity and belonging to the Minnan culture and is a manifestation of the cultural pride of the Minnan people.

4.2.3. Analysis of negtive emotional words

Regarding the audience's expression of negative emotions, although the proportion of positive emotion feature words is relatively high, the proportion of negative emotion feature words of 16.7% should not be ignored. The results of analyzing the negative sentiment words are shown in **Figure 5**.

Figure 5. Word cloud of negative sentiment words

Source: Micro Word Cloud

Quanzhou Nanyin also has some negative images in the public's mind(**Table 6**), mainly reflected in the following three aspects.The first is the obstacle in understanding，From the word cloud map of the negative sentiment word list, it can be seen that the font size of words such as "can't understand", "not", "no" and so on is relatively large. These words are the public's negative perception of Quanzhou's Nanyin, which is mainly reflected in the obstacles to understanding and perceived differences.There is an old saying in China, "The sound varies every ten miles." For people outside the Quanzhou area of southern Fujian, the language and content of Quanzhou Nanyin are too obscure and hard to understand. Some viewers expressed that they

"couldn't understand" the lyrics of Nanyin and made some negative remarks, believing that it used a large amount of "ancient Chinese" and complex terms, making it very difficult to understand and creating obvious "language barriers". This made it hard for them to grasp the core content and emotional expression of the work during the appreciation process, thereby affecting their acceptance and fondness for Nanyin；Secondly, there is the controversy over its modernization adaptation，words such as "no" and "don't" reflect, to a certain extent, the rejection of certain artistic features of Quanzhou Nanyin by some audiences.Some viewers believe that during the modernization adaptation of Nanyin, problems such as being "too modern" and "not traditional" have emerged, and they criticize the adaptation as a "failure", which has caused Nanyin to lose its original charm and unique appeal. They are worried that excessive "commercialization" and "impetuous" adaptation ideas will undermine the traditional foundation of Nanyin, turning it into a soulless performance form and making it difficult to satisfy the pursuit of purity by traditional art lovers. Of course, the last point is that the experience is not good and there are certain limitations in the form of artistic expression. Some audiences find the performance form of Nanyin "boring", "lengthy" and "monotonous", believing that its rhythm and melody lack variation and seem "outdated" in the context of modern fast-paced life, making it difficult to attract their attention and maintain their interest. This negative experience leads them to be prone to "disappointment" during the appreciation process, reducing their evaluation and recognition of Nanyin.

Table 6. Negative emotions words word frequency（The top ten higher）

Word	Word frequency	TF-IDF
I don't get it.	123	0.01415225
No, I don't.	70	0.008054126
No, I don't.	58	0.006673419
Awesome.	48	0.005522829
Proud.	46	0.005292711
I won't be.	34	0.003912004
Don't be.	26	0.002991533
Why not?	24	0.002761415
Not	22	0.002531297
I don't know. I don't know.	21	0.002416238

Overall, these negative images reflect that Quanzhou Nanyin is facing some challenges in the process of inheritance and innovation. It needs to maintain its traditional characteristics while better adapting to the aesthetic demands of modern society and the acceptance ability of the audience, in order to achieve wider dissemination and development.

4.2.4. Analysis of netrual emotional words

Regarding the neutral sentiment expressions of the audience, the highest percentage of neutral sentiment characterizing words (44.14%) suggests that many of the comments expressed objective or descriptive content involving factual statements, inquiries, or discussions that did not explicitly express emotional tendencies towards Quanzhou Nanyin. The high percentage of neutral comments reflects the diversity and complexity of social media users in exploring and understanding Quanzhou Nan Yin.

A small portion of the audience merely focused on the core elements and cultural symbols, while some showed interest in the instruments of Quanzhou Nanyin, such as the pipa and Dongxiao, paying attention to specific aspects like their performance forms, the names of the musical pieces, the inheritors, and the

protection of intangible cultural heritage. This indicates that the audience has a certain degree of curiosity about the factual information of Quanzhou Nanyin as a cultural phenomenon. They are more inclined to recognize and understand the constituent elements and cultural connotations of Quanzhou Nanyin from an objective perspective. Some of the audience were eager to gain a deeper understanding of the cultural background and expressed their curiosity about the historical origin, learning methods, performance techniques, cultural background and protection measures of Quanzhou Nanyin through questions. This reflects the public's curiosity about the profound cultural heritage behind Quanzhou Nanyin, hoping to deepen their understanding of this traditional art form by acquiring more knowledge. At the same time, it also shows their concern for the inheritance and development of Quanzhou Nanyin. Among them, there are also rational discussions on inheritance and development. During the discussion, the audience pays attention to issues such as the balance between tradition and modernity of Quanzhou Nanyin, the innovation of its dissemination methods, its promotion among the younger generation, as well as its internationalization and educational promotion. This reflects the public's rational thinking on how to better inherit and develop Quanzhou Nanyin as a cultural heritage in modern society. They not only pay attention to the current situation of Quanzhou Nanyin, but also think about its future way out.

Because there are many factual statements and knowledge questions on social media that are not emotionally charged words, these reflect that the public is now in the stage of awareness and understanding, but at the same time indicate that these netizens who 'don't quite get into it yet' may be potential viewers who will be interested in it in the future, and are a key focus point for optimizing Quanzhou Nanyin's future communication strategy.

4.3. Clustering analysis

Sentiment distribution analysis can systematically reveal the structure of public sentiment towards Quanzhou Nanyin and provide comprehensive data support for understanding its communication effects. Separating the proportion of positive, negative and neutral emotions in the comments allows us to understand clearly people's attitudinal preferences and why they are like this, which can then provide a basis for developing inheritance strategies. Use the micro word cloud tool to analyze comments and identify where the main emotions of netizens are. As shown in **Figure 6** below.
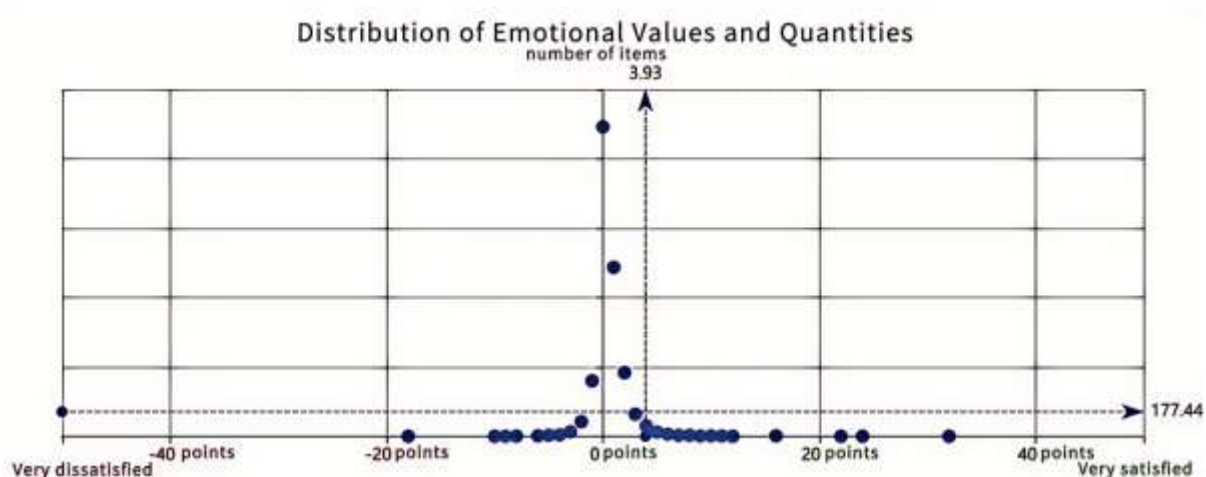

Figure 6. Sentiment trend chart

Source: Micro Word Cloud

The sentiment trend graph is normally distributed, with most of the comments' sentiment concentrated around the median. Extreme emotions (very high or very low) accounted for less, which reflected that

Quanzhou Nanyin spread relatively smoothly through the Tiktok platform, and the audience's emotional feedback was relatively balanced. The average sentiment score is 3.93, indicating that the audience's overall sentiment feedback on Quanzhou Nanyin tends to be positive. The mean value of each piece of data is 177.44, indicating that Quanzhou Nanyin has a high degree of user engagement on the Tiktok platform. This positive interaction phenomenon indicates that Quanzhou Nan Yin is recognized by the audience while stimulating their active participation and exploration.

Finally, based on the above word frequency analysis, emotional tendency and the clustering results of comment topics, combined with the social identity theory and the emotional contagion mechanism, the public's image of Quanzhou Nanyin can be constructed from the following three dimensions as shown in Figure 7.

First, there is "the same memory". Regional culture is a symbol of living genes and collective identity. In the public perception, Quanzhou Nanyin is a "cultural living fossil engraved with the DNA of the Minnan ethnic group". Word frequency analysis shows that "Quanzhou" (accounting for 12.3%) and "traditional" (accounting for 9.8%) rank among the top five high-frequency nouns, indicating their strong binding to regions and history. The recurring metaphors in the comments (such as "Echoes of a Thousand Years" and "Voices of Ancestors") confirm the function of Nanyin as a carrier of collective memory. For instance, "Every time I listen to Nanyin, it feels like touching the soul of the people of Quanzhou." Furthermore, according to the theory of social identity, the public constructs the symbolic boundary of "the uniqueness of local culture" by emphasizing the symbiotic relationship between "Quanzhou - Nanyin" (such as "Without Quanzhou, there would be no Nanyin"). This kind of identity symbolization is not only a trace back to cultural roots (such as Minnan dialect lyrics and ancient music score systems), but also a response to the crisis of regional identity under the impact of globalization.

Secondly, there is "the same rhythm", which has a dual aspect of aesthetic empathy and cognitive disconnection. The dissemination of Nanyin also faces the paradox of "ear intoxication and soul estrangement". 39.16% of the comments used words such as "pleasant to the ear" and "melodious and graceful", focusing on the aesthetic appeal of the melody (for example: "The sound of the pipa in Nanyin instantly heals anxiety"). 16.7% of the comments directly pointed to "incomprehensible" (ancient Chinese lyrics accounted for 68%), and even made sarcastic remarks (such as "Is this lyric an encrypted call?") Translation request! " This is essentially a contextual mismatch between traditional music forms (such as "four-band ensemble" and "sheet structure") and the "fragmented" and "strong rhythm" characteristics of modern short videos. The theory of emotional contagion reveals that although melodies evoke instantaneous resonance, language barriers (such as the estrangement of the allusion "Chen Sanwu Niang") can also lead to a superficial emotional connection, creating a transmission gap where "one hears the sound but does not understand the meaning".

The last one is "the same belonging", which is the dynamic emotional transformation of the audience from onlookers to participants. Many people's questions posted in the Douyin comment section are based on their curiosity about Quanzhou Nanyin, which indicates that the cultural sense of belonging to Nanyin is not static but gradually constructed through a chain of "emotional mobilization - behavioral activation". In the Douyin account "Nanyin New Youth", which has a video with 230 million views through the "New Singing of Ancient Songs" challenge, the author has successfully reduced the neutral emotional words in the comment section by integrating "Eight Fine Horses" into electronic music and many popular science videos about Quanzhou Nanyin.
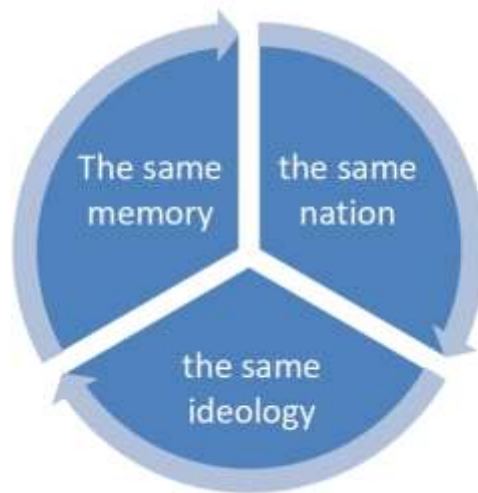
Figure 7. Public image representation map

5. Research conclusions and strategic recommendations

5.1. Research conclusion

By analyzing the comment data of Quanzhou Nanyin netizens on Tiktok, this study shows in detail how people view the communication effect of Quanzhou Nanyin in the era of social media from different perspectives, such as the basic situation of communication, the distribution of keywords and word frequency, the proportion of lexicality, the dimensions of emotional analysis, and the distribution of positive and negative emotional words and emotions. It is found that Quanzhou Nanyin, as an intangible cultural heritage culture, still has great cultural charm and attraction on social platforms, but there are some problems and difficulties in the process of inheritance and dissemination. Based on relevant theories of social psychology, this phenomenon can be attributed to the following factors:

(1) Attenuated Social Identity Attachment

Quanzhou Nanyin has a certain influence in social media dissemination, which shows that traditional culture and digital technology combine deeply. By analyzing the data of high-frequency words, it can be seen that the core values and local identity of Nanyin are well conveyed in the online space. However, as a result of part of speech analysis and emotion analysis, the public produces less positive emotional experience, and most of the emotions stay at the level of objective things. This is related to the fact that a strong social identity has not yet formed between the viewers and Nanyin. Social identity includes an individual's understanding of their own identity as a member of a social group, as well as the acceptance and identification of their own social group and cultural values,[14]. The rapid development of online community makes individuals far apart to learn about novel things, but it lacks the authenticity of "Seeing is believing." making it difficult for viewers to obtain satisfaction in terms of emotion and psychological expectations. In addition, there are many differences in individual social experience, cultural level and other aspects, so that each individual has different understanding of Quanzhou Nanyin. It is thus challenging to find solace in their hearts and further generate resonance in more aspects.

(2) Insufficient Momentum for Public Positive Emotion Contagion

Sharing emotions through social media may lead to emotional infection, promote the emotional atmosphere in the society, and then affect the value structure of the society[15]. The sentiment analysis conducted in this study reveals a mixture of positive, negative, and neutral emotional responses toward

Quanzhou Nanyin. Notably, only 40% of participants actively shared positive sentiments through social media platforms, which has resulted in the limited capacity of Quanzhou Nanyin to generate heightened public enthusiasm amid the current digital wave. However, the 16.7% negative and 44.14% neutral sentiment data also show that there are both difficulties and opportunities in the process of dissemination. Those negative comments mainly reflect the problems of 'not understanding' and 'too modernized'. Although Quanzhou Nanyin has done a good job of spreading in the digital media era, there are still difficulties in understanding and low acceptance. This also indicates that traditional cultures like intangible cultural heritage face limitations in recognition and inherent contradictions when adapting to modern society. Therefore, it is not enough to rely solely on technological innovations to protect intangible cultural heritage, but it is also necessary to make innovations in cultural contents and expressions, and make good impression management among the targeted audience groups, in order to narrow the distance between tradition and modernity. The fact that the majority of people are neutral indicates that many people are still in the stage of understanding and exploring the Nan Yin, and this group of people should be an important target for improving the communication method in the future. Therefore, the protection of intangible cultural heritage should not only consider the technical level, but also consider people's emotional needs, and use novel communication contents and forms to make more potential audiences have emotional recognition and a sense of cultural belonging.

Overall, the results above can tell how the public sees and participates in Quanzhou Nanyin, an intangible cultural heritage, in the context of digitalization and globalization. These findings give those who preserve and transmit Quanzhou Nanyin a lot of useful information about how to organize and conduct dissemination and educational activities that will allow more people to participate, make the cultural identity of the place stronger, and keep this ancient art alive and useful in today's society. This will also help the Quanzhou Nanyin to continue to be passed on, and will also provide solutions and strategies for the preservation of other intangible cultural heritage.

5.2. Strategy suggestions

According to the results of the research on the spread of Quanzhou Nan Yin on Tiktok, this article gives some suggestions from the aspects of optimizing the content, guiding the emotion, and then managing the users in a hierarchical way, hoping that these methods can make the spread of Quanzhou Nan Yin in the network era better and the cultural impact greater.

The first is to improve the content of communication, emphasizing more on cultural significance and regional identity. According to the research data, "Nanyin" and "Quanzhou" are frequently occurring keywords, which shows the core cultural value of Quanzhou Nanyin and its symbolic role in the region. Therefore, future dissemination methods should focus on strengthening the cultural significance and regional identity of Quanzhou Nanyin. The method of digging deeper into the cultural story can be used to make the historical origin, artistic characteristics and inheritance process of the Nanyin as the main content, and to produce a video series or graphic content, so that people can better understand and recognize its cultural value. At the same time, it is necessary to use more local cultural symbols in dissemination, adding more elements like Quanzhou iconic buildings and traditional festivals to highlight the characteristics of Nanyin as a local specialty culture. It is also necessary to combine modern music, dance and visual arts to change the expression of Nanyin, so that it can be more enjoyable to the audience nowadays.

The second is to guide public feelings and stimulate cultural resonance and participation. Through emotional analysis, it was found that positive emotions accounted for 39.16% as the main driving force for dissemination, and neutral emotions 44.14% were the audience that might be converted. Therefore, the

communication strategy needs to pay special attention to the emotional guidance, to make people have emotional resonance to the Nanyin culture. The expression of positive emotions can be strengthened and people can be encouraged to share their favorite stories and personal experiences about Quanzhou Nanyin to form a good cycle. For people with neutral emotions, it is important to design communication content that is interactive and interesting. It is also important to deal with negative emotions and address negative opinions in a targeted manner, so that more people can understand and accept Quanzhou Nan Yin through education and popularization and interactive activities.

The third is hierarchical management of users to achieve precise pushing and better interaction. Research shows that people have different emotional attitudes towards Quanzhou Nan Yin, such as liking, general and disliking. Therefore, the strategy needs to be stratified according to different emotional groups, so that the communication is more accurate and the interaction is deeper. Positive people can be the seed users of cultural communication, online and offline activities to increase their participation and belonging. Neutral people need to strengthen the popularization of education and interaction, such as Nan Yin introductory classes or cultural experience, to help them from understanding to like. Negative people need to improve the content according to their opinions, while maintaining the original flavor of the Nanyin, add popular elements, and engage in some new forms to attract young people. At the same time, using short video live broadcast of these new media, more introduction of the historical and artistic value of the Nanyin, so that people can more easily understand. In addition to promote community schools and cultural units to organize more Nan Yin activities, such as workshops performances,to encourage more people to participate in the enhancement of cultural identity.

So in conclusion, the study of Quanzhou Nanyin's dissemination in the social media era to meet the psychological needs of the masses gives great inspiration for the protection and innovative development of intangible cultural heritage. In the future, by adjusting the dissemination of things, driving the audience's emotions, and operating different audience groups in a hierarchical way, Quanzhou Nanyin may spread more widely on the Internet and be better inherited. This will not only increase its cultural popularity, but also provide a reference for other intangible cultural heritage programs when doing network communication.

6. Conclusion

By carefully analyzing the comments of netizens underneath the Quanzhou Nanyin video on Tiktok, this study has discovered the difficulties and new opportunities that intangible cultural heritage encounters in the Internet era. Quanzhou Nanyin is a kind of ancient music with a very long history, and its appearance in modern society and on the Tiktok platform shows that it is not so simple to integrate traditional culture with modern technology.According to the research data, it can be seen that some people show love and novel attitudes towards Quanzhou Nanyin, but at the same time, due to the important challenges from cultural identity and emotional infection, some of the public still have low acceptance and understanding of Quanzhou Nanyin. These findings provide an important reference for how to continue to inherit and develop Quanzhou Nanyin.These findings provide an important reference for how Quanzhou Nanyin can continue to be inherited and developed.

The methodology and results of this study open up new perspectives for the protection and dissemination of intangible cultural heritage in the age of social media. Especially nowadays, when the influence of social media is widespread, understanding the public's feelings and attitudes plays an important role in developing effective strategies. In the future, as digital media continues to advance, research on intangible cultural heritage will need to adapt and innovate in order to ensure that it is better preserved and continues to be passed on in a globalized and digitalized environment.

Although this study gives some insights into the dissemination of Quanzhou Nanyin in the age of social media, there are still shortcomings, such as the sample selection and the lack of in-depth data analysis. Subsequent studies should expand the scope and use more diversified means, so as to more comprehensively understand and help the inheritance and sustainable development of these intangible cultural heritage in today's society.

Conflict of interest

The authors declare no conflict of interest.

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