



Research on Creative Transformation and Innovative Development of Excellent Traditional Family Culture in Anhui Province

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SUMMARY: *The utilization of excellent family style cultural resources is of great significance in promoting family and social harmony. This paper collects a large number of family training texts as well as excellent traditional family style family cases in Anhui Province as data samples. LDA theme model and Bert large-scale pre-training model are used to downscale the text data, calculate the probability of the theme distribution of words and assign corresponding weights, classify the themes involved in the text of family training, and construct a family style theme network. Based on the calculation of statistical indexes such as centrality of point degree of social network analysis method, the influence theme of modern conversion and development of excellent traditional family culture is mined, and the conversion and development path on the basis of research is proposed. After the study, it is determined that the text of Anhui family training mainly involves four major categories of themes, namely, cultivating oneself, governing one's studies, unifying one's family, and governing one's country, with the weights of 0.21, 0.32, 0.25, and 0.22 in that order. And among the themes under the major categories of themes, erudition and cultural inheritance are the 2 themes that should be paid the most attention to for the modern conversion and development, with the importance of 0.216 and 0.171. Based on the characteristics of the themes, it is possible to design the cultural and creative activities and promote the modernization and development of Anhui's excellent traditional family tradition culture from the living heritage.*

KEYWORDS: *family training text; LDA theme model; Bert pre-training; Anhui excellent traditional family style; social network*

1 Introduction

Anhui Province has a long history, and its excellent traditional family style culture, as the epitome of the national mainstream culture in the family, is an important part of traditional Chinese culture [1]. In the new period, the excellent traditional family style culture plays an important role in regulating and guiding people's behavior at a certain level [2]. However, the hierarchical concepts and role norms in the traditional family culture have produced a strong conflict with people's ideology in the new period, and its effective inheritance is facing a serious challenge [3], and creative transformation and innovative development have become an important development direction for the integration of the values of Anhui's excellent traditional family culture into the new period.

Creative transformation mainly focuses on the content of the excellent traditional family culture that meets the contemporary values, and is transformed to meet the needs of modern

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society [4]. It is based on the original family style cultural resources, through re-interpretation and re-interpretation, etc., so that the traditional family style cultural elements can be presented in new forms, so that they can be integrated into modern life [5, 6]. For example, the etiquette norms in traditional family culture, combined with modern social scenes and values, are transformed into forms of etiquette that are in line with modern interpersonal interactions, retaining its core spirit of respect for others and focus on order, but discarding procedures that are too cumbersome and do not adapt to the pace of modern life.

Innovative development, on the other hand, emphasizes that on the basis of inheriting the excellent traditional family culture, it breaks through the original framework and mode and creates brand-new cultural contents, forms or expressions, etc. [7]. It is not only a transformation of traditional culture, but also a qualitative leap. Utilizing modern digital technology, the excellent traditional family style culture story is made into a virtual reality (VR) experience work, which tells the story in a new immersive way and brings unprecedented cultural experience to the audience, which is an innovative development in the form of content presentation [8-10].

Regarding the research on the creative transformation and innovative development of traditional culture, literature [11] examined the remodeling of traditional cultural elements such as calligraphy and painting by artificial intelligence (AI) from the perspective of creative transformation and innovative development, analyzed its key role in heritage conservation and modern transformation, pointed out that AI is not only a tool for restoration, but also facilitates the creation of new art forms, and emphasized the potential that it brings to cultural innovation and cross-cultural communication, emphasizing its potential for cultural innovation and cross-cultural exchange. Literature [12] analyzed the impact of folk culture in the process of urbanization, explored the specific paths to achieve creative development by summarizing the two principles of its transformation and innovative development, and emphasized the key role of the protection and innovation of folk culture in the inheritance of outstanding traditional culture. Literature [13] examines the “City of Clay” movement initiated by Jatiwangji to revitalize the clay profession, analyzes that entrepreneurial creative culture is mainly driven by economic capital and transformed into cultural capital by combining the theories of creativity and cultural capital, points out that social capital plays a key role in the acceptance of innovation and product diversification, and emphasizes that innovative culture is integrated into and reflects human beings in innovative activities. The importance of integrating and reflecting human values in innovation activities. Literature [14] examines the revitalization of traditional rituals by the Banyuwinya National Carnival, analyzes its innovative practice of modern packaging and globalization of indigenous arts such as Damaruwan, points out that policy continuity is a key basis for the accumulation of the results of this culture, and emphasizes the important role of such activities in promoting the creative transformation of traditional culture. From the perspective of creative transformation and innovative development of traditional culture, literature [15] analyzes the role of “reading for all” in addressing the challenges of cultural confidence and expression, and reveals the path of promoting the modern transformation of traditional culture through the mechanisms of open interpretation, symbolic reproduction and multimodal integration. By constructing the framework of “cognitive reconstruction-value transformation-innovative development”, it reveals the path of promoting the modern transformation of traditional culture through the mechanisms of open interpretation, symbolic reproduction and multimodal integration. Literature [16] analyzes the core structure of Confucian people-centered thinking of “people-oriented”, “support for the people” and “meritocracy”, and examines the innovative transformation path of this thinking from value judgment to factual presentation, and emphasizes the theoretical and practical significance of this transformation for the construction of contemporary governance and culture in China. By

grasping its conflict and reconstruction with the modern political system, it examines the innovative transformation path from value judgment to factual presentation, and emphasizes the theoretical and practical significance of this transformation for the construction of contemporary governance and culture in China. Literature [17] activates the vitality of traditional culture through the new interpretation and transformation of the principles of inheritance and criticism, tradition and modernity, which provides a new answer for the development of inheritance in the new era. Literature [18] points out that the integration of culture and science and technology provides a new path for the creative transformation of non-heritage, and by analyzing the systematic application of six types of technology, such as digital technology and AI, in the methodology layer, technology layer and object layer, examines its empowering effect on the protection, inheritance and innovation and emphasizes that it is necessary to cautiously deal with the potential risks of intellectual property rights and digital divide brought about by the technology. Literature [19] analyzed the process of applying the game participation model to transform static cultural resources into dynamic knowledge through the development of the digital interactive platform of Shennong Shengtian, examined the positive role of the platform in enhancing the cognition of cultural heritage, and emphasized the key role of digital technology in promoting cultural innovation, creating commercial value and driving the development of the knowledge economy. Literature [20] highlights the challenges and opportunities that the Internet brings to traditional culture education, provides new support by promoting interaction and subjectivity, analyzes the need for creative transformation to be based on national conditions, promotes holistically, and adheres to critical inheritance, and emphasizes the necessity of preventing the dogmatization of culture with patriotism at the core.

In this paper, we collect family training texts from hundreds of families in Anhui Province, establish a research dataset, and mine the characteristics of the excellent traditional family style family cases therein. The LDA topic model is utilized to classify the topics of the excellent traditional family style culture contained in the family training texts. Combined with Bert's large-scale pre-training model that incorporates the mechanism of multiple attention, the weights of each word element of the family training text are assigned and the associations between the words are captured to complete the text categorization and build the family training text network. Using social network analysis, the degree and degree distribution, network density, clustering coefficient, node distance and diameter, centrality and other index data of each thematic family training text network are calculated, and thematic contents that can improve the level of creative transformation and innovative development of Anhui's excellent traditional family culture are mined.

2 Methodological design of the study on Anhui's outstanding traditional family culture

2.1 Selection of research subjects

The main research object of this paper is the excellent traditional culture class family training text resources in Anhui Province, for specific research problems, the research object mainly includes two parts:

2.1.1 Program for the Creative Transformation and Innovative Development of Family Training Texts

This part of the research object is mainly relying on the research topic, hundreds of families in Anhui Province, excellent traditional family culture class family training text utilization of the survey, with questionnaires and independent uploading of the way to collect the different families of family training text categories. Because this paper relies on the research topic, the collected family training text creative transformation and innovative secondary development. The text of the family tradition is the overall planning and design of the family culture at the family level, which can see the whole picture of the construction and utilization of the family culture, and it is a more detailed textual information. Therefore, one of the research objects of this paper is to code and analyze the family training texts written by the family and the family training text resources related to the excellent traditional family culture in Anhui.

2.1.2 Selection of cases of excellent traditional family style families

Relying on the collection of the family tradition text of the creative transformation and innovative development program of the hundred families, from which the selection of the research case that fits with this paper, and the case as an excellent instrumental case. In the selection process, certain principles are followed: first, from the perspective of the scope of the selected research object, the cases selected in this paper come from hundreds of families researched; second, the selected case of the excellent traditional family style of the family to develop the text of the family tradition for the excellent traditional family culture text resources, that is, the development of the resource content belongs to the scope of the excellent traditional family culture in Anhui Province, and at the same time, its development of the resources developed are in line with the research of this paper. At the same time, the resources developed by them are compatible with the research of this paper; thirdly, the selected cases are representative and can provide a preliminary reference for the development of a class of resources. On the basis of these basic principles, the research of this paper is carried out.

2.2 LDA and Bert

2.2.1 LDA Subject Modeling

Topic modeling is a modeling method that classifies and downscales the underlying structure and semantics in the selected home text, and uses the probability distribution of the words in the home text as the abstract topic, which ultimately forms a summary of the home text. The probabilistic topic model, the implicit Dirichlet distribution (LDA), is a commonly used topic modeling algorithm, a three-layer Bayesian probabilistic model containing a word layer, a topic layer, and a home text layer used for discrete datasets such as text corpora.

Suppose there are D home text, each home text contains N words, and there are M topics in total, each topic is a probabilistic multinomial distribution based on the topic word, represented by a word distribution, from which LDA generates topic summaries and infers the topic distributions of the home text. Then the joint probability distribution of the LDA model can be expressed as equation (1):

$$P(\theta, Z, W | \alpha, \beta) = \prod_{d=1}^D P(\theta_d | \alpha) \prod_{n=1}^{N_d} P(Z_{dn} | \theta_d) P(W_{dn} | Z_{dn}, \beta) \quad (1)$$

where α and β are the hyperparameters of the model, which are used to control the sparsity of topics, and words in topics in the home text, respectively; and D is the number of home

texts; N_d is the number of words in the home text d ; θ_d is the thematic distribution of the home text d ; Z_{dn} is the theme to which the n th word in the home text d belongs; W_{dn} is the n th word in the home text d .

$P(\theta_d|\alpha)$ denotes the thematic distribution of the home text d , which is a Dirichlet distribution, and is expressed as in Equation (2):

$$P(\theta|\alpha) = \frac{\Gamma\left(\sum_{m=1}^M \alpha_m\right)}{\prod_{m=1}^M \Gamma(\alpha_m)} \prod_{m=1}^M \theta_m^{\alpha_m-1} \quad (2)$$

where $\sum_{m=1}^M \theta_m = 1.0$ and $\theta_m > 0.0$, $\alpha = (\alpha_1, \alpha_2, \alpha_3, \dots, \alpha_m)$, $\alpha_m > 0.0$, ($m = 1, 2, \dots, M$). In LDA modeling, the parameter α of the Dirichlet distribution is an M -dimensional hyperparameter, M is the number of topics, and α_m denotes the prior probability that the m th topic is in the distribution. The Dirichlet distribution is used in LDA to determine the prior distributions of topic and word distributions, and is the core of the LDA model.

$P(Z_{dn}|\theta_d)$ and $P(W_{dn}|Z_{dn}, \beta)$ are polynomial distributions, $P(W_{dn}|Z_{dn}, \beta)$, W_{dn} denotes the n th word in the family text d , Z_{dn} denotes the topic to which W_{dn} belongs, and β is a polynomial distribution parameter of the topic, describing a probability distribution of the word's occurrences under a given topic. In $P(Z_{dn}|\theta_d)$, θ_d is the thematic distribution of the home text d , and Z_{dn} denotes the theme to which the n th word in the home text d , W_{dn} belongs, that is, the probability that W_{dn} belongs to the theme in the case of a known thematic distribution θ_d , the probability that W_{dn} belongs to the topic Z_{dn} .

2.2.2 Bert Chinese pre-training model

Text categorization is a fundamental problem in natural language processing that aims at assigning predefined labels to a given sequence of text. Transformer based on the composition of Attention mechanism has gained outstanding results in the field of NLP. The scaled dot product Attention mechanism (Attention mechanism) is an important component of the Transformer model, which is expressed as equation (3):

$$Attention(Q, K, V) = \text{soft max} \left(\frac{QK^T}{\sqrt{d_k}} \right) V \quad (3)$$

where Q (query), K (key), V (value) are query vectors, key vectors, value vectors, respectively, which are all obtained from the input vectors by linear transformation. Q denotes the content to be queried, V denotes the feature information of each position in the input sequence, Q and K are used to compute the weights of Attention, and V (value) is the value matrix, which is obtained by linear transformation from the position vectors of the input sequence. In calculating the Attention mechanism, firstly, Q and K are dot-producted to calculate the similarity scores between Q and all K , then the similarity scores are normalized and generally calculated using softmax function to get the Attention weights, and finally, the

weights are weighted with V to get the final result, Fig. 1 shows the structure of the scaled dot-product Attention mechanism.

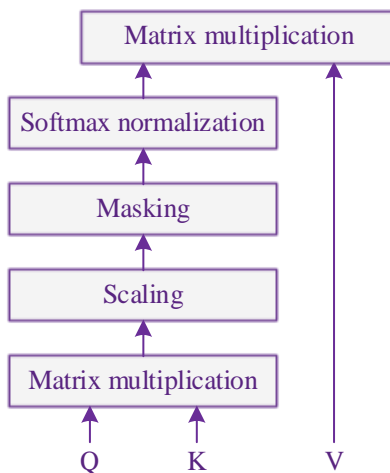


Figure 1: Scaled Dot-Product Attention Mechanism

A large-scale pre-trained model of Bert based on Transformer bidirectional encoder has made significant progress in text categorization. Bert is a deep learning model based on transformer encoder. Recursive and convolutional operations are discarded and a multi-head attention mechanism is used.

Multihead attention mechanism is a model architecture based on scaled dot product attention mechanism, which obtains new vectors by linearly transforming the vectors Q , K , V , and then performs scaled dot product attention and stitches the output vectors together respectively, and finally obtains the final output vector by another linear transformation. Fig. 2 shows the structure of the multi-head attention mechanism.

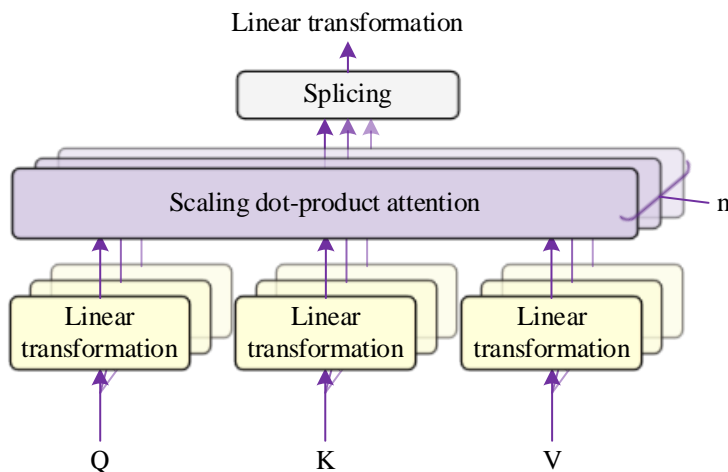


Figure 2: Multi-head Attention Mechanism

Due to the multi-head attention mechanism, it makes Bert able to capture the links between global elements in parallel, and can process multiple queries and key-value pairs in parallel to alleviate the information bottleneck. Each different set of Q , K , V corresponds to different parts of the input sequence, and different weights are assigned to different parts, which can capture semantic information at different levels. And due to the decentralized nature of such

sequences, attention is computed for each sub-sequence, which avoids model overfitting and provides high robustness.

In the Bert network, individual sentences in the home text are split into a number of tokens, and the special symbols $[CLS]$ and all the tokens are encoded and jointly inputted into the Bert network, $[CLS]$ the corresponding vectors C obtained after passing through the Bert network are used as the whole input text's semantic representation for downstream tasks. Among them, MLM and NSP are two important tasks in Bert network.

MLM randomly selects a certain percentage of words in a text sequence to be replaced with $[MASK]$ tags, and then learns to predict the meanings of these $[MASK]$ tags so that the model learns to infer the probability distributions of the words from the context. The MLM loss function for a single sequence can be expressed as equation (4):

$$MLM = \frac{-1}{N_{mask}} \sum_{i=1}^{N_{mask}} \log P(y_i | x_{mask_i}, \theta) \quad (4)$$

N_{mask} denotes the number of $[mask]$ in all sequences, $P(y_i | x_{mask_i}, \theta)$ denotes that the model is at the masked position x_{mask_i} predicts the probability that the masked position i is labeled y_i , and θ is a parameter of the model.

NSP is used for binary prediction of text pairs to determine whether the second sentence is the next sentence of the first. For example, a sentence pair A and B is represented by $[CLS]$ to indicate the beginning of the sentence, and $[SEP]$ to indicate the separator between sentences, and the input format is: $[CLS]A[SEP]B[SEP]$, for the NSP task, it is necessary to determine whether B is the next sentence of A , then the NSP loss function for a single sequence is Equation (5):

$$nsp = -y * \log(p) - (1 - y) * \log(1 - p) \quad (5)$$

where y is the categorical label, which takes the value of 0.0 or 1.0, and p is the probability predicted by the model that B is the next sentence of A , which takes the value of 0.0 to 1.0. When $y = 1.0$, it means that B is the next sentence of A , and at this time $nsp = -y * \log(p)$; when $y = 0.0$, it means that B is not the next sentence of A , and at this time $nsp = -1 * \log(1 - p)$.

The loss function of NSP for all sequences can be expressed as equation (6):

$$NSP = -\frac{1}{L} \sum_{j=1}^L [y^j \log p^j + (1 - y^j) \log(1 - p^j)] \quad (6)$$

The NSP loss function for all sequences is then a summation of the corresponding binary classification loss function for each sequence, assuming that there are L sentence pairs in the training set, where the label of the j th sentence pair is y^j .

The MLM training loss function and the NSP training loss function together constitute the loss function of Bert pretraining. The Bert-based pre-training model has better performance under either a single model or a combination of models, and is able to handle the basic text categorization task well. Compared to the directly trained model, the pre-trained model, after a

large number of pre-training, provides a better model initialization, and has a stronger adaptive ability in the face of different languages and characteristics of the text.

2.3 Theoretical Foundations of Social Network Analysis

2.3.1 Connotations of social network analysis

Social network is a relatively stable system formed by the interactive social relations among the members of social subjects, the nodes of the social network are social subjects, and the edges of the social network are the various relations formed by the social subjects due to interaction. Social network as a method of analysis, the purpose is to study the relationship and structure of the social network. Social network analysis is to quantify the relationships between subjects in a social network and is a specific tool in the application of social network theory.

Social network analysis method is mainly used to study the characteristics of network relationship structure with the help of graph theory related knowledge and mathematical models. Studying the structure of graphs is mainly revealed with the help of some statistical properties, so social network analysis also utilizes the properties of statistical indicators as a means of studying the structure of networks. The social network analysis method is used to measure the relationship between the themes of the family training text and the specific text network, and to judge the characteristics of the creative transformation and innovative development of the excellent traditional family culture.

2.3.2 Statistical indicators of social networks

In the field of scientific research, well-established research methods are represented by specific indicators of their characteristics, and the social network analysis method is no exception, often utilizing the following indicators to reveal its specific structural characteristics.

1) Degree and degree distribution. In a social network graph, the degree of a node is the number of nodes with which a direct edge exists. In an undirected network, the total number of neighboring nodes of a node is the degree of the node. In directed networks, the degree of a node is divided into two forms, out-degree and in-degree, out-degree is the number of edges leading from that node to the neighboring points, and in-degree is the number of edges pointing to the introduction of that node from the neighboring points. The degree size of a node usually represents the importance of the node's position in the network, the larger the degree represents the more nodes directly connected to the node, thus the larger the scope of influence, the more likely to be in a key position in the network. Degree distribution represents the distribution of degrees of all nodes in the network, which can reflect the structure of the network from the side. Using $p(k)$ indicates the probability of randomly selecting a node in the network with a degree value of k , while the cumulative degree distribution is often used in applications to describe the degree distribution of the network, indicating the probability that a node's degree value is greater than or equal to k .

2) Network density. Network density is a fundamental concept in analyzing networks that characterizes how closely the nodes in a social network are interconnected. Network density is the ratio of the number of connections that actually exist in a network to the maximum number of connections that can exist in the network. If the density of a network is 1, it means that every point in that network is connected to every other point and conversely, if the density of that network is 0, it means that no point in that network is connected. The closer the network density value is to 1, the denser the network is and the more members of the network communicate and interact; the closer the network density value is to 0, the sparser the network is and the less members of the network communicate and interact.

3) Clustering coefficient. The clustering coefficient indicates whether the neighbors of a

node and the neighbors of that node are connected to each other, e.g., node V1 is connected to node V2 and node V2 is connected to node V3, then node V3 may be connected to node V1. The clustering coefficient expresses the degree of grouping and connectivity of the network, and the higher degree of its clustering coefficient indicates that the individuals involved in the network have more neighboring edges and are more closely connected. The clustering coefficient C_i of the nodes in the network is defined as $C_i = \frac{2E_i}{k_i(k_i-1)}$, where k_i denotes

the number of neighboring nodes connected to node i and E_i denotes the number of edges connected to the k_i nodes above. The number of edges connected between them. The average of the clustering coefficients of all the nodes in the network is called the average clustering coefficient of the network or the clustering coefficient of the whole network and is denoted as

$$C = \frac{\sum_{i=1}^N C_i}{N}, \text{ where } N \text{ is the number of nodes in the network.}$$

4) Distance and Diameter. The number of edges of the shortest path between node i and node j in the network is defined as the distance between node i and node j , denoted as $d(i, j)$. The diameter of the network D is defined as the maximum value of the distance between any two nodes in the network, i.e., $D = \max_{i,j} [d(i, j)]$. The average shortest path length L is more commonly used in social network analysis, it is the average of the shortest distance between any two nodes in the network, the smaller its value, the more frequent the communication speed between node members.

5) Centrality. Centrality reflects what kind of right or position nodes in the network have in the social network. It is usually measured by the centrality degree which reflects the status of nodes and the central potential which reflects the tendency of network concentration. According to the different methods of measurement, centrality and centrality potential are divided into: point degree centrality/point degree centrality potential, intermediate centrality/intermediate centrality potential, and proximity centrality/proximity centrality potential. Point centrality is measured by the number of points in the network that have a connection with that node, in general, the greater the point centrality, the higher its position in the network and the more power it has. Intermediate centrality, which measures an actor's ability to act as an intermediary, refers to the likelihood that an individual is located on the shortest path of other node pairs; a node is said to have a high intermediate centrality if it is located on the shortest path of many other node pairs. Proximity centrality, which measures the degree of proximity of an individual to other individuals, i.e., a node is said to have high proximity centrality if it is at a short distance from all other nodes in the network.

3 Thematic clustering and importance calculation of excellent traditional family culture

3.1 LDA Topic Classification of Family Training Texts

3.1.1 Analysis of the weights of the textual theme types of family training

Using the LDA topic model to classify the textual topics of family teachings in the dataset, the high-weighted (Top20) entries can be categorized into four aspects as a whole: cultivating one's moral character, governing one's education, unifying one's family, and governing one's country, and the content is roughly contained in these four aspects when combined with the generated

all-entries to be analyzed. Figure 3 shows the weighting results of cultivating oneself, governing one's family, and governing the country based on high-weighted entries and all entries. The dark purple color is the weight of cultivating one's moral character, governing one's family, and governing one's country based on all entries, and the light purple color is the weight of cultivating one's moral character, governing one's family, and governing one's country based on high-weighted entries.

The weights of the four categories of themes based on the high-weighted entries of cultivating oneself, governing one's studies, unifying one's family, and governing one's country are 0.18, 0.31, 0.22, and 0.29, respectively, with the highest weight being 0.31 for governing and 0.18 for cultivating one's body as the lowest weight. while the weights of the four dimensions of cultivating one's body, governing one's studies, unifying one's family, and governing one's country, which combines all the entries, are finally determined to be 0.21, 0.32, 0.25, and 0.22, with the highest one being still the governing one, the The weight increased to 0.32, the other cultivation of the body and Qi family weight increased by 0.03 year-on-year, while the weight of the rule of the country decreased to 0.22. The most emphasized in the text of the Anhui Family Tradition is the rule of learning.

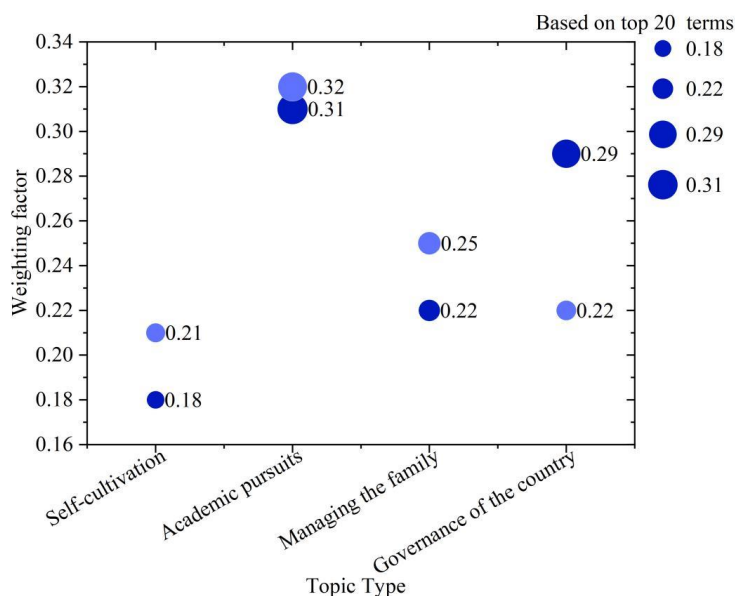


Figure 3: Based on the topic weights of different terms

3.1.2 Thematic weighting analysis by type

The statistics of the four types of themes in the Anhui family training texts, namely, cultivating one's moral character, governing one's education, unifying one's family, and governing one's country, are summarized in terms of their weights. Table 1 shows the statistical results of the articles and their weights in the category of cultivating one's moral character. The idea of cultivating oneself in the text of Anhui Family Tradition mainly contains four aspects: the reason for cultivating oneself, the path of cultivating oneself, the content of cultivating oneself, and the result of cultivating oneself. Among them, the moral perfection theme in the result of cultivation has the highest weight of 0.019, followed by the erudition in the content of cultivation of 0.018, the correct heart in the cause of cultivation of 0.017, and the daily introspection in the path of cultivation of 0.016. It emphasizes the enhancement of one's own moral cultivation by means of external knowledge and events, and so on.

Table 1: Thematic entries related to self-cultivation and their weights

Reason of self-cultivation	Weight	Path of Self-Cultivation	Weight	Content of Self-Cultivation	Weight	Result of self-cultivation	Weight
Purifying the mind	0.017	Daily self-reflection	0.016	Knowledgeable	0.018	Moral improvement	0.019
Sincerity	0.012	Study classics	0.011	Insight	0.012	Build up one's willpower	0.012
Acquiring true knowledge	0.006	Environmental influence	0.005	Zhuang Yi	0.008	Improve physical fitness	0.007
Removing desires	0.005	Practicing in actual situations	0.004	Harmony	0.007	Improvement of habits	0.005
Inner peace	0.005	Long-term persistence	0.003	Meditation in solitude	0.006	Extensive learning	0.004
Reforming one's mistakes	0.003	Improving behavior	0.002	Learning and thinking	0.005	Controlling desires	0.003
Caring for others	0.002	Exercising body	0.002	Self-reflection	0.004	Serve others	0.002
Achieving happiness	0.001	Enhancing quality	0.001	Benevolence and propriety	0.002	Strengthen your belief	0.001
Total	0.21						

Table 2 shows the statistical results of the theme entries and their weights in the category of governance. The idea of governance category also includes four aspects of the theme of the cause of governance, the content of governance, the path of governance, and the result of governance. In the result of learning, the highest weight is 0.030, followed by 0.025 for studying classics, 0.024 for cultural inheritance, 0.023 for erudition and 0.021 for self-accomplishment, which emphasizes more on secular career achievement through reading.

Table 2: Thematic entries related to academic pursuits and their weights

Reason for Studying	Weight	Content for Studying	Weight	Approach for Studying	Weight	Results for Studying	Weight
Cultural inheritance	0.024	Study of Classics	0.025	Extensive Learning and Critical Inquiry	0.023	Establishing fame and reputation	0.030
Moral cultivation	0.017	Widely Reading	0.018	Careful Reflection and Clear Thinking	0.017	Achieve oneself	0.021
Promote social progress	0.013	Knowledge Exploration	0.014	Seeking Truth and Being Pragmatic	0.011	Build a business	0.016
Curiosity and quest for knowledge	0.009	Problem Thinking	0.007	Strict Self-discipline	0.008	Save the world	0.010
Seeking truth	0.007	Fact Analysis	0.006	Critical Innovation	0.005	Pursuit of knowledge	0.006
Self-actualization	0.005	Inference Verification	0.004	Clear Goals	0.004	Moral improvement	0.004
Assisting others	0.003	Knowledge Integration	0.002	Integration of Knowledge and Action	0.002	Have a proper attitude	0.003
Solve the problem	0.002	Concentrated Research	0.001	Persistence in Specialization	0.001	Discovering the truth	0.002
Total	0.32						

Table 3 shows the statistical results of the theme entries and their weights of the Qi family category. The idea of Qi family in the text of the family training contains four parts of the theme of rituals and rules to harmonize the family, wealth and resources to enrich the family, cultivation and study to pass on the family, and God's blessing to the family. The highest weight of the theme is 0.019 for the ordering of elders and children in the family of rituals and rules, 0.018 for good deeds and virtues in the family of divine blessings, 0.017 and 0.016 for diligence and pragmatism in the family of cultivation and study and thriftiness in the family of wealth and riches, respectively, and the Qijia category regulates the style of the family members and the reasonableness of the family ethic through the emphasis of the external deities and the internal order.

Table 3: Thematic entries of the managing family category and their weights

Rituals and customs, harmony and family relations	Weight	Rich financial family	Weight	Passing on the Family Tradition through Farming and Learning	Weight	God bless the family	Weight
Orderly generations	0.019	Frugality in managing household affairs	0.016	Be diligent and practical	0.017	Do good deeds and accumulate virtue	0.018
Mutual respect	0.011	Hard work leads to prosperity	0.012	Read to gain wisdom	0.009	Gods have taken notice	0.014
Appropriate speech	0.010	Live within one's means	0.009	Love for labor	0.008	Be law-abiding and obedient.	0.010
Observance of family rules	0.008	Value righteousness over profit	0.008	Having knowledge and good judgment	0.007	Offering sacrifices to ancestors	0.008
Table manners	0.006	Wealth control	0.007	Working together	0.006	Reverence for Heaven and Earth	0.006
Festival celebrations	0.004	Family well-being	0.006	A virtuous wife managing the household	0.005	Moral Practice	0.005
Task sharing	0.003	Build one's character on honesty	0.005	A kind mother running the household	0.003	Harmony Endures Forever	0.002
Family harmony	0.001	Keep a low profile and be humble	0.004	Passing on family culture	0.002	The inspectors were confused and disoriented	0.001
Total	0.25						

Table 4 shows the statistical results of the theme entries and their weights in the category of ruling the country. In the text of Anhui Family Tradition, the idea of ruling the country includes

four themes: the reason for ruling the country, the ability to rule the country, the path of ruling the country, and the result of ruling the country. The weights of the reason for ruling the country are the same and the highest, 0.019; the weight of the path of ruling the country is the second highest, 0.018; and the third highest weight is the ability to rule the country, 0.017. The theme of ruling the country is based on the principle of the unity of the family and the country, which relates the individual's fame and the family's glory with the stability of the country, and emphasizes that a person should realize his self-worth by participating in the construction of the society.

Table 4: Thematic entries related to governance and their weights

Reason for Governing the Country	Weight	Ability for Governing the Country	Weight	Path for Governing the Country	Weight	Outcome for Governing the Country	Weight
Father, Son, and King/Bureaucrat	0.019	Have a broad mind and concern for the world	0.017	Read the works of sages	0.018	Homogenization of Family and State	0.019
The Guangyao Family	0.011	Follow filial piety and fraternal duty	0.0090	Self-cultivation and moral development	0.011	Everything belongs to the public.	0.011
Benefiting the World Together	0.008	Diligent and conscientious	0.008	Develop practical skills	0.007	Cultivating the descendants of the family	0.007
Self-cultivation and self-discipline	0.007	Distinguish between good and evil	0.007	Establish family rules	0.005	Maintaining national stability	0.006
Serving the King	0.005	Family Responsibility	0.006	Preserving family traditions	0.004	Maintaining social harmony	0.005
Serving the people	0.004	Objective and fair	0.005	Developing a sense of responsibility	0.003	Ensure national order	0.003
Enhance one's abilities	0.003	Assisting the disadvantaged	0.004	Education comes first	0.002	Realize the prosperity of the country	0.002
Reprimanding evil and promoting good	0.001	Prudent and thoughtful	0.001	Engage in society	0.001	Realize cultural inheritance	0.001
Total				0.22			

3.2 Transformation and development path of family culture based on social network analysis method

3.2.1 Overall situation analysis

After completing the LDA theme classification and Bert word weight statistics of Anhui family training texts, the overall network of Anhui family training texts is initially constructed.

Combined with the importance of each family training text theme in the excellent traditional family style family cases, etc., the social network statistical indexes of the family training text theme network are calculated to sort out the most important and most popular excellent family style themes and the paths involved by family members.

Table 5 shows the overall situation of the creative transformation and innovative development of the theme network of excellent traditional family styles. The networks (Group 1~Group 4) with 4 major categories of themes as starting nodes (Group 1~Group 4) have densities between 0.5041~0.6953, and the network densities are all greater than 0.5000, indicating that the various types of themes in the thematic networks are closely related, and the transformation and development of a certain theme also affects the transformation and development of the family styles of other themes. The clustering coefficients of the 4 major categories of themes amounted to 0.6618~0.8431, and the average path is 2.1060~2.9567, indicating that the dissemination of the influence of each theme among the thematic networks of family tradition texts is more efficient and rapid.

Table 5: Overall situation of transformation and development of thematic network

Group	Number of nodes	Number of connections	Network density	Longest path	Shortest path	Average path	Clustering coefficient
Group 1	159	4052	0.5041	10	1	2.2041	0.8431
Group 2	143	3843	0.6953	8	2	2.9567	0.7665
Group 3	136	3410	0.6768	12	1	2.5413	0.7302
Group 4	127	3029	0.5852	9	1	2.1060	0.6618

3.2.2 Point centrality calculation results

Point degree centrality and intermediate centrality were further calculated to analyze the network relationships formed by theme individuals and multiple theme individuals related to them. Table 6 shows the results of pointwise centrality calculations for the themes of the family training texts (top 40). In the theme network at the level of the four major categories, the theme with the highest pointwise centrality was moral perfection (47.515), followed by establishment of merit (45.305), ruler, subject, father, and son (45.074), and the order of the young and the old (45.023). The top 10 themes in the 4 networks have relative pointness centrality higher than 30.000, indicating that these 10 themes produce a greater correlation with other themes in the text of the family training, and are able to influence the creative transformation and innovative development of other themes.

Table 6: Core and central theme of the family education text (Top 40)

Group 1		Group 2		Group 3		Group 4	
Topic	Relative point degree centrality	Topic	Relative point degree centrality	Topic	Relative point degree centrality	Topic	Relative point degree centrality
Moral improvement	47.515	Establishing fame and reputation	45.305	Orderly generations	45.023	Father, Son, and King/ Bureaucrat	45.074
Knowledgeable	44.814	Study of Classics	44.127	Do good deeds and accumulate virtue	44.275	Homogenization of Family and State	44.341
Purifying the mind	43.338	Cultural inheritance	41.712	Be diligent and practical	43.816	Read the works of sages	44.089
Daily self-reflection	40.584	Extensive Learning and Critical Inquiry	40.848	Frugality in managing household affairs	41.831	Have a broad mind and concern for the world	42.708
Build up one's willpower	39.632	Achieve oneself	38.981	Gods have taken notice	36.583	The Guangyao Family	40.224
Insight	38.625	Widely Reading	37.905	Hard work leads to prosperity	33.069	Self-cultivation and moral development	39.916
Sincerity	37.817	Moral cultivation	35.207	Mutual respect	32.658	Everything belongs to the public	37.852
Study classics	35.094	Careful Reflection and Clear Thinking	32.593	Be law-abiding and obedient	31.706	Follow filial piety and fraternal duty	36.761
Zhuang Yi	33.751	Build a business	31.434	Appropriate speech	30.379	Benefiting the World Together	35.492
Improve physical fitness	30.443	Knowledge Exploration	31.012	Read to gain wisdom	30.084	Diligent and conscientious	34.583

3.2.3 Results of intermediate centrality calculations

Table 7 shows the calculation results of intermediate centrality of family training text themes (top 40). The highest intermediate centrality is that of erudition and cultural inheritance, reaching 19.031 and 17.766, which have the strongest mediating ability in the family training text theme network, and are able to link well with the creative transformation and innovative development among the themes. The themes with intermediate centrality higher than 12.000 in the nodes of the four major categories of theme network are also: industriousness to become rich, following filial piety and fraternal duty, reading widely and objectivity and fairness. These nodes also have good linking ability.

Table 7: Central centrality of the theme in the family education text (Top 40)

Group 1		Group 2		Group 3		Group 4	
Topic	Relative Centralization	Topic	Relative Centralization	Topic	Relative Centralization	Topic	Relative Centralization
Knowledgeable	19.031	Cultural inheritance	17.766	Hard work leads to prosperity	14.256	Follow filial piety and fraternal duty	13.019
Daily self-reflection	11.192	Widely Reading	12.616	Love for labor	11.569	Objective and fair	12.335
Purifying the mind	10.972	Knowledge Exploration	11.308	Build one's character on honesty	10.954	Prudent and thoughtful	11.172
Sincerity	9.614	Problem Thinking	10.198	Observance of family rules	10.058	Developing a sense of responsibility	10.677
Removing desires	9.145	Fact Analysis	9.961	Family harmony	9.146	Education comes first	10.056
Insight	8.648	Concentrated Research	9.824	Keep a low profile and be humble	8.267	Engage in society	9.979
Practicing in actual situations	8.252	Seeking truth	9.481	Read to gain wisdom	8.165	Realize the prosperity of the country	9.463
Environmental influence	6.907	Self-actualization	9.148	Passing on family culture	7.927	Realize cultural inheritance	9.129
Study classics	6.245	Careful Reflection and Clear Thinking	8.652	Moral Practice	7.595	Self-cultivation and self-discipline	8.873
Caring for others	4.614	Extensive Learning and Critical Inquiry	6.503	Mutual respect	6.521	Enhance one's abilities	7.642

3.2.4 Selection of key themes for the transformative development of family culture

Based on the calculation results of point centrality and intermediate centrality of each theme, as well as the analysis and research on the cases of excellent traditional family styles families, the family style themes that are most indispensable to the creative transformation and innovative development of Anhui's excellent traditional family styles culture are selected to provide references to the modern transformation and development paths. Figure 4 shows the Anhui family style culture themes with the highest comprehensive importance (top 10). The 10 themes with the highest overall importance are: erudition (0.216)>cultural heritage (0.171)>participation in social activities (0.142)>moral cultivation (0.105)>classical study (0.089)>daily introspection (0.076)>mutual respect (0.065)>improvement of physical fitness (0.057)>care for others (0.052)>love of labor (0.027). 0.027). As can be seen from the selected themes, these 10 themes are more in line with the development needs of modern people under the premise of inheriting the excellent traditional family culture of Anhui.

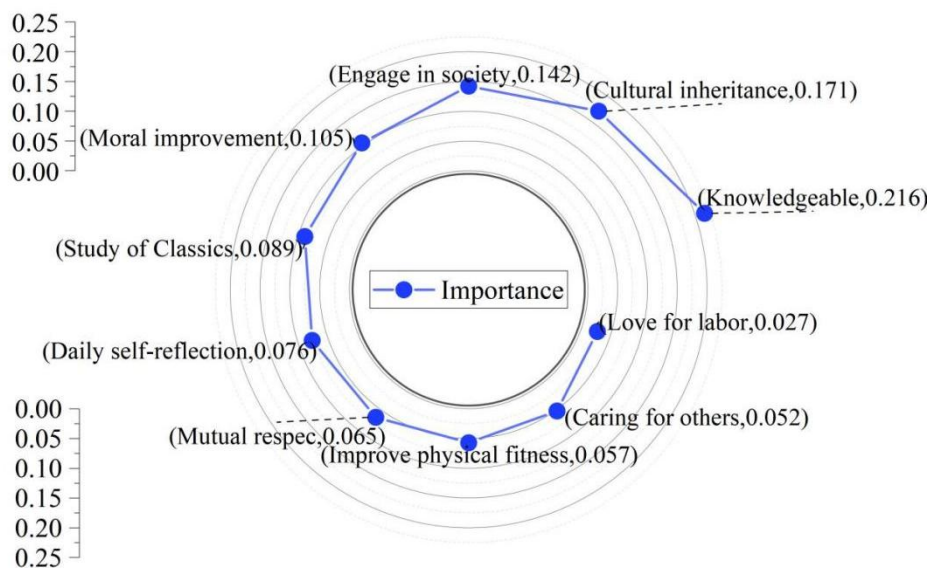


Figure 4: Top 10 family tradition culture themes based on their importance

4 Modern transformation and development of Anhui's outstanding traditional family customs

4.1 Design of cultural and creative activities

Anhui's excellent traditional family style culture is the study of cultivating oneself with correct mind, introspection, erudition and moral cultivation, the study of cultural inheritance, study of classics, extensive reading and thinking, the method of building up a reputation, the method of family unification with orderliness of the young and the old, thriftiness and diligence, diligence and pragmatism, and goodness and morality, and the rule of ruling the country and dealing with the world, which is the principle of shining the family and thinking about the world, all of which are imprinted with the imprints of the times. Excellent traditional family customs originated from the ancient vernacular kinship society, and its trajectory, presentation, and expression need to be changed according to the times and the situation. In the new era, the concept of family, family system, family model, its structure, type, function and so on have undergone great and profound changes. In this context, Anhui excellent traditional family culture is effectively integrated into modern family life, and more social significance and more people accepted and recognized, we should take the initiative to adapt to the changes of the new era, consciously integrated with the real world, with the spirit of the times to re-activate the inherent vitality of the excellent traditional family culture. Always with warmth and respect for the excellent traditional family culture, we should skillfully make use of colorful and flexible cultural and creative activities, such as reading the classic books of sages and sages together, managing family affairs together, and carrying out the family sports games, etc., to integrate knowledge, education, inspiration, guidance and fun, so as to make the excellent traditional family culture in line with the requirements of the socialist core values of the brand new content and witty and interesting, lively, light and enjoyable presentation of the family. The excellent traditional family culture is presented in the form of new contents in line with the requirements of socialist core values and in a witty, interesting, lively and pleasant manner, so as to bring it closer to the real world and people's lives, and to bridge the sense of strangeness and alienation arising from the long history and fading of the environment.

4.2 Promoting Living Heritage

Returning to real life is the most powerful way to promote the inheritance of Anhui's excellent traditional culture, and also the most effective way to promote the innovative development and creative transformation of traditional culture in the new era. The living inheritance is the main purpose of the family culture, which is also an important embodiment of the spirit of "returning to the things themselves". The excellent traditional family virtues in Anhui reflect the expectations and aspirations of the family or family members for a better life. They carry the good wishes and earnest hopes of the elders for the descendants. When implemented in the daily lives of family members, they can subtly influence the way family members treat others and handle affairs, and in this way, they can warm up the "big climate" of society with the "small climate" of the family. Optimize and reorganize the core elements and ideological symbols of Anhui's excellent traditional family style culture through creative design, and guide the excellent traditional family style to adapt to family life in modern society with the help of living scenes and figurative carriers. Adhere to the combination of excellent traditional family style culture and digital narrative, fully explore the ideological essence and contemporary value of traditional Chinese family style culture, refine the family moral norms into daily life guidelines, and transform family ethics and moral concepts into the people's emotional identity and behavioral habits, so as to better meet the needs of life and spiritual needs.

5 Conclusion

Through theme clustering and network node statistics, this paper analyzes the themes involved in Anhui's excellent traditional family style culture, and studies how each type of theme promotes the application and development of family style culture in modern times. Among the four major themes of cultivating oneself, governing one's own body, learning, unifying one's family and governing one's country, the intermediate centrality of erudition and cultural inheritance is the highest, which can play a very good role as a bridge for the creative conversion and innovative development of family styles. The importance of the eight themes of participation in social activities, moral cultivation, classical study, daily introspection, mutual respect, improvement of physical fitness, caring for others, and love of labor ranges from 0.027 to 0.142, and the choice of integrating these themes into the family style inheritance activities in the process of modern conversion and development can provide constant power support for the goals of family unity, family development, and harmony among family members.

By tapping into the important traditional family style themes in Anhui family training texts and utilizing them to push forward in contemporary times, it is a key move for family style culture to be preserved and grow in the new era.

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