Original Research Article

Lingnan Cultural Communication Promoting the Development of China's Soft Power in the Digital Era

Zhang Xiaodan[1]*, Sakdina Boonpiam[2] & Sukanya Buranadechachai[3]

ARTICLE INFO

Name of Author & Corresponding Author: *

1. Ms.Zhang Xiaodan*
Faculty of Communication Arts, Bangkok Thonburi University, Thailand.
Email: whaq2008@163.com

2. Dr.Sakdina Boonpiam
Faculty of Communication Arts, Bangkok Thonburi University. Thailand.
Email: sakdina.boon@gmail.com

3. Assoc.Prof.Dr.Sukanya Buranadechachai
Faculty of Communication Arts, Bangkok Thonburi University. Thailand.
Email: sukanyab@buu.ac.th

ABSTRACT

The purposes of this study were: 1) To format a Lingnan Cultural Identity Scale (LCIS) to understand the level of Lingnan cultural identity among college students. 2) To explore the impact factors of Lingnan cultural audio-visual communication on college students' Lingnan cultural identity and 3) To create a guideline of audio-visual communication in the digital era to enhance university students' identification with Lingnan culture and promote China's soft power.

This research employs both qualitative and quantitative research methods. Firstly, based on standardized scales, literature review, and expert interviews, a project pool was formed using Grounded Theory and coding techniques. Following expert revisions and pre-surveys, the refinement of the Lingnan cultural identity scale was completed, resulting in the development of a Lingnan cultural identity scale with good reliability and validity. Subsequently, utilizing the Lingnan cultural identity scale, the study investigated the level of Lingnan cultural identity among contemporary university students. Research methods included questionnaire surveys, experimental approaches, focus group interviews, among others, and analysis involved methods such as analysis of variance (ANOVA) a and independent samples t-test. The aim was to empirically determine the influence factors of digital audio-visual communication on the Lingnan cultural identity of university students. Finally, the study aimed to explore audio-visual communication guidelines in the digital era that enhance the level of Lingnan cultural identity among university students and promote China's soft power.

The results of the research found that: 1) Developed a Lingnan cultural identity scale with good reliability and validity. The scale comprises 19 items across three measurement dimensions, encompassing 11 items measuring the cognitive dimension of Lingnan cultural identity, 5 items evaluating the affective dimension, and 3 items gauging the behavioral dimension.

2) Surveying university students in the Lingnan region revealed that their overall level of identification with Lingnan culture is not low. However, the identification level with the hidden aspects of Lingnan culture surpassed that of the visible aspects. Additionally, the duration of residence in the Lingnan region emerged as a significant factor

influencing Lingnan cultural identity. Experimental studies indicated that digital Audio-visual Communication significantly enhances contemporary university students' identification with Lingnan culture.

3) Established an 'historical narrative + digital strategy' Audio-visual Communication model to elevate the level of Lingnan cultural identity among college students, thereby contributing to the advancement of China's soft power.

Introduction

Since the beginning of the 21st century, the global competition for cultural soft power has been intensifying, and cultural dissemination plays a vital role in international relations and shaping international images. "Enhancing the country's cultural soft power" has become a strategic focus guiding China's cultural construction under the guidance of the scientific development concept. It has evolved into an evaluative indicator of comprehensive national strength and a key research theme in international competition. General Secretary Xi Jinping has repeatedly emphasized the historical influence and significant importance of traditional Chinese culture in the new era, stressing that "excellent traditional Chinese culture is our most profound cultural soft power."

Secondly, fostering cultural confidence and enhancing local cultural identity contributes to the holistic development of individuals and strengthens the soft power of a nation. Regional culture serves as a solid foundation for a nation's cultural soft power (Niu, 2018). As one of the vital inheritors of Chinese historical and cultural heritage, the Lingnan region has exerted significant influence on local architecture, music, literary works, and customs. It not only maintains emotional ties between overseas Chinese and their homeland but also facilitates the overseas dissemination of Chinese traditional culture and cultural exchange. Therefore, researching ways to enhance the radiance of Lingnan culture, bolstering people's cultural identity, thereby elevating China's soft power, is imperative.

Thirdly, as renowned scholar Marshall McLuhan stated, "The medium is the message" (Marshall McLuhan, 1964) implying that significant technological breakthroughs often profoundly alter the forms of media and the ecosystem of public opinion. Presently, the rapid development of new technologies such as 5G, cloud computing, big data, the Internet of Things, augmented reality, and artificial intelligence has provided breakthroughs in media technology. The development and application of digital technology offer Lingnan culture a more diverse and convenient means of dissemination, with boundaries continuously expanding in various application scenarios. Consequently, the construction of Lingnan cultural identity and the audio-visual communication face new technological backgrounds and opportunities.

In conclusion, exploring the ways in which digital empowerment enhances image production and communication by integrating traditional Lingnan culture with modern media technology is crucial. This integration facilitates cultural inheritance and innovation, promoting the global dissemination and recognition of Lingnan culture. Consequently, it enhances China's soft power, meeting the demands of the current era.

Literature Review

This study conducted a review of domestic and foreign research reports and papers using keywords such as "Lingnan culture" "cultural identity" "audio-visual communication" and "soft power". The findings are as follows:

1) Regarding Lingnan culture: The Lingnan region, narrowly defined, refers to the area centered around the Pearl River Delta, including Guangdong Province and the Hong Kong and Macau regions. Broadly defined, it encompasses the Five Ridges, including Guangdong Province, Guangxi Province, Hainan Province, as well as the Hong Kong and Macau regions. Lingnan culture refers to the unique cultural system and traditions of the Lingnan region in China, with a history of thousands of years and distinctive regional characteristics. It includes diverse aspects such as history, culture, language, arts, customs, cuisine, architecture, and values, renowned for its deep historical roots, diverse ethnic features, unique dialects, exquisite craftsmanship, and distinctive forms of music and dance.

Like any regional culture, Lingnan culture can be analyzed through both spatial (horizontal) and temporal (vertical) dimensions. Spatially, it represents a regional culture; temporally, it embodies a historical or epochal culture. Lingnan culture is a significant cultural treasure of Guangdong Province and its surrounding areas, constituting an essential part of the diversity of Chinese culture (Zeng, 2019).

Cultural phenomena and characteristics within social groups or organizations can be described using the concepts of manifest culture (surface culture) and latent culture (deep culture). In Lingnan culture, manifest culture refers to the evident cultural features displayed outwardly, such as traditional architecture, cuisine, clothing, language, arts, and festivals. On the other hand, latent culture refers to the underlying cultural elements hidden beneath the surface, including values, beliefs, customs, attitudes, and behavioral norms within Lingnan culture.

Lingnan culture, as a regional culture, has long been a focus of attention for local cultural and historical scholars. Over the years, researchers have primarily approached this subject from cultural theory, mainly concentrating on areas such as history, folklore, sociology, and urban imagery. For instance, analysis has been conducted from the perspective of historical development to delineate the changes and characteristics of Lingnan culture (Niu, 2018). Cultural studies have also elucidated the role of Lingnan culture in enhancing the urban brand image design of Guangzhou city (Lu, 2018), along with works like "Integrating Lingnan Culture into Youth Education" (Chen, Deng, , 2023). Furthermore, there have been discussions from the standpoint of urban imagery on how "Lingnan culture enhances the city brand image of Guangzhou" (Yuan, 2011). Additionally, scholars have conducted statistical analyses of Lingnan culture research literature based on publication volume, research institutions, and multidimensional keywords (Zhong, 2021). However, overall, there is a lack of analysis based on communication and psychological theories to formulate corresponding communication strategies.

2) Regarding Lingnan cultural identity: Cultural identity refers to the affirmative recognition of the most meaningful aspects of one's own nationality formed through long-term coexistence within a national community. At its core lies the identification with the cultural values and traditions of a nation, serving as the spiritual bond that binds the community together and forms the foundation for its continued existence. This study posits that cultural identity refers to the resonance, recognition, and sense of belonging individuals or groups feel towards their own culture. It encompasses the extent to which individuals perceive and accept their cultural heritage, values, traditions, and social identities. Cultural identity typically involves several aspects: first, the cognitive aspect, which pertains to an individual's understanding of their culture, including its history, traditions, and values; second, the

emotional aspect, which relates to an individual's emotional attitudes towards their culture, such as pride, belonging, and emotional connections; and third, the behavioral aspect, which concerns an individual's behavioral patterns within their culture, including choices, habits, and social interactions.

In recent years, there have been studies exploring the sense of cultural identity within the Lingnan culture, such as "The Influence of Lingnan Culture on International Students in Guangzhou" (Wang, 2018) and "Exploring the Cultivation of Lingnan Culture and Chinese Cultural Identity Among Youth in Hong Kong and Macau in the New Era" (Li, 2022). However, these studies often rely on qualitative research methods, lacking standardized scales, empirical analysis, and quantitative support from objective data. As a result, the understanding of the current status of Lingnan cultural identity remains primarily at the level of experiential and conceptual cognition, making it difficult to effectively measure the level of Lingnan cultural identity.

3) Concerning audio-visual communication: Audio-visual communication is a mode of communication that conveys information and expresses meaning through visual symbols. It utilizes visual media such as images, photographs, paintings, films, and television to communicate and exchange information through visual elements such as color, shape, composition, and dynamics, influencing people's perceptions, thoughts, and behaviors. As a cross-cultural and cross-linguistic mode of communication, images possess intuitiveness and universality, enabling them to overcome understanding barriers caused by language and cultural differences to some extent. In this study, image works comprise five forms: documentaries, films, television dramas, animated films, and promotional short films. In recent years, bolstered by digital technology, images have played an increasingly vital role as one of the carriers for the global dissemination of the "Belt and Road Initiative" enhancing the development of China's soft power (Liu, Dai, 2023).

Presently, research lacks an in-depth analysis of audio-visual communication strategies in the digital age. Particularly, there is a gap in understanding how audio-visual communication in the digital era affects the sense of Lingnan cultural identity among university students and how this identity, in turn, further influences China's soft power. This area presents a research void.

4) About soft power: Soft power is the foundational strength for a nation to maintain long-term advantages, and traditional culture, as a crucial carrier of soft power, has long been acknowledged. For instance, "Leveraging the advantages of traditional culture in communication and educational capabilities can significantly promote the enhancement of China's soft power, thus achieving a balance between soft and hard power" (Zhang & Lu, 2023). Joseph Nye, the originator of the soft power concept, highlighted in an interview that "China's excellent traditional culture is a vital source of its soft power, incredibly attractive, and the concept of soft power can be traced back to China's great philosopher - Laozi" (Liang, 2022).

The concept of "cultural soft power" originates from Joseph Nye's theory of soft power. Generally, soft power is an invisible force embedded within four dimensions: culture, political values, foreign policies, and international image. The role of cultural soft power is twofold. On one hand, it manifests through continuously enhancing the sense of cultural identity within the nation, thereby strengthening domestic cohesion. On the other hand, it extends onto the international stage, where it disseminates the nation's culture, enhances its national image, and expands its influence. Thus, in this study, cultural soft power specifically refers to the cultural attractiveness and influence of a nation or region.

In summary, this study breaks away from conventional literature and empirical research methods by combining qualitative and quantitative approaches. The research questions hold strong theoretical

significance and innovation, offering valuable insights to supplement and enhance the current theoretical research framework on Lingnan cultural identity and image communication.

The research framework or conceptual framework is shown in the figure below. The mixed method research design is based on a convergent design of two methodologies as below.
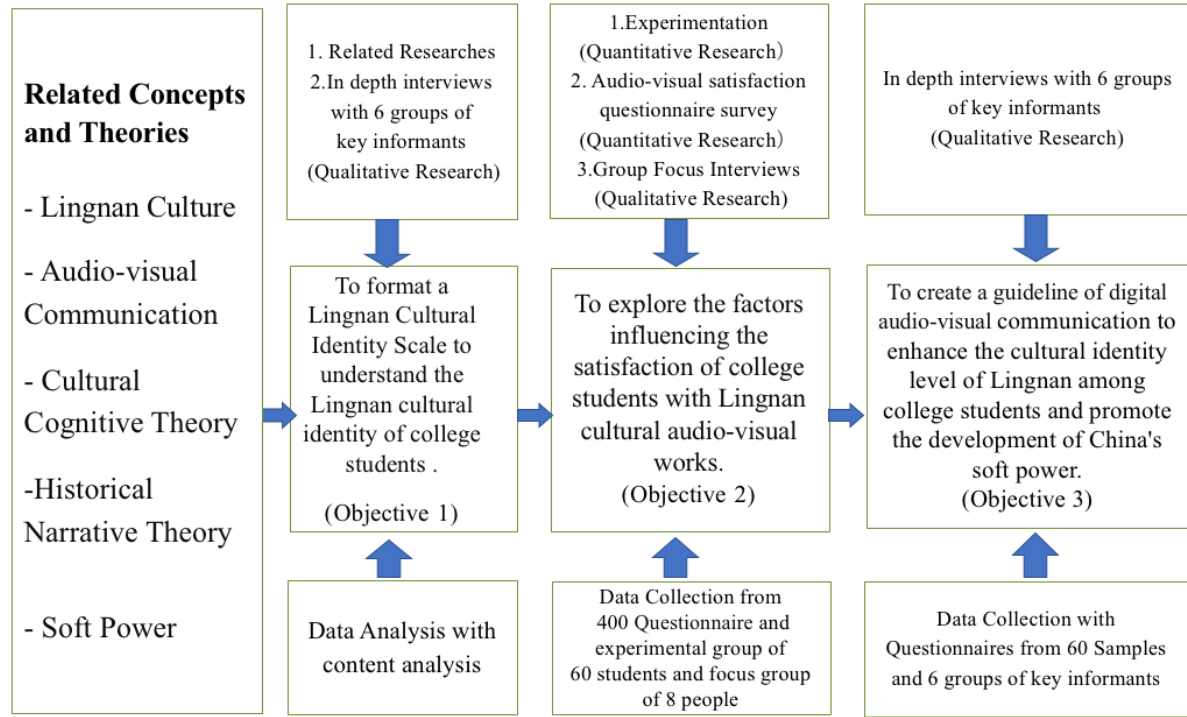

Figure 1: Research Framework

Objectives

1) To format a Lingnan Cultural Identity Scale (LCIS) to understand the level of Lingnan cultural identity among college students.

2) To explore the factors influencing the satisfaction of college students with Lingnan cultural audio-visual works.

3) To create a guideline of digital audio-visual communication to enhance the cultural identity level of Lingnan among college students and promote the development of China's soft power.

Research Methodology

Population and Sample

In-depth interviews in this study encompass individuals with rich experience and knowledge in the field of Lingnan culture. Purposeful sampling method is employed to select the following 6 groups as interviewees. Semi-structured interviews are conducted to delve into their insights:

1) Lingnan culture experts and scholars: Providing profound theoretical and historical knowledge about Lingnan culture, the connotation and characteristics of Lingnan cultural identity, as well as development suggestions. This aims to explore the conceptual features of Lingnan cultural identity and evaluate the portrayal of Lingnan culture in media imagery.

2) Inheritors and practitioners of Lingnan culture: Individuals engaged in traditional arts, cultural performances, handicrafts, and cultural event organizers. Through understanding their creative work

and emotional connection to Lingnan culture, this seeks to uncover the conceptual features of Lingnan cultural identity, discuss inheritance challenges and development suggestions, and evaluate the portrayal of Lingnan culture in media imagery.

3) Residents and tourists in the Lingnan region: By understanding the experiences and feelings of residents living in the Lingnan region and tourists visiting there towards Lingnan culture, this aims to explore the conceptual features of Lingnan cultural identity and evaluate the portrayal of Lingnan culture in media imagery.

4) Digital technology engineers: Understanding the characteristics of 5G technology and predicting the development prospects of image creation in the digital age.

5) Media professionals: Exploring how to produce and disseminate Lingnan culture image works in the digital age.

6) Government officials: Understanding the role of the government and policy support in the dissemination of Lingnan culture.

The sample size will be determined based on the principle of saturation, until no new information or viewpoints emerge.

In the questionnaire survey, it is essential for the research subjects to have a certain understanding of Lingnan culture. As the birthplace of Lingnan culture, the assessment of Lingnan culture and its portrayal in image dissemination by college students residing in Guangdong Province is particularly important for this study. Additionally, research found that Lingnan culture has ancient roots, extending southward to Vietnam, Thailand, Malaysia, Singapore, and Indonesia. Therefore, the overall target population consists of all university students residing and studying in the Lingnan region and university students in Southeast Asian countries who have a certain level of awareness of Lingnan culture.

In the questionnaire survey using the "Lingnan Cultural Identity Scale" the total sample size should be no less than 400, to ensure the representativeness and diversity of the sample. Three universities in Guangzhou city are selected to recruit students from different grades and majors, while a intercept survey method is employed at Bangkokthonburi University in Bangkok, Thailand, to randomly select students with knowledge of Lingnan culture. If the respondents have no knowledge of Lingnan culture, they are not required to answer. The sample groups are representative, with minimal error, and are scientifically valid.

In the questionnaire survey on "Satisfaction with Lingnan Culture Audio-visual Works" students from Guangzhou Nanfang College in Guangzhou, China are recruited as experimental subjects. Guangzhou Nanfang College is a private undergraduate institution, and its student body mostly comes from Lingnan cultural regions such as Guangdong and Guangxi provinces. They represent the successors of Lingnan culture. These students are randomly divided into experimental and control groups, each consisting of 60 people. The experimental group will watch Lingnan culture-related audio-visual works, ensuring that the content is rich and appealing, while the control group will not watch them.

Variables

Firstly, Cultural Identity and Audio-visual Communication. Through theoretical deduction and experimental methods, verifying Research Hypothesis 1, which states that digital image communication significantly enhances the level of Lingnan cultural identity among university students. The dependent variable is the level of Lingnan cultural identity, while the independent variable is digital-era Lingnan cultural image communication, measured using the 'Lingnan Cultural Image Work Satisfaction Survey

Questionnaire. Control of confounding variables primarily involves randomization and pre-post measurement with controlled groups.

Secondly, Audio-visual Communication and Soft Power: Through literature review and in-depth interviews, it is evident that audio-visual communication can be a significant tool for enhancing a country's soft power. Therefore, audio-visual communication serves as the independent variable, and China's soft power as the dependent variable.

Thirdly, Cultural Identity and Soft Power: There exists a correlation between cultural identity and soft power. A robust cultural identity, as part of a country's soft power, represents the nation's culture, values, and attractiveness. Hence, audio-visual communication serves as the independent variable, and China's soft power as the dependent variable.

Fourthly, Indirect Effects and Mediating Variables: Audio-visual communication can indirectly influence soft power through its impact on cultural identity. In this scenario, cultural identity serves as a mediating variable, acting as a bridge influencing the relationship between the communication medium and soft power.
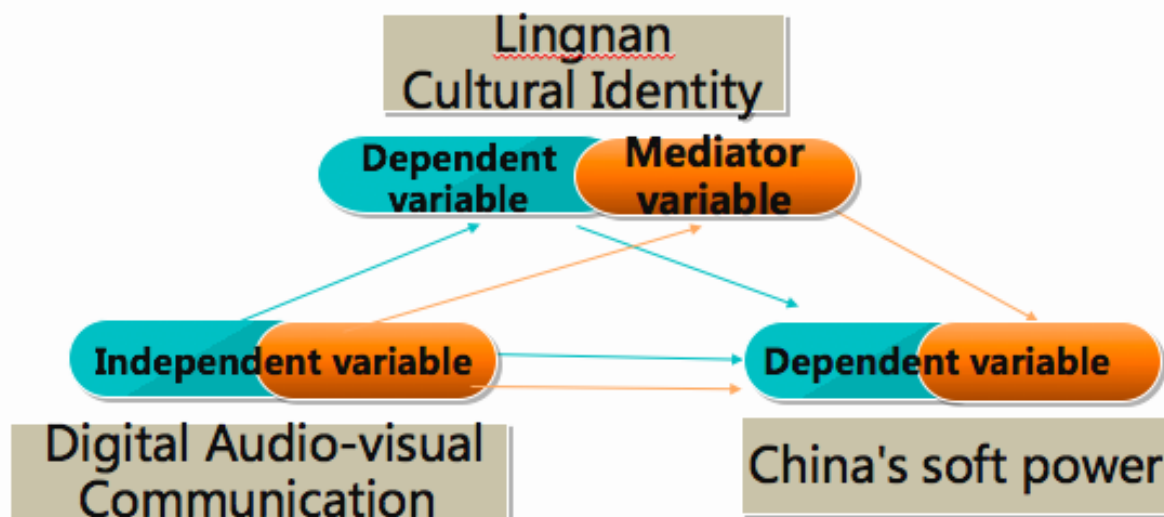

Figure 2: Variable Relationships

Research Scope

From March 2023, this study conducted in-depth interviews with six groups. A pilot study was conducted on September 5, 2023, randomly selecting a small subset of university students. A preliminary Lingnan cultural identity scale consisting of 27 items was distributed to 30 participants via the online platform Questionnaire Star (http://www.wjx.cn). After expert evaluation and refinement, a final scale comprising 19 items was developed. From October 10 to December 30, 2023, 400 valid questionnaires were collected from three universities in Guangzhou, China, and Bangkokthonburi University in Bangkok, Thailand. Concurrently, an experimental approach was employed with 60 individuals in both control and experimental groups at Guangzhou Nanfang College in Guangzhou. The experimental group underwent three consecutive Tuesday morning sessions watching designated Lingnan cultural audio-visual works. Both groups completed the Lingnan cultural identity scale before and after viewing, along with the 'Lingnan Cultural Audio-visual Work Satisfaction' survey. Recognizing

that focus groups typically consist of 6 to 12 participants to ensure diversity and interaction, eight individuals were selected from the 60 experimental group participants for a focused group interview to delve deeper into their perceptions and suggestions regarding the digital audio-visual works.

Research Tools

1) In-depth Interviews: Conducted through various means such as phone calls, emails, face-to-face interactions, engaging 6 groups including experts and scholars in Lingnan culture, inheritors and practitioners, residents, tourists, digital technology engineers, media practitioners, and government officials. These interviews aim to extract the conceptual characteristics of Lingnan cultural identity as well as the features and future prospects of digital technology.

2) Qualitative Research Tool Nvivo 12: Qualitative research data (such as interview recordings, transcripts, etc.) are imported into the Nvivo 12 project. Through nodes and coding, data refinement and extraction are completed.

3) Development of the Formal Lingnan Cultural Identity Scale: This scale is intended for assessing the level of Lingnan cultural identity among university students. The Likert 5-point scale method is used, quantifying items as "strongly disagree" "disagree" "neutral" "agree" and "strongly agree."

4) Audio-visual Communication Satisfaction Survey Questionnaire: Employing the Cognitive-Affective-Behavioral model, this questionnaire quantifies the impact of digital-era Lingnan cultural audio-visual communication on the sense of identity among university students. It also examines the positive influence of this identity on China's soft power, laying a solid foundation for the empirical analysis of the thesis.

5) Experimental Method: Employing a pre-test and post-test design, random university student subjects are allocated to experimental and control groups. They undergo pre-testing, treatment, and post-testing. Data is organized and analyzed to examine the impact of digital audio-visual works on the level of Lingnan cultural identity among university students. The Lingnan cultural audio-visual works viewed by the experimental group include documentaries: "Taste of Old Guangzhou" "Taste of Shunde" 4K archaeological documentary "The Origin of Lingnan, Exploring Ancient Guangdong" VR documentary "From the Greater Bay Area" city audio-visual promotional videos, short videos featuring songs and dances, etc.

6) Statistical Analysis: Utilizing statistical methods and SPSS software to analyze the collected data.

Data Collection

The data collection process commenced in January 2023 and employed diverse methodologies for a comprehensive and scientific approach to the research.

1) Qualitative Data Collection

Firstly, in January 2023, existing relevant scales were referenced through literature analysis, including the MEIM scale for ethnic identity (Phinney J S, 1992), and the Traditional Chinese Medicine Cultural Identity Scale (Pan, 2021). A standardized scale production protocol was extracted from these references.

Thirty-five articles were retrieved from Lingnan culture-related literature and works, extracting the conceptual characteristics of Lingnan cultural identity across dimensions such as regional sentiments, historical legacies, language and dialects, local customs, arts and culture, religious beliefs,

societal values, cultural symbols, innovation, and community belonging. Utilizing the Grounded Theory research method, original entries were coded and classified to derive key concepts and categories from qualitative data. Under the node "Conceptual Characteristics of Lingnan Cultural Identity" sub-nodes such as "Cognition of Lingnan Culture" "Emotional Connection with Lingnan Culture" and "Behavioral Aspects of Lingnan Culture" further delineated individual conceptual characteristics. Independent incremental coding was performed by research team members, resulting in 3 categories and 27 entries.

Secondly, from March 2023, in-depth interviews were conducted with six distinct groups, comprising experts, heritage bearers, practitioners, residents, tourists, digital technology engineers, media professionals, and government officials. Interview outlines varied slightly based on interviewees' identities but uniformly included queries related to "Cognition of Lingnan Culture" "Emotional Connection with Lingnan Culture" and "Behavioral Aspects of Lingnan Culture." Interviews were recorded and transcribed concurrently to ensure accurate documentation of key points and avoid errors arising from singular recording methods. Remaining impartial, the interviews referenced the provided outline while encouraging participants to express their thoughts freely. Interviews concluded when discussions lacked novelty. Employing semi-structured face-to-face interviews and probing for details, the recorded interviews were transcribed into textual data, generating 20 initial items, such as "Lingnan culture emphasizes family harmony and social values" and expanded the initial pool to 47 items.

Thirdly, expert evaluations were conducted to create the preliminary measurement scale. The 47-item pool was reviewed and revised by experts in cultural studies, psychology, and history in the Lingnan cultural field. Following expert opinions, the scale was optimized, revising item entries, eliminating reverse-scored items, ultimately finalizing 27 items.

Fourthly, a focused group interview was conducted on October 24, 2023, selecting 8 individuals from the experimental group of 60 participants to delve into their Lingnan cultural identity levels and gather feedback on digital audio-visual works.

2) Quantitative Data Collection

Firstly, a preliminary survey was conducted on September 5, 2023, via the Questionnaire Star website (http: //www.wjx.cn). Using the initial 27-item Lingnan cultural identity scale, 30 questionnaires were randomly distributed among a small subset of university students, yielding 29 valid responses (96.67% effectiveness). Eight items with CITC values below 0.5 were removed, resulting in a formal scale comprising 19 items.

Secondly, a large-scale survey was conducted from October 10 to December 30, 2023, distributing the "Lingnan Cultural Identity Scale" at three universities in Guangzhou, China, and Bangkokthonburi University in Bangkok, Thailand. Employing on-site surveys for completion and retrieval, 405 questionnaires were distributed, with 400 valid responses (98.8% effectiveness). SPSS software was utilized for the analysis of valid responses.

Thirdly, an experimental approach was implemented at Guangzhou Nanfang College in Guangzhou, with 60 participants each in the experimental and control groups. Commencing from October 10, the experimental group collectively viewed specified Lingnan cultural audio-visual works for three consecutive Tuesday mornings. Pre- and post-viewing, both groups completed the Lingnan cultural identity scale, along with a "Lingnan Cultural Audio-visual Work Satisfaction" survey post-viewing.

Result

1) Format a Lingnan Cultural Identity Scale

Section 1 The official Lingnan Cultural Identity Scale (LCIS)

Using qualitative and empirical research methods, following standard scale compilation standards, a new Lingnan Cultural Identity Scale (LCIS) was developed and validated. The scale comprises 19 items across three measurement dimensions: 11 items (Q1-Q11) measure the cognitive dimension of Lingnan cultural identity, 5 items (Q12-Q16) capture the emotional dimension, and 3 items (Q17-Q19) focus on the behavioral dimension of Lingnan cultural identity. The specific content of the LCIS items is as follows:

Q1: I believe that Lingnan culture has nurtured the unique spiritual style of Lingnan people and continuously enriched the connotation of Chinese culture.

Q2: I believe that marine culture has nurtured a pragmatic, open, compatible, and innovative Lingnan culture, creating, inheriting, and developing intangible cultural heritage with distinct historical characteristics, regional colors, and rich connotations.

Q3: I know that Guangdong music, Cantonese opera, and Lingnan Painting School are known as the three major artistic treasures of Lingnan.

Q4: I am familiar with traditional festivals and activities in Lingnan, such as the Polo Birthday Temple Fair, Dragon Boat Race during the Dragon Boat Festival, Temple Fair, Flower Street Shopping, Muyu Song, Lion Dance, Qiqiao Festival, etc.

Q5: I know that Xiguan copper making, Cantonese embroidery, brick carving, olive carving, Shiwan pottery, and Tongcao Painting are traditional handicrafts in the Lingnan region.

Q6: I know that Lingnan cuisine culture has a great regional influence in China, represented by Cantonese cuisine, which is one of the eight major cuisines in China.

Q7: I know that there are Cantonese dialects, Chaoshan dialects, and Hakka dialects in the Lingnan region.

Q8: I know that Lingnan culture and architectural culture embody an enterprising spirit of "inclusiveness, daring to innovate, and drawing on the strengths of others" everywhere. Among them, the arcade, Hakka Wailong House, and Kaiping Diaolou not only have a blend of Chinese and Western styles, but also have a strong local customs atmosphere.

Q9: I agree with the concrete images of Lingnan culture, such as Guangzhou Tower, Wuyang Sculpture, Spring Festival Flower Market, Manchu Window, Wing Chun Quan, Huang Feihong, Sun Yat sen, Liang Qichao, etc., which are very influential.

Q10: I know that Huineng, the sixth ancestor of Zen Buddhism in China, is known as one of the top ten thinkers in the world and is listed alongside Confucius and Laozi as the Three Sages of the East.

Q11: I know that Lingnan culture values family harmony and social harmony.

Q12: I feel happy living in the Lingnan region.

Q13: I believe that the Lingnan cultural industry in the digital era should increase the application of digital media and integrate traditional culture with modern elements.

Q14: I believe that the academic community should increase research and education on Lingnan culture.

Q15: I believe that we can increase cultural exchanges and cooperation with other countries and regions to promote the dissemination of Lingnan culture.

Q16: I believe that the government's policies and legal framework are crucial for the protection and development of Lingnan culture.

Q17: I am willing to watch documentaries, microfilms, TV dramas, or VR or AR works related to Lingnan culture.

Q18: I am willing to be exposed to Lingnan culture and express my emotions towards it through language, behavior, or social media.

Q19: I believe that I have a responsibility to inherit and protect Lingnan culture.

Section 2 Reliability Analysis (Table 1)

sample size	Item	Cronbach.α
400	19	0.937

Table 1: Reliability Analysis Result

The Cronbach's coefficient of 0.937 indicates that the questionnaire demonstrates high reliability and internal consistency, capable of yielding dependable and stable results. Additionally, this result suggests that these 19 items exhibit considerable similarity and consistency when measuring the same concept or trait. Consequently, the questionnaire can be considered an effective measurement tool suitable for evaluating relevant characteristics or behaviors of the research subjects."

Section 3 Validity Analysis (Table 2)

Items	Factor1	Factor 2	Factor 3	Commonality
1	0.70	0.21	0.30	0.622
2	0.69	0.11	0.33	0.601
3	0.29	0.15	0.74	0.664
4	0.33	0.19	0.76	0.723
5	0.22	0.15	0.84	0.782
6	0.45	0.47	0.14	0.447
7	0.80	0.11	0.13	0.669
8	0.69	0.11	0.44	0.679
9	0.76	0.20	0.31	0.720
10	0.27	0.06	0.83	0.767
11	0.63	0.32	0.25	0.562
12	0.51	0.50	0.21	0.562
13	0.46	0.54	0.24	0.562

Items	Factor1	Factor 2	Factor 3	Commonality
14	0.57	0.57	0.19	0.677
15	0.63	0.47	0.30	0.706
16	0.34	0.78	0.11	0.731
17	0.10	0.88	0.14	0.808
18	0.14	0.87	0.07	0.788
19	0.08	0.87	0.07	0.769
Eigenvalues (pre-rotation)	9.22	2.44	1.18	-
Variance Explained % (pre-rotation)	48.51%	12.85%	6.21%	-
Cumulative Variance Explained % (pre-rotation)	48.51%	61.36%	67.58%	-
Eigenvalues (post-rotation)	4.93	4.52	3.39	-
Variance Explained % (post-rotation)	25.93%	23.79%	17.85%	-
Cumulative Variance Explained % (post-rotation)	25.93%	49.73%	67.58%	-
KMO	0.928			-
Bartlett's Sphericity Value	5650.076			-
df	171.000			-
p	-			-

Table 2: Validity Analysis Result (Items 1-19 are Q1-19 of ICIS)

The validity analysis data indicates that the questionnaire demonstrates good structural validity, effectively reflecting respondents' attitudes and behaviors. The distinction among the three factors of the questionnaire is notably strong, highlighting its good discriminant validity. Additionally, the KMO value, Bartlett's sphericity test, and df data also confirm the questionnaire's strong validity. Therefore, this questionnaire can be utilized for further research and investigations.

2) Measuring the level of Lingnan cultural identity among university students.

Result 1: Further analysis was conducted with items Q1, Q2, Q11, Q15, Q18, and Q19 of the scale representing implicit cultural identity in Lingnan, while items Q3 to Q10, Q12 to Q14, Q16, and Q17 were regarded as indicators of explicit cultural identity in Lingnan. The results showed a difference in the samples' identification with the explicit and implicit aspects of Lingnan culture, as follows: Explicit Culture = 4.103 < Implicit Culture = 4.653. F = 24.402, p-value = 0.000. It is evident that

university students have a higher level of recognition for the implicit aspects of Lingnan culture compared to the explicit ones (Table 3).

	Mean	minimum	maximum	N
Explicit Cultural Identity of Lingnan Culture	4.103	1.09	6.00	401
Implicit Cultural Identity of Lingnan Culture	4.653	2.03	6.00	401

Table 3: Comparison of Identification between Lingnan Explicit Culture and Hidden Culture

Result 2: According to the regression analysis, the regression coefficient of residence time in Lingnan region (independent variable 4) is 0.27, with a t-value of 8.60 and a p-value far less than 0.001, indicating that residence time in Lingnan region has a significant impact on the dependent variable. The longer one lives in the Lingnan region, the higher their level of Lingnan cultural identity (Table 4).

options	regression coefficient	t	p	VIF
7. Your residence time in Lingnan area	0.27	8.60	0.000**	1.07
sample size	400			
* p<0.05 ** p<0.01				

Table 4: The regression analysis results

3) To explore the impact factors of Lingnan cultural audio-visual communication on college students' Lingnan cultural identity.

Result 3: Digital audio-visual communication can significantly enhance the cognitive, emotional, and behavioral recognition of Lingnan culture among college students. The pre-test and post-test values of Lingnan cultural identification for the experimental and control groups underwent both cross-sectional and longitudinal sample t-tests, as shown in the table 5 below (Table 5).

	pre-test mean	post test mean	T	p
Control group	3.608	3.610	0.121	0.787
Experimental group	3.597	4.622	4.657	0.000**
T	0.474	5.740	-	-
p	0.655	0.000**	-	-

** p<0.01

Table 5: The pre-test and post-test data of the control group and the experimental group.

(1) Cross-sectional Analysis: The post-test mean of the experimental group, 4.622, is greater than the pre-test mean, 3.597, indicating a significant increase in Lingnan cultural identification after the experimental treatment. Meanwhile, the control group's post-test mean is 3.610, similar to its pre-test mean of 3.608, suggesting no significant difference in Lingnan cultural identification levels between the control group's post-test and pre-test values.

(2) Longitudinal Analysis: The sample description indicated no significant difference in Lingnan cultural identification between the pre-test experimental and control groups. After the experimental treatment, the post-test mean of the experimental group, 4.622, surpasses the post-test mean of the control group, 3.610, signifying a significant increase in Lingnan cultural identification for the experimental group following exposure to visual media, compared to the control group.

Result 4: According to the results of the analysis of variance presented in Table 6, it is evident that there is a significant difference between the independent variable (willingness to watch promotional videos, documentaries, short films, TV dramas, or VR/AR works related to Lingnan culture) and the dependent variable (I feel responsible for inheriting and protecting Lingnan culture) (Table 6).

13. I am willing to watch promotional videos, documentaries, microfilms, TV dramas, VR, AR works related to Lingnan culture(mean ± standard deviation)				F	p
	2.0(n=10)	3.0(n=67)	4.0(n=162)5.0(n=161)		
15. I believe it is my responsibility to inherit and protect Lingnan culture.	2.90±0.57	3.28±0.95	3.85±0.68 4.79±0.47	111.719	0.000**

* p<0.05 ** p<0.01

Table 6: The results of the analysis of variance

The F value of 111.719 indicates that at a 95% confidence level, the independent variable 1 has a significant impact on the dependent variable. From a mean perspective, as the independent variable 1 increases from "strongly disagree" to "strongly agree" the mean of the dependent variable increases from 2.90 to 4.79. This suggests that the higher the willingness to watch promotional videos, documentaries, short films, TV dramas, or VR/AR works related to Lingnan culture, the higher the perceived responsibility for inheriting and protecting Lingnan culture. After individual interviews with

some respondents, it was revealed that they believed that through these works, they could gain a deeper understanding and appreciation of the charm of Lingnan culture, leading to a stronger willingness to protect and inherit it. Therefore, disseminating and promoting Lingnan cultural image works is an effective strategy to raise awareness of one's responsibility and engage more people in the protection and inheritance of Lingnan culture.

Result 5: Factors influencing university students' satisfaction with Lingnan cultural iaudio-visual works. After distributing a satisfaction survey questionnaire on Lingnan cultural digital audio-visual works, supplemented by focus group interviews, it was found that the influencing factors of college students' satisfaction with Lingnan cultural digital audio-visual communication involve multiple aspects:

1) Content Quality and Diversity: Most people are satisfied or very satisfied with the content of visual works. The quality and diversity of image content directly affect audience satisfaction. High quality, diverse, and attractive content can often improve audience satisfaction.

2) Expression and Visual Effects: Most people are satisfied or very satisfied with the audio-visual effects of visual works. The shooting techniques, visual aesthetics, editing techniques, and degree of digital application all have an impact on the image satisfaction of college students.

3) Information Transmission and Clarity: Most people believe that "after watching the video works just now, they have a better understanding of Lingnan culture" and "the video works just watched can express the characteristics of Lingnan culture". The clarity of information transmission and the comprehensibility of content also have an impact on audience satisfaction.

4) Identity and Emotional Resonance: Most people believe that the dissemination of Lingnan cultural images can enhance their sense of identity with Lingnan culture. Watching Lingnan cultural image works can generate positive emotions such as identification (71.67%), enhanced understanding (71.67%), pride (73.33%), and stimulation of inheritance intention (60%). This indicates that whether the image content can evoke emotional resonance among the audience, whether the story is strong, and whether it is engaging are important factors that affect satisfaction. It also indicates that the dissemination of Lingnan cultural images plays a positive role in promoting and inheriting Lingnan culture.

5) Personal Factors of the Audience: The majority of people's preferences for the content of Lingnan cultural image works are as follows: traditional festivals and customs (86.67%), Lingnan cuisine (86.67%), Lingnan art forms (65%), Lingnan cultural and historical inheritance (63%), scenic spots and architecture (61%), indicating that the respondents' preferences for the content of Lingnan cultural image works mainly focus on traditional festivals and customs, Lingnan cuisine Lingnan art forms and the historical inheritance of Lingnan culture. These contents can be a key focus when producing Lingnan cultural image works. The personal preferences, interests, cultural background, and viewing experience of the audience may also affect their satisfaction with the visual works.

From the perspective of favorite video styles, traditional narrative style (96.67%) is the most popular video style, documentary style (70%) is the second most popular video style, realistic style (60%) is the third most popular video style, followed by experimental style (43.33%) and cinematic art style (33.33%). The traditional narrative style is the most popular video style, while the abstract art style is the least popular video style. Documentary style, realistic style, and experimental style also have a certain degree of popularity.

From the perspective of video platform, the most people choose to watch on Bilibili platform (81.67%), followed by Tiktok (63.33%), Tencent Video (50%) and Lichi (26.67%). The viewing rates on YouTube (13.33%) and Youku (20%) platforms are relatively low. It can be seen that the Bilibili platform

is the most popular platform for respondents to watch Lingnan cultural video works, followed by Tiktok, Tencent Video and Litchi. The viewing ratio of YouTube and Youku is relatively low.

3) Create a Guideline for "Historical Narrative+Digital Technology" in Audio-visual Communication. Firstly, the theory of historical narrative is a method used to explore and interpret historical events and phenomena. It focuses on studying historical stories, narratives, and storytelling methods, suggesting that history is constructed and conveyed through stories and narratives. This theory emphasizes the significance of historical stories in shaping people's understanding of past events. It also highlights how factors like values, viewpoints, and the storyteller's position in historical narratives can influence people's perceptions of historical events. Within the context of Lingnan cultural image dissemination strategies, the theory of historical narrative can assist in shaping and conveying the stories and history of Lingnan culture. By utilizing digital visual media, it enables individuals to gain a more vivid and in-depth understanding of the cultural heritage and traditional values of the Lingnan region, thereby enhancing the audience's sense of identification and comprehension of this culture. The specific suggestions are as follows:

Historical Narrative Purpose: To explore the purpose and significance of historical narrative, including understanding historical truth, shaping historical ideology, and conveying values.

Historical Facts and Events: The theory of historical narrative divides history into two levels: events and stories. Historical facts are facts and events that occur in history, and historical events are the interpretation and presentation of these historical facts, serving as the foundation of historical narrative. By exploring the rich historical resources of Lingnan culture, selecting representative and touching historical events or characters as the main storyline, constructing a resonant historical narrative, and presenting their lives and deeds in a narrative style, the audience can find resonance and identification in historical stories, thus better understanding the tradition and spirit of Lingnan culture.

Narrator and Viewpoint: Historical narrative theory focuses on the role and position of the narrator in historical narrative, as well as how the narrator influences the construction and interpretation of historical narrative. Multiple narrative perspectives can be used to present the historical development process of the Lingnan region, making the dissemination of images more three-dimensional and vivid, and attracting audiences with different backgrounds and interests.

Narrative Framework: The theory of historical narrative studies the structure and form of historical narrative, including the beginning, development, climax, and ending of narrative, as well as the linear or nonlinear structure of narrative. In image dissemination, adopting a structured narrative framework can help the audience better understand the historical context and development trajectory of Lingnan culture. Historical events can be organized and presented in chronological order or thematic classification, enabling the audience to clearly understand the evolution process of Lingnan culture.

The Language and Style of Historical Narrative: Modern technological means such as virtual reality and interactive imagery can be utilized to provide audiences with a participatory narrative experience. Viewers can explore the history and traditions of Lingnan culture through interactive participation, enhance their sense of participation and experience, and thus gain a deeper understanding and cognition of Lingnan culture.

Secondly, by utilizing digital media technology, we can construct a story world that carries Lingnan culture, forming a comprehensive media ecosystem of Lingnan culture. Digitalization empowers the production and dissemination of images, breaks through the aesthetic imagination of users, and brings a continuous source of creativity to promote Lingnan culture. Image dissemination follows the chain of "traditional culture - media coding - market coding - contemporary culture", transforming Lingnan culture into contemporary popular culture, intertexturing the long-standing historical texts of Lingnan culture with the current context, effectively stimulating the enthusiasm and action of modern people, especially "digital indigenous people", promoting digital inheritance and protection, thereby promoting the creative transformation and innovative development of China's excellent traditional culture, and promoting the development of China's soft power.

Through in-depth interviews, group focus interviews, and survey questionnaires, it was found that contemporary college students place greater emphasis on their expectations for the novel experiences of Lingnan culture. The current use of live performances, 3D movies, and other forms has enhanced the audience's immersive experience. AI (artificial intelligence), AR (augmented reality), VR (virtual reality) and other technologies have brought richer production methods and presentation forms to images. Therefore, deep integration with cutting-edge technology is an important direction for utilizing animation works to inherit traditional cultures such as Lingnan culture, and it is also a necessary path.
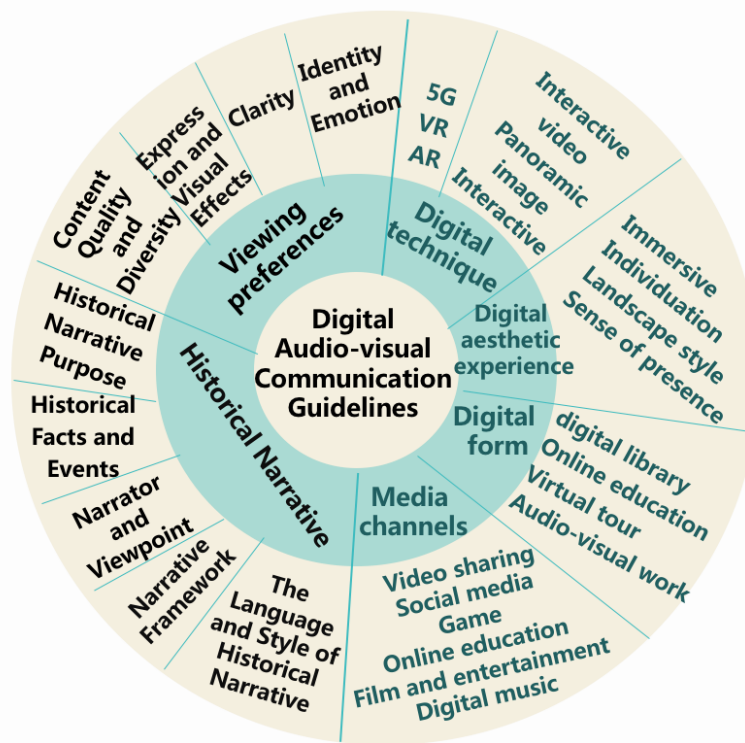

Figure 3: Historical Narrative+Digital Technology" Audio-visual Communication Guideline

Discussion

1) In the discussion of cultural identity, the attitude-emotion approach and the value-typing approach are two most representative viewpoints. The attitude-emotion approach emphasizes the close connection between cultural identity and the emotions individuals experience, such as a sense of belonging and pride. The value-typing approach focuses on the degree of alignment between cultural identity and cultural values. Due to the fact that some typical value scales commonly adopt the value-typing approach, this study also referenced research on the connotations and values of Lingnan culture when developing the scale. However, the study subsequently found that the expressions of Lingnan cultural identity mentioned by interviewees were not limited to core values and cultural connotations, but rather focused more on personal emotions. Therefore, the Lingnan cultural identity scale developed in this study is not a value scale but follows the attitude-emotion approach.

2) Previously, researchers found that contemporary university students had a low level of awareness of Lingnan culture, with "79.82% of students having very little understanding, and 20.18% having a vague understanding" (Huo & Sun, 2017). In contrast to these findings, this study, based on the Lingnan cultural identity scale developed, distributed questionnaires and found that the overall

level of identification with Lingnan culture among university students in the Lingnan region is not low. However, significant differences were observed in terms of length of residence, explicit cultural awareness, and implicit cultural awareness.

Conclusion

Currently, research on the level of identification with Lingnan culture mostly relies on qualitative methods, lacking standardized scales and empirical analysis. Understanding of the current status of Lingnan cultural identity remains primarily at the level of experience and conceptual cognition. There is a research gap regarding how university students' identification with Lingnan culture and image dissemination further influence China's soft power. This study breaks through previous literature and empirical research methods by combining qualitative and empirical research. Based on in-depth interviews and analysis of survey questionnaires, the study utilizes cultural identity theory, grounded theory, historical narrative theory, cognitive-affective-behavioral models, and coding techniques to develop, for the first time, a Lingnan cultural identity scale with good reliability and validity, providing a measurement tool for assessing the level of Lingnan cultural identity. Simultaneously, through a survey on satisfaction with Lingnan cultural image works, the study explores the mechanism through which image dissemination affects university students' identification with Lingnan culture, constructing an "historical narrative + digital strategy" image dissemination model to enhance university students' level of identification with Lingnan culture and contribute to the development of China's soft power. The research questions have strong theoretical value and innovation, helping to supplement and improve the theoretical research system and content of Lingnan cultural identity and laying an important foundation for subsequent related research.

Recommendations

Implication of the Study

Firstly, it contributes to the thriving rural cultural and tourism industry. Leveraging the distinctive allure of the excellent traditional culture of Lingnan, such as making full use of historical cultural landmarks, renowned stories, and literary works, the initiative introduces representative provincial intangible cultural heritage projects. By delving deeply into folk arts, operas, and other vibrant cultural elements, it not only empowers the revitalization of rural tourism but also propels the creative transformation and innovative development of Lingnan's traditional culture.

Secondly, it fosters the development of the cultural industry and generates employment opportunities. The dissemination of Lingnan culture drives the growth of the cultural industry, encompassing fields like film production, creative cultural products, and digital media technology. The advent of the digital age has significantly altered the landscape of cultural dissemination. In recent years, Lingnan culture has expedited its digital transition, achieving notable milestones. Initiatives like establishing the Lingnan Cultural Network Digital Platform, the world's largest Cantonese original audio aggregation mobile application "Listen to Cantonese" app, creating the first provincial-level physical museum focused on regional dialects—the Lingnan Dialects Cultural Museum, and the first comprehensive financial museum in South China—the Lingnan Financial Museum. Productions such as the 4K archaeological documentary "The Origins of Lingnan: Exploring Ancient Yue" and the VR documentary "From the Greater Bay Area" leverage the potency of 5G media technology to invigorate the core of Lingnan culture, presenting Chinese stories in a contemporary and appealing manner.

Thirdly, it promotes international exchanges and integration, contributing to the development of China's soft power. Within the context of the "Belt and Road" initiative, thorough research on how to disseminate Lingnan culture globally through digital media and judicious application of VR technology and various other communication methods for showcasing traditional culture can facilitate cultural exchange and understanding. This, in turn, enhances urban image projection, fosters international cultural exchange and integration, and augments China's soft power development.

Lastly, it provides a reference for policy formulation. The experience and outcomes achieved through the propagation of Lingnan culture in the study can offer constructive insights and decision-making support to government management entities and industry associations in formulating policies conducive to the prosperous development of Lingnan cultural initiatives.

Recommendations for Future Research

Firstly, given the strong implicit and constructive characteristics of cultural identity, which is an extremely complex social phenomenon, coupled with limited empirical research references and limited number of interview samples, there may be unexplored statement items. The content of the scale and the extracted dimensions of identity are still lacking, and some existing measurement items are also worth continuous discussion and refinement. In addition, due to limited research time and funding, the sample size of this study is still limited, and the majority of the obtained samples are concentrated in the Guangzhou area, without involving urban-rural differences, which may limit the generalizability of the research conclusions. Future research can attempt to conduct large-scale surveys targeting a wider range of regions, or conduct surveys and comparative analysis between regions, in order to validate this scale.

Secondly, in the manipulation of the independent variable "Lingnan Cultural Image Communication", only the manipulation of new media communication content has been involved, and the manipulation of new media communication application platforms or forms, especially digital image communication forms, has not been included, which to some extent affects the validity of the experimental research. The next stage requires the study of strategies and methods for the dissemination of Lingnan cultural images in the digital era through a relatively large number of digital image works.

References

Chen, J. Y., & Liu, W. (2022). Study on the cultural identity path of young people in Guangdong, Hong Kong, and Macao—An analysis based on the perspective of Lingnan culture communication. *Southern Media Studies, (03),* 103-108.

Chen, M., & Deng, K. W. (2023). Exploring the path of integrating Lingnan culture into the cultivation of young Marxists in Guangdong universities. *Journal of Hubei Open Vocational College, 22*, 130-132.

Du, F. (2020). Study on the "going out" of Lingnan culture under the background of the Belt and Road Initiative. *Journal of Cultural Studies, (11),* 6-10.

Fan, J. (2009). Research on the crisis of cultural identity among new generation university students. *Journal of China Youth Political College, (06),* 11-16.

Huang, Y. W. (2018). On the interactive relationship between regional culture and national cultural soft power. *Chongqing Social Sciences, (01),* 115-121.

Jin, X. (2023). Chinese traditional culture in the metaverse: Innovative display methods in the digital age. *Art Appreciation, (27),* 9-12.

Liang, C. P. (2022, May 6). Joseph Nye: Excellent traditional culture is an important source of China's soft power. *Chinese Social Sciences Today*, 003.

Liu, X., & Dai, Y. (2023). Cultural construction of community: Value orientation and practical approach of "Belt and Road" image communication. *Chinese Television, (10),* 23-27.

Lu, J. (2020). On the role of Lingnan culture in enhancing the urban brand image design of Guangzhou. *China Nationalities Expo, (10),* 65-66.

Lu, Y. L. (2012). Cultural identity issues among contemporary Chinese youth. *Contemporary Youth Research, (05),* 1-5.

Lv, L. (2023). Cross-cultural dialogue and communication in films from the perspective of interculturality. *Sichuan Drama, (10),* 90-95.

Ma, J. (2019). Study on the international influence of socialist core values under the background of the Belt and Road Initiative—From the perspective of international communication of Lingnan culture. *Social Sciences Front, (03),* 16-20.

McLuhan, M. (2000). *Understanding Media: The Extensions of Man* (Translated by He Daokuan). Beijing: The Commercial Press.

Niu, X. Y. (2018). Lingnan culture and social changes in Ming Dynasty Guangdong. *Cultural Relics Identification and Appreciation, (08),* 46-48.

Pan, X. Y. (2021). Research on cultural identity of traditional Chinese medicine in the new era: Scale design, current situation investigation, and discussion of countermeasures (Doctoral dissertation, Hubei University of Chinese Medicine).

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*, 156–176.

Ran, H., & Deng, Q. (2012). From internet usage to cultural identity: A quantitative study based on college students. *Modern Communication (Journal of Communication University of China), (06),* 115-118.

Stern, H. H. (1992). *Issues and options in language teaching*. Oxford: Oxford University Press.

Wang, F. (2018). The influence of Lingnan culture on international students in Guangzhou (Master's thesis, Guangdong University of Foreign Studies). Retrieved: 08/09/2023. From https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201901&filename=1018870513.nh

Xia, D. Y., & Lu, Y. Q. (2023). New opportunities for the dissemination of excellent traditional Chinese culture images in the era of metaverse. *China Publishing Journal, (Z1),* 15-19

Yuan, Z., & Wang, H. F. (2019). Construction of local cultural identity in the global communication context. *Studies and Practices, (07),* 127-132

Zhang, K., & Lu, X. Z. (2023). Study on the soft power of Chinese traditional culture in international communication. *International Public Relations, (13),* 53-55

Zhong, Y. (2021). Research on the inheritance and innovation of Lingnan culture in the new era—A visualization analysis based on bibliometrics. *Inside and Outside of Orchid Terrace, (34),* 22-24. doi: CNKI: SUN.0.2021-34-008.

Zeng, D. (2021, December 14). Lingnan culture in specific time and space—The origin, development, characteristics, and limitations of Lingnan culture. *Telling the Chinese Story Well in Social Organizations—The Sixth Theme Lecture of the 2021 Guangdong Cultural Forum and Academic Annual Meeting*. Retrieved: 10/10/2023. from
https: //baijiahao.baidu.com/s?id=1719096628327224064&wfr=spider&for=pc