

3.2.2. Enterprise development trends

In the development process of digital operation of hotels in China's country, the top C4 enterprises in China's hotel industry, such as Jinjiang Group, Huazhu Group, New Century Hotel, Capital Tourism Jianguo Hotel Group, as well as digital technology enterprises such as Shiji Information, Hangzhou Green Cloud, and Blue Bean Cloud, have been cultivating new fields of digital operation for a long time. In the process of digital operation and development of the hotel, the above head enterprises obviously have the following characteristics. First, the digital operation of the hotel has a clear development goal; maintaining market competitiveness and improving the operating revenue are the core driving forces of the transformation. The primary goal of more than 60% of high-star hotels is to strengthen existing customer relationships and increase user retention rates, while the secondary goal is to increase bookings, provide customers with high-quality experiences, and ensure that the hotel business can be flexibly switched between online and offline. Second, the scale of hotel digital operations has increased significantly. Since 2015, the digital channels and products of high-star hotels have begun to develop, promoting the digital operation development of hotels into rapid growth. Despite the impact of the epidemic in the following years, the digital operation development of high-star hotels saw a significant increase of more than 100%. In 2020, the digital operation scale of the hotel increased by 37.78% compared with 2019 and increased by 16.33% in 2021.

The digital operation of China's hotel industry utilizes hardware intelligence, service digitalization, business process digitalization, and group chain management digitalization. Specifically, the hotel business system (such as PMS, POS) showed the highest technology maturity, with 51.5% of the enterprise respondents believing that it is in the industry leading level in the construction of related systems. About 40% of the enterprise respondents believe that they are the industry leader in the application of customer technology or data analysis technology. In terms of efficiency improvement technology and digital marketing technology, both account for about 36%, and the maturity of the industry application still needs to be improved, which means that China's hotel industry has a broad development prospect in the application of such technology in the future. The intelligent transformation of hardware promotes the realization of service digitalization and then realizes the digitalization of the hotel business process and group chain management.

At present, the development of digital operations in China's hotel industry is still facing some practical difficulties. First, financial difficulties. Compared with the operating cost structure of the hotel, the structure has changed greatly 20 years ago: the costs of property, labor, depreciation, and maintenance are all increasing, but the hotel price income has not increased significantly, leading to the low profit level of the whole industry. Relevant statistics show that in the 10 years from 2010 to 2020, the average rental rate of four-star and five-star hotels in China showed a downward trend, and the overall profit of high-star hotels gradually decreased. In the unprofitable business environment, it is difficult for the hotel to invest in the digital construction, and the development of the digital operation of Gaoxing Hotel is facing difficulties. Small and medium-sized hotels adopt the leasing mode, which needs to spend a large amount of housing rental costs, coupled with the impact of the epidemic and also lack of funds to invest in digital construction. Second, IT talents lack management and decision-making power. The development and promotion of the digital operation of the hotel is a major project. Due to the management characteristics of the hotel industry, the IT technical personnel in the strategy formulation and leadership in the development of the digital operation are not large, and most of the decision-making power is in the hands of the CEO, vice president, director, and other positions. In the digital context, IT departments need to have a comprehensive understanding of the company's future development direction, optimize data assets, help enterprises create value, and gain insight into growth opportunities and possible risks rather than just maintaining

internal information management within the hotel. Third, the Matthew effect of the industry highlights that the gap between the digital construction level of various enterprises in the hotel industry is gradually widening, among which the industry-leading hotels have a stronger willingness to invest, and the investment effect is more obvious. At the same time, the development of digital operations in the hotel industry will be affected by the macroeconomic environment and technology investment, but the digital ability among enterprises is uneven, which easily produces fierce industry competition, so that the development of leading enterprises have more advantage.

3.3. Future trend of digitalization of the hotel industry

The development of digital operations in China's hotel industry is promoting the development of income, experience, and efficiency and is entering a new stage of coordinated development. With the gradual deepening of the online business degree, the digital operation transformation of the hotel industry is gradually tending to the pragmatic goal of long-term value mining and release. According to the "2022 China Hotel Industry Digital Transformation Trend Report", "Ten Digital Development Trends of China's Hotel Industry" and relevant research can be predicted^[10-11]. In 2026 and beyond, the value advantage of data assets in the hotel industry will be further highlighted. The hotel expanded the application scope of the Internet of Things and began to build a digital twin, enabling the data visualization scene.

The trend of digital operation in China's hotels is shown in the following three aspects: First, the digital operation technology of the hotel industry is constantly upgraded. The technical architecture of the hotel industry changes from closed integration to micro-service, the dependence between modules is weakened, and the operation speed, efficiency, and expansibility of the system are significantly improved. In the future, the hotel industry will pay more attention to new technology security, data security, cloud security, and customer information privacy, and improve the development level of the background system cloud. At the same time, the trend of unmanned retail in hotels is deepening, and the use of unmanned retail machines and self-service sales robots is becoming more normal. Second, the hotel's C-end precision marketing is constantly strengthened. The CRM system of the hotel industry is facing further upgrades. In the future, the upgraded CRM system will be based on cloud native, with a micro-service framework, with stronger scalability. The customer portrait dimension has been significantly upgraded in quantity, which can support more new marketing methods and also contribute to the coordination and linkage at the group chain level. Under the dividend of content e-commerce and short video e-commerce, hotels can participate in tourism live broadcasts through the anchor and social media KOL mode to promote the growth of direct sales. The hotel industry will further release the value of private traffic, optimize the data analysis system, and build a private traffic pool and trading platform based on WeChat ecology has become the hotel set. In addition, the hotel industry will focus on the development of the membership system, facing the local market to grasp the new flow entrance and develop the hotel O2O market. Third, artificial intelligence (AI) will be deeply integrated with the hotel operation scene. AI platform can automatically set the guests personalized label, to realize personalized service and marketing, the hotel industry intelligent data can also put the complex data visualization, through AI platform predicted accurate occupancy or consumer demand, and as business decision basis, to the market, energy consumption, channels, labor costs to make accurate judgment in advance, to save costs, improve efficiency, maximize the goal of customer value, and similar AI decision platform will become the future digital hotel operation control center.

4. Research dynamics of digital operation in China

4.1. Literature overview

4.1.1. Methods of literature search and measurement analysis

In this paper, bibliometric analysis, literature reading, and key event analysis are used to comb through and summarize the existing literature. In June 2023, the study searched for CNKI “theme”, including “digital operation of hotels”, “digital operation”, “digital transformation”, “Hotel digital operation”, and “Digital operation”. “Research Article”, “CSSCI”, and “Peking University Core” are selected, and the literature publication year is not limited. According to the above search conditions, a total of 1224 documents can be obtained, which are all literature analysis samples of this study.

4.1.2. Time distribution and complete examination of the literature

Literature samples were tested using the price curve function to ensure that the recall of the study data reached the standard. The initial publication year of the literature sample was 1990, and the research method of Su Yi et al. is referred [12–32]. Based on the amount of literature from 1990 to June 2023, it can be calculated that the price curve function of the hotel digital operation is $F(t) = 1 \times e^{0.2124t}$ ($T = \text{year of literature publication} - 1990$). The annual accumulation of literature samples and the price curve show that the published literature accumulation and price curve in the related fields of hotel digital operation have a relatively high degree of fit, indicating that the selection strategy of literature samples is scientific and can ensure that the recall rate of research data reaches the standard. In addition, according to the prediction function of the price curve function, **Figure 3** shows that the amount of literature published related to the digital operation of hotels is far from saturation, and there is still a large space for development.

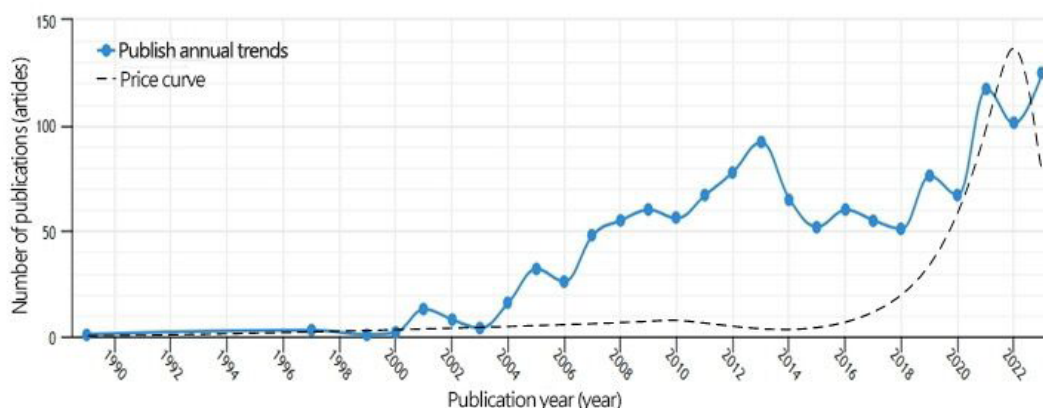


Figure 3. Annual cumulative number of literature published from 1990 to June 2023 and its Price curve

4.1.3. Literature research topics and subject distribution

This paper adopts the CNKI visual analysis function. The subject of literature samples, discipline, and research institutions distribution information were analyzed, including the first five of the literature for digital transformation (198), digital operation (39), digital (32), digital operation (25), budget hotel (19), the first five for the hotel industry (97), hotel group (75), business model (69), digital economy (54), and financial technology (41). The subject distribution of hotel digital operation-related literature is mainly information economy and postal economy, enterprise economy, finance, industrial economy, computer software and computer application, and

trade economy. On the whole, the related research on the transformation of hotel digital operation involves several themes and disciplines and has the characteristics of spanning economics and technology.

4.2. Research progress

4.2.1. Research process and current status quo

The quantitative dynamics of the research literature were analyzed with the help of price curves. According to the annual accumulation amount of literature published from June 1990 to 2023, its price curve and the topics, disciplines, and research institutions published are shown in **Figure 4**.

First, the industry dynamic research trend analysis. From 1990 to June 2023 in the process of time series change, according to the “hotel digital operation”, “digital operation” and other keywords to retrieve the number of literature, and build the press change curve, can be seen that in digital “hotel” or “digital” in the field of research, literature growth quantity lags behind the industry practice dynamic progress.

Second, the industry dynamic activity analysis. According to the price curve of the time series from June 1990 to 2023, shown in **Figure 4**, the activity of “hotel digital operation” in China is mainly divided into three stages: (1) low activity period, from 1990 to 2000. Chinese scholars’ related research activity of “hotel digital operation” is very low, which basically shows a trend of single-digit published literature every year. The academic community has not yet formed a unified understanding of informatization and digital operation. (2) The rising period, from 2001 to 2016. Chinese scholars have begun to pay attention to the relevant research on the “digital operation of hotels” and show a gradual upward trend, but the overall activity of the research is not high, and the literature published every year is still less than 50 articles. At this stage, China’s hotel industry is in the stage of rapid development of information technology. Chinese scholars have begun to put forward the relevant concepts of the digital operation of hotels and have formed certain research results. 3) High activity period, after 2017. Chinese scholars are very active in their research on “hotel digital operation”, and the number of published literature every year has an obvious growth trend.

Third, according to the distribution of the literature, the main topics of research are still focused on digital transformation, most of which are related to economy, finance, and technology, and the research institutions are mainly concentrated in a few institutions. Therefore, on the whole, although the research on “hotel digital operation” in Chinese academia started late, and the disciplines and research institutions involved are relatively single, the situation of “comprehensive flowering and comprehensive follow up” has not been formed in the academic circle.

4.2.2. Association between research and practice

According to the above literature research and analysis, it can be seen that there is still a certain disconnection between theoretical research and industry practice in China, which is mainly manifested in the following aspects:

First, the research content is out of touch with the actual needs. Its performance is the inconsistency between the research hotspot and the actual demand. In the growth curve of price literature, the research hotspot is often reflected in the rapid growth of the number of literature, but it is not synchronized with the actual demand in the same period. For example, in the development of hotel digital operation, researchers may focus on the application and innovation of emerging technologies, but actual needs may focus more on solving practical problems, such as management and organizational change, data privacy and security, etc.

Second, the theoretical development is not consistent with the practical application. Theoretical research often

needs time for in-depth exploration and verification, while practical application may be realized after theoretical research. In the development process of hotel digital operation, theoretical research may put forward some innovative concepts and frameworks, but these theoretical results need further empirical research and practical verification to be widely applied and promoted.

4.3. Research review and enlightenment

4.3.1. Review of foreign studies

The existing foreign-related research is mainly divided into two parts, which are the characteristics of hotel digital operation and the motivation of hotel digital operation. At present, a preliminary analysis framework has been established in the relevant research on the digital operation of hotels, but most of the studies focus on the description of hotel cases, and there are few summaries of the internal laws of the hotel's digital operation. Foreign research is turning to the macro analysis of the digital operation from the perspective of the hotel market, and the research on the digital operation of hotels has changed from "what" to the substantive analysis of "why." What strategies to guide the hotel to promote the development of digital operation, especially how to timely integrate new technologies, enrich the hotel business, attract customers to repurchase and other issues need to be discussed in depth. As the academic community has not unified the evaluation method for the development of the digital operation of hotels, there is a lack of objective and direct quantitative statistical evaluation, so it is difficult to measure and compare the development level of the digital operation of hotels. Therefore, some researchers are developing a comprehensive and higher evaluation index system for the evaluation of the hotel's digital operation practice effect, especially in addition to the hotel's factors, trying to include the external indirect factors such as the surrounding environment, market economy, and the evaluation of community residents.

4.3.2. Implications for China

At present, there are relatively few studies on the digital operation of hotels in China. The existing research literature is mostly from the perspective of talent training and school education and has little discussion on the internal operation and overall development of the hotel. Although most of the research involves digital operation, it is limited to the understanding of ideas. The main research idea is basically to transplant foreign research results, and the originality is weak. Foreign theories are not fully applicable to the Chinese hotel market environment because it is different from the foreign market economic environment and policy environment of the hotel industry. The development of the digital operation of hotels in China is the result of the joint promotion and guidance of the government and the market. Although China has introduced various preferential tax policies to support the digital development of hotels, it also leads to the excessive dependence of the hotel industry on the government in the process of its digital operation and development. This distorted market is not conducive to the formation of independent business exploration of hotels. Existing research shows that the digital operation of hotels in China has its own characteristic operation logic, follows the principle of being people-oriented and customer-centered, and pays more attention to giving digital technology a human touch and temperature.

Therefore, the research of hotel digital operation in China needs to clarify the research direction and research paradigm. In the future, the research on the digital operation of Chinese hotels can be further deepened from the following aspects. First, analyze the real cases of digital operation of domestic hotels. According to the actual development of hotels in China, the study will investigate why to promote the digital operation of hotels, and then explore the development strategy in depth, to provide Chinese experience evidence for reflecting the

value orientation of hotel digital operation research. Second, analyze the localization process of international hotel digital operations. Existing research shows that according to the development law of the local market, the reasonable adjustment of the hotel digital operation landing plan is the key to the successful implementation of the hotel digital operation. Given the particularity of the Chinese economy, future research must investigate the digital operation measures of international hotels after entering China and analyze their localization measures and advantages.

5. Study conclusions and recommendations

First of all, the core path of the development of the hotel's digital operation is to realize the reconstruction of the hotel value system. Therefore, every digital operation activity of the hotel should be carried out on value creation as the main line. The digital operation of the hotel fundamentally promotes the optimization, innovation, and reconstruction of its value system and constantly creates new value and momentum. If the value system of the hotel has not been optimized, innovated, and reconstructed, and the new service power has not been improved, then the development of the so-called digital operation is only superficial, with no value at all. At present, the rapid development of digital productivity has not only triggered the transformation of the traditional industry mode of production but also profoundly changed the business system and value model of the hotel industry. The hotel value system in the era of the digital economy is an open value ecology formed based on the joint construction, co-creation, and sharing of new service forces. Based on the application of digital technology, the hotel transforms and improves the operation process of the hotel industry, which is different from the traditional business model, to realize cost reduction and efficiency increase and create value and benefits through high-quality development. The system architecture and method mechanism of hotel digital operation should always be oriented by value creation and clarify the objectives and tasks of digital operation value creation through periodicity to improve the ability of value creation, value transmission, and value acquisition.

Secondly, the hotel's senior management should take the lead to promote, do a good job in top-level design, and deepen the degree of employees' participation in digital operation. The core goal of promoting the digital operation of hotels is to enhance the customer check-in experience. As a group with direct contact with customers, employees should be full of work enthusiasm and highly involved in digital operation work to achieve sustainable digital development more efficiently. On the one hand, the management should actively accept the new tools derived from the digital technology according to the market changes and then lead the employees to accept and apply the new system as soon as possible. On the other hand, the hotel can introduce an incentive mechanism to encourage employees to make suggestions and suggestions, bundle the rights and interests of employees with the interests of the hotel's digital operation, improve the staff's sense of identity to the digital operation strategy, and accelerate the development of the hotel's digital operation.

Finally, the hotel needs to clarify its own needs and optimize the development path of digital operations. With the wide application of digital technology, all walks of life began to actively change their working mode and vigorously develop the intelligent office mode. On the one hand, hotel managers can make a clear digital operation development plan according to the actual digital operation level and form the corresponding digital operation charter to ensure the orderly implementation of all digital management work. On the other hand, hotels can actively establish cooperation with other industries or hotels, learn and introduce advanced digital operation experience, and timely adjust the digital operation strategy according to the changes in market demand to improve

the market competitiveness and realize the steady transformation of digital operation.

Disclosure statement

The authors declare no conflict of interest.

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Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Quarterly Temperature Patterns Across China: A 2016–2023

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Abstract: This study investigates the spatial and temporal dynamics of temperature variations across China from 2016 to 2023 utilizing ERA5-LAND temperature data. The analysis reveals pronounced regional differences in temperature distribution, with colder conditions prevailing in northern and western China during winter, contrasted by warmer temperatures in the south. The long-term trend shows a gradual decline in monthly mean temperatures despite clear seasonal fluctuations. Additionally, the quarterly analysis identifies a faster rate of warming during the first half of the year, particularly in the cooler months, while the fourth quarter shows minimal change. These findings underscore the complexity and heterogeneity of climate responses across different regions and seasons in China, suggesting that localized climatic changes are driven by both global climate forces and regional factors.

Keywords: Temperature variability; Spatial distribution; Temporal trends; China climate

Online publication: April 3, 2025

1. Introduction

Temperature plays a pivotal role in shaping local climates and ecosystems, and understanding its spatial and temporal patterns is essential for assessing climate change impacts and formulating effective adaptation strategies^[1]. The vastness and geographical diversity of China, with its temperate, arid, and tropical zones, result in significant regional variations in temperature^[2]. With increasing concerns about climate change, it is crucial to analyze these variations over a comprehensive timespan to identify long-term trends and patterns. This study focuses on the spatial and temporal temperature variations across China from 2016 to 2023, leveraging the high-resolution ERA5-LAND dataset. By analyzing both seasonal and quarterly temperature trends, this research aims to provide a more nuanced understanding of the dynamics driving temperature shifts across different regions. The findings will contribute to the broader field of climate change research, offering valuable insights for policymakers and climate scientists working on climate adaptation and mitigation strategies.

2. Data

The temperature data used in this study were sourced from ERA5-LAND, a high-resolution global climate reanalysis dataset. The data span from January 2016 to December 2023, providing both spatial and temporal dimensions essential for understanding the regional climate variations in China. The analysis examines mean temperature values for each month and quarter across various geographical zones in China, segmented by season.

3. Results

3.1. Spatial distribution of temperatures across four seasonal quarters

The spatial distribution of temperatures in China from 2016 to 2023, based on the ERA5-LAND temperature data, is depicted in **Figure 1**, showing seasonal variations across the four quarters of each year. The first map represents the mean temperature for the months of January to March, while the second map displays the average temperature for April to June, and the third and fourth maps show temperatures for the July to September and October to December periods, respectively. As observed, temperature distributions exhibit notable regional differences. During the winter months (January to March), colder temperatures dominate northern and western China, with warmer conditions observed in the southern regions. Conversely, the spring to summer transition (April to June) sees a general increase in temperatures across the country, especially in the northern and central parts. The highest temperatures are recorded during the summer months (July to September), particularly in the northwestern and central areas, reflecting the intensity of the seasonal warming. In contrast, the autumn period (October to December) shows a slight cooling, with the southern regions experiencing milder temperatures. These spatial patterns highlight the strong seasonal variability in temperature across China over the analyzed period.

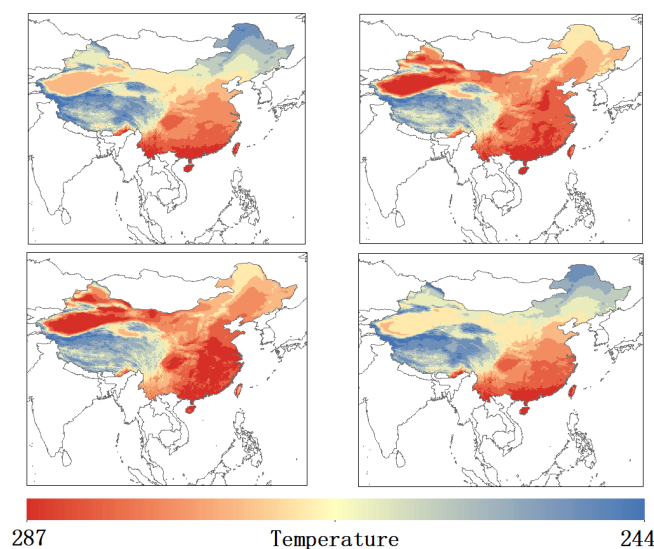


Figure 1. Spatial distribution of mean temperatures in China from 2016 to 2023 across four seasonal quarters based on ERA5-LAND temperature data. The maps represent the average temperature for each quarter: (a) January to March, (b) April to June, (c) July to September, and (d) October to December

3.2. Monthly mean temperature trend

Figure 2 illustrates the monthly mean temperature trend in China from 2016 to 2023, with each blue dot representing the average temperature for each respective month from January 2016 to December 2023. The red

dashed line indicates the trendline, revealing a discernible downward trend in the monthly temperatures over the study period. Despite seasonal fluctuations, which show clear seasonal cycles of higher temperatures in summer and lower temperatures in winter, the overall trend suggests a gradual decrease in the temperature across the years. This declining trend may reflect broader climatic changes and variations over the study period. The monthly data points provide insight into the seasonal temperature variations, while the trendline highlights the long-term temperature decline.

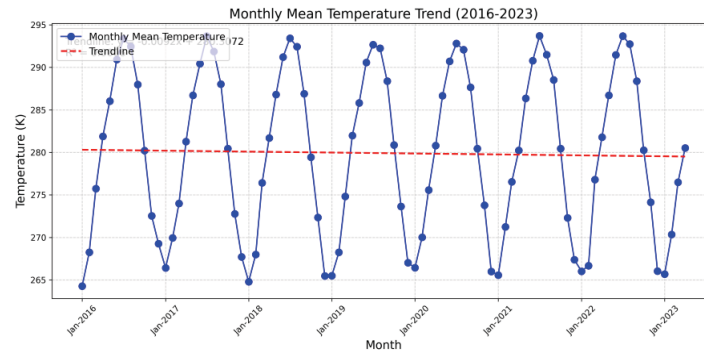


Figure 2. Monthly mean temperature trend in China from 2016 to 2023. Blue dots represent the monthly average temperature, and the red dashed line indicates the overall temperature trend

3.3. Trend of temperature in four quarters

Analysis of quarterly temperature trends (2016–2023) highlights pronounced seasonal warming disparities (**Figure 3**). Q1 exhibits the steepest increase ($K = 0.1649$), marked by interannual fluctuations superimposed on a robust upward trajectory. Q2, initially stable, shows a recent surge (2022–2023), yielding a comparable trend slope ($K = 0.1647$). Q3 transitions to sustained warming post-2021 ($K = 0.1152$), while Q4 displays minimal overall change ($K = 0.0293$), despite an anomalously low 2018 value. These divergent warming patterns emphasize accelerated temperature rise in cooler seasons (Q1–Q2) and evolving thermal regimes in warmer periods (Q3), underscoring seasonally heterogeneous climate responses.

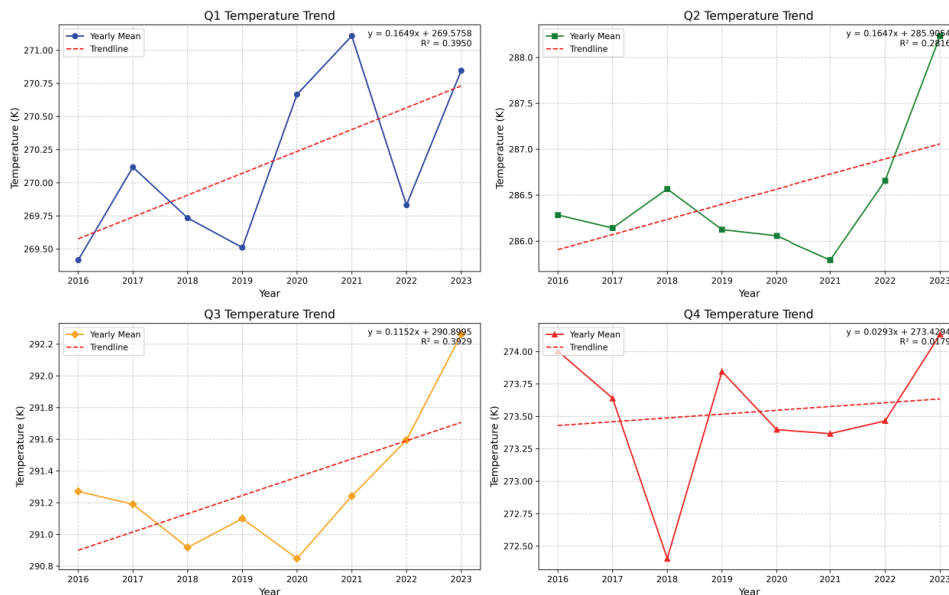


Figure 3. ERA5-LAND-derived quarterly means (colored lines) and linear trends (dashed lines) showing accelerated warming in Q1–Q2 (slope $K = 0.1649$ – 0.1647) and muted Q4 changes ($K = 0.0293$)

4. Discussion

The spatial and temporal temperature variations observed in this study highlight the complex climate dynamics of China. The findings indicate that temperature changes are not uniform across the country, and regional factors such as topography, latitude, and altitude play a significant role in shaping temperature patterns ^[3]. The general trend of declining temperatures over the study period, despite seasonal fluctuations, suggests that broader climate forces are at play, potentially related to global warming or other large-scale atmospheric phenomena ^[4]. The accelerated warming observed in the cooler months (Q1 and Q2) could be linked to changes in atmospheric circulation patterns, such as shifts in the jet stream or changes in solar radiation ^[5]. In contrast, the muted warming in the fourth quarter suggests that warmer months are less susceptible to these changes, possibly due to the buffering effects of monsoons or oceanic influences ^[6].

These findings underscore the need for targeted climate adaptation strategies that consider the seasonal and regional differences in temperature patterns. Localized climate models and more granular temperature data are essential for understanding the specific impacts of climate change in different regions of China. Further research is needed to identify the drivers behind these temperature trends and to assess their potential effects on agriculture, water resources, and ecosystems.

5. Conclusion

In conclusion, this study has provided a detailed analysis of temperature trends across China from 2016 to 2023, revealing significant regional and seasonal variations. The findings suggest that while temperatures are gradually declining, seasonal warming is more pronounced during the cooler months. This research offers valuable insights into the evolving climate conditions in China, emphasizing the complexity and heterogeneity of climate change impacts. Continued monitoring and further investigation are essential for developing effective climate adaptation strategies and mitigating the impacts of future climate changes.

Disclosure statement

The author declares no conflict of interest.

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On the Application and Reflection of the Theory of Protective Norms

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Abstract: This article starts from the evolution of the standards for determining the plaintiff's qualification in administrative litigation and the limitations of the current "interest relationship" standard and explores the application of the protection norm theory. The "Liu Guangming" case first introduced the protection norm theory as a tool for determining the plaintiff's qualification in administrative litigation, which has positive significance for the judicial practice of administrative litigation in China. However, in China's practice, there are problems in the application of the protection norm theory, specifically manifested as a mechanical application of the protection norm theory and the lack of a unified judicial application standard. In view of this, in order to solve the practical difficulties, it is necessary to construct a "three-step" application path for the protection norm theory.

Keywords: Administrative procedure law; Standing in administrative litigation; Normative protection theory

Online publication: April 3, 2025

1. Introduction

Since the revision of the new Administrative Procedure Law, the "interest relationship standard" has become the new criterion for determining standing in administrative litigation in China. However, judicial practice has struggled to grasp the abstract concept of "interest relationship." Since the Supreme Court introduced the Normative Protection Theory in the "Liu Guangming Case", this theory has demonstrated a positive reference role for local courts when dealing with similar cases. However, the Normative Protection Theory is not yet mature, leading to issues in its judicial application, specifically manifested in the mechanical application of the theory and the lack of a unified judicial application standard. Therefore, this paper proposes suggestions to address these challenges: constructing a "three-step" application path for the Normative Protection Theory and further improving the interest relationship standard for determining standing in administrative litigation.

2. The determination of standing in administrative litigation and the normative protection theory

2.1. The evolution of standards for determining standing in administrative litigation

The standards for determining standing in administrative litigation in China have gone through four developmental stages. The first stage applied the direct interest relationship standard, where the basis for courts to hear administrative cases was the Civil Procedure Law at the time. As a result, the standing of plaintiffs in administrative litigation also followed the standards for plaintiffs in civil litigation. The second stage applied the administrative counterpart standard. However, due to the term “deem” in the legal provisions, this standard carried a degree of subjectivity. As long as a subject “deemed” that their legitimate rights and interests were infringed upon by a specific administrative act of an administrative organ, they could file an administrative lawsuit. This led to an unlimited expansion of the scope of administrative standing, resulting in a significant increase in the number of administrative litigation cases and placing greater pressure on judicial organs. The third stage applied the legal interest relationship standard, which was relatively more objective compared to previous standards. However, different subjects interpreted “legal interest relationship” differently, potentially causing confusion in the understanding of legal provisions and even restricting citizens’ rights to file lawsuits. At the current stage, the interest relationship standard is the criterion adopted in China’s administrative litigation, which states that “the counterpart of an administrative act and other citizens, legal persons, or organizations with an interest in the administrative act have the right to file a lawsuit following the law.”

2.2. Limitations of the interest relationship standard

Determining the counterpart of an administrative act is relatively straightforward, but how does one assess whether other parties have an interest relationship with the administrative act? In judicial practice, the prevailing view on interest relationship is that “to prove an interest relationship with an administrative act, one must demonstrate how the challenged administrative act may have infringed upon their rights or interests.” Although the interest relationship standard is more objective than the previous three standards, it still faces challenges in judicial practice.

First, the interest relationship standard lacks a clear boundary. For example, suppose an administrative authority revokes a factory’s business license and orders it to cease operations. As a result, the factory’s workers lose their source of income, and other companies with contractual relationships with the factory also suffer losses. In such livelihood-related cases, the workers and other companies would naturally believe that their rights and interests have been harmed by the administrative act. If the influence of an administrative act is extensive enough, anyone could claim to have an interest relationship with it, leading to an abuse of litigation and a waste of judicial resources.

Second, the interest relationship standard fails to provide a definitive criterion in practice. Courts often exercise significant discretion in this regard, and different courts may apply inconsistent standards for determining “interest relationship.” In some judicial documents, one can only find statements such as “the court deems the party has (or does not have) an interest relationship” without detailed reasoning. This lack of explanation can leave parties unable to understand or accept the judgment, prompting them to file appeals or retrials, ultimately increasing the pressure on judicial work.

2.3. The connotation of the normative protection theory

The “Liu Guangming Case” led the Supreme Court to introduce a “foreign concept”—the Normative Protection

Theory—providing a practical method for applying the interest relationship standard. The key to the Normative Protection Theory in determining whether a party has an interest relationship lies in the specific legal norm relied upon by the administrative organ when making the administrative act. If the norm requires the administrative organ to respect and protect a certain right or interest of the party, and the specific administrative act of the organ infringes upon that right or interest that the party seeks to protect through litigation, then the party meets the condition of having an “interest relationship.” Conversely, if the norm does not require the administrative organ to consider that right or interest, then the party does not have an interest relationship under administrative law.

2.4. The significance of introducing the Normative Protection Theory

Before the introduction of the Normative Protection Theory, judicial organs could only consider “interest relationship” from two perspectives: first, whether the rights or interests for which the party sought judicial protection had been harmed, including the possibility of harm; second, whether the rights or interests the party sought to protect had been infringed upon by the administrative act. However, this vague understanding raised further questions: Which rights or interests should be protected by administrative organs? How should the causal relationship between the administrative act and the infringed rights or interests be determined? Is it necessary to establish a standard for the extent of harm suffered by the party?

Looking back at the Supreme Court’s reasoning in the “Liu Guangming Case”, it becomes clear that the Supreme Court, with the help of the Normative Protection Theory, provided a detailed interpretation of the legal norms underlying the challenged administrative act, thereby determining whether the party had standing as a plaintiff. After the introduction of the Normative Protection Theory, the determination of whether a party has standing no longer depends on whether the Administrative Procedure Law or judicial interpretations explicitly include the rights or interests the party seeks to protect. Instead, it shifts to interpreting and analyzing the legal norms on which the administrative act is based.

In comparison, the Normative Protection Theory offers greater objectivity, making the determination of interest relationships more concrete. Under the theoretical framework of “interest relationship”, the plaintiff does not need to bear the burden of proving the existence of a specific right, nor do they need to argue the nature of the right or how it has been affected. Instead, they can infer that their rights or interests have been adversely affected, thereby directly advancing to claims such as the revocation of the administrative act ^[1]. This approach also allows courts to avoid repeatedly hearing cases where the plaintiff clearly lacks standing, thereby preventing frivolous lawsuits and ensuring the efficient and effective allocation of judicial resources.

3. Issues with the application of the Normative Protection Theory in China’s judicial practice

3.1. Mechanical application of the Normative Protection Theory

The Normative Protection Theory emerged from the continuous development of German legal theory and the accumulation of judicial practice experience. In China, it was first applied by the Supreme Court in its rulings, sparking a trend of judicial application of the theory. However, it is evident from the rulings of local courts that they were not adequately prepared for its implementation ^[2]. Some local courts, without fully understanding the Normative Protection Theory, have mechanically copied and applied the Supreme Court’s reasoning from the “Liu Guangming Case.” They have failed to conduct case-specific analysis and reasoning, instead directly concluding that “no interest relationship exists.” This approach contradicts the original intention of the Supreme Court in

introducing the Normative Protection Theory.

3.2. Mechanical application of the Normative Protection Theory

Due to the high demands placed on judges' understanding and interpretation of legal norms by the Normative Protection Theory, judicial practice in administrative litigation has seen varying standards for determining interest relationships and plaintiff standing across different courts, leading to uncertainty. Additionally, given the heavy workload and significant energy consumption of judges, it is often much easier to deny plaintiff standing than to affirm it when dealing with complex administrative cases involving third-party plaintiffs^[3]. As a result, courts have adopted diverse and inconsistent standards to dismiss lawsuits.

As mentioned earlier, some courts mechanically copy the Supreme Court's reasoning from the "Liu Guangming Case"; others, while citing the reasoning of the "Liu Guangming Case", ultimately revert to the traditional interest relationship standard for judgment; some courts base their decisions on reflective interests or public law rights; and others argue that "violation of public interest" equates to "the norm not providing protection for private interests." Such subjective adjudication standards often lead to a narrowing of the scope of plaintiff standing, failing to achieve true judicial fairness.

4. Suggestions for improving the application of the Normative Protection Theory

4.1. Constructing a "three-step" application path for the Normative Protection Theory

To effectively safeguard citizens' right to sue and fully realize the role of the Normative Protection Theory, a standardized and operable application path for the theory should be established at the judicial level. Based on the perspective of scholar Zhang Jiansheng and the Supreme Court's experience in applying the Normative Protection Theory, a "three-step" application path for the theory can be summarized.

The first step is to identify and locate the specific legal provisions on which the challenged administrative act was based. It is important to note that the scope of this search should be limited to public law, including laws, regulations, rules, and normative documents of a public law nature. Additionally, fundamental rights provisions in the Constitution should not be used as a basis, as the Constitution is not directly applied as a legal basis in judicial rulings in China.

The second step involves using interpretive methods, such as textual interpretation, purposive interpretation, and systematic interpretation, to conduct an expansive analysis of the legal norm. The goal is to examine whether the norm considers, respects, or protects private interests. If doubts remain after exhausting all interpretive methods, priority should be given to interpretations that favor the plaintiff. However, the capacity and resources of the judicial system must also be taken into account, and the scope of expansive interpretation should not be arbitrarily extended. It should be limited to reasonable rights and interests within the realm of public law.

The final step is to assess whether the plaintiff falls within the scope of protection of the legal norm by comparing their claims with the private interests considered, respected, or protected by the norm. If the plaintiff's claims fall within the scope of the norm's consideration, respect, or protection, then the plaintiff has standing; otherwise, they do not.

4.2. Selecting typical cases as guiding cases

Although China does not adopt a case law system, the guiding cases issued by the Supreme People's Court still hold legal authority in unifying the rulings of local courts at all levels. Therefore, it is essential to select typical

cases where people's courts have flexibly and accurately applied the Normative Protection Theory. Based on different causes of action, these cases can be categorized into types such as creditor-debtor relationship cases, environmental rights cases, complaint and reporting cases, neighborhood relationship cases, and housing and land expropriation cases^[4]. These categorized cases can serve as references for people's courts when handling similar cases, maximizing the realization of "consistent rulings for similar cases." At the same time, the categorization of the application of the Normative Protection Theory does not entirely restrict judges' discretionary power. Since no two cases are entirely identical, judges can still conduct case-specific analyses and reasonably exercise their discretion by comprehensively applying legal interpretation methods.

4.3. Regulating administrative agencies' self-restraint and management

As mentioned earlier, the norms referenced in the Normative Protection Theory are limited to public law, and the drafting bodies are mostly government agencies or other functional departments. The primary purpose of administrative agencies in formulating norms is to maintain social order, while the Normative Protection Theory focuses on safeguarding private interests. Under this system, there is inevitably criticism of "acting as both player and referee", making it difficult to ensure the fair protection of the legitimate rights and interests of the parties involved. To achieve the purpose and effectiveness of the Normative Protection Theory, it is necessary to strengthen the self-restraint and management of administrative agencies. When formulating norms, administrative agencies should consider and respect the legitimate rights and interests of citizens, especially those involving privacy and property rights. Strict scrutiny should be applied to assess the necessity and reasonableness of such norms. A balance must be struck between public interest and private interests, avoiding excessive interference or infringement on citizens' rights. Additionally, a sound accountability system should be established. For cases where unreasonable or even illegal norms result in harm to citizens' private interests, clear accountability mechanisms should be enforced to regulate both the drafters and implementers of the norms, ensuring self-discipline within administrative agencies.

5. Conclusion

The Normative Protection Theory plays a positive role in determining interest relationships, providing clear guidance for defining plaintiff standing and, to some extent, advancing the development of administrative litigation law in China. However, its application in judicial practice remains immature, with issues such as mechanical application and inconsistent judicial standards, which limit its potential effectiveness. Therefore, this paper proposes improvement recommendations, including constructing a "three-step" application path, selecting guiding cases, and regulating the self-restraint of administrative agencies, to promote the effective application of the Normative Protection Theory and fully leverage its role in ensuring judicial fairness.

Disclosure statement

The author declares no conflict of interest.

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Diffusion Study of Coupled Brownian Ratchet

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Abstract: In this paper, the effective diffusion coefficient of the coupled Brownian ratchet is studied. Langevin equation is used to describe the coupled Brownian ratchet model, and the Runge-Kutta algorithm is used to solve the equation. The average velocity of the coupled Brownian particle is obtained, and the effective diffusion coefficient of the coupled ratchet is further calculated. The numerical calculation method of the effective diffusion coefficient of coupled Brownian particles has been widely used in many research fields. By using this numerical strategy, researchers can deeply understand the dynamic behavior of complex systems and provide theoretical support for the research and application in related fields.

Keywords: Coupled Brownian ratchet; Average velocity; Effective diffusion coefficient; Runge-Kutta algorithm

Online publication: April 3, 2025

1. Introduction

Biomolecular motors, as a kind of important nanoscale molecular machines, are mainly composed of proteins and nucleic acids and widely exist in all kinds of cells. This kind of motor obtains chemical energy by hydrolyzing ATP or uses electrochemical potential generated by transmembrane proton gradient as a power source^[1]. Different from macroscopic artificial motors, molecular motors operate in a solution environment with low Reynolds number and high viscosity, their motion characteristics are subject to overdamping conditions, and they cannot rely on inertia to maintain the motion state^[2]. Molecular motors play an indispensable role in the activities of life, from muscle contraction and intracellular material transport to DNA replication and cell division, and other processes rely on hundreds of molecular motors working together. These nanomachines can actively take up ATP molecules in the environment, use the energy generated by their hydrolysis, and achieve directional motion in response to thermal fluctuations^[3].

To further explore the directional transport mechanism of molecular motors, researchers built a Brownian ratchet model based on Brownian motion theory^[4]. The essence of this model is to realize directional transport by breaking the thermodynamic equilibrium state of the system and destroying the spatial symmetry^[5]. According to the different ways of non-equilibrium driving, Brownian ratchet models can be divided into four categories:

(1) rocking ratchet models, which are characterized by the disturbance of thermal balance by unbiased external forces, resulting in directional motion in asymmetric potential fields ^[6–7]; (2) the scintillation ratchet model, whose mechanism results from the random switching or periodic modulation of the asymmetric potential field between multiple states ^[8–9]; (3) the correlated ratchet model, whose directional transport is triggered by time correlation effects or spontaneous collective motion ^[10–11]; (4) self-driven ratchet model, which is characterized by breaking the thermal balance through self-driving force and achieving net transport in an asymmetric structure ^[12–13]. In recent years, the research on directional transport of Brown ratchet has made remarkable progress. For example, Li et al. revealed the reversal of the direction of motion of collective directional transport in coupled systems and found that the reversal of the direction of motion can be achieved by adjusting the coupling strength, free length, and potential field asymmetry coefficient ^[14]. Xu et al. found that the ratchet effect of overdamped Brownian particles is suppressed by increasing the noise intensity in a spatially symmetric potential field ^[15]. In this paper, the characteristics of the centroid diffusion coefficient ($Deff$) of the coupled Brownian ratchet are discussed, and its calculation method is deeply analyzed.

2. The theoretical research of coupled Brownian ratchet

In this paper, the diffusion of coupled Brownian particles is studied. The motion of two coupled Brownian particles is described by the Langevin equation as follows.

$$\dot{x}_1(t) = -\frac{\partial U(x_1)}{\partial x_1} - \frac{\partial F(x_1, x_2)}{\partial x_1} + \xi_1(t), \quad (1)$$

$$\dot{x}_2(t) = -\frac{\partial U(x_2)}{\partial x_2} - \frac{\partial F(x_1, x_2)}{\partial x_2} + \xi_2(t), \quad (2)$$

In the above formula (1) and (2), $x_1(t)$ and $x_2(t)$ respectively represent the position of the two coupled particles at the moment), $U(x)$ is the asymmetric periodic external potential, $F(x_1, x_2)$ representing the interaction potential between the two coupled Brownian particles, the specific form is as follows:

$$F(x_1, x_2) = \frac{1}{2}k(x_1 - x_2 - a)^2, \quad (3)$$

$\xi_1(t)$ and $\xi_2(t)$ are Gaussian white noise and satisfies the following properties

$$\langle \xi_i(t) \rangle = 0, \quad (4)$$

$$\langle \xi_i(t) \xi_j(t') \rangle = 2D\delta_{ij}\delta(t - t'), i, j = 1, 2. \quad (5)$$

In the formula (5), D represents the thermal noise intensity, its value is $k_B T_0$, k_B represents the Boltzmann constant, T_0 is the ambient temperature.

To study the diffusion behavior of the coupled Brownian motor, the variance of the position of the center of mass of the coupled Brownian particle $x_c(x_c = \frac{x_1 + x_2}{2})$ can be used to calculate the effective diffusion coefficient of the system $Deff$:

$$Deff = \lim_{t \rightarrow \infty} \frac{1}{2} \frac{d}{dt} \langle [x_c - \langle x_c(t) \rangle]^2 \rangle, \quad (6)$$

In the formula, $\langle \dots \rangle$ denotes ensemble average, and $\langle [x_c(t) - \langle x_c(t) \rangle]^2 \rangle = \langle x_c^2(t) \rangle - \langle x_c(t) \rangle^2$. Therefore, the effective diffusion coefficient of the coupled Brownian particle $Deff$ is further expressed in the following form:

$$Deff = \lim_{t \rightarrow \infty} \frac{1}{2} \frac{d}{dt} (\langle x_c^2(t) \rangle - \langle x_c(t) \rangle^2). \quad (7)$$

In this paper, the Langevin equation is solved numerically by Runge-Kutta algorithm, and the effective diffusion coefficient of coupled Brownian particles $Deff$ can be further obtained by combining with equation (7).

3. Runge-kutta algorithm of coupled Brownian ratchet

First, the Runge-Kutta algorithm can be applied to calculate the position of the 1 particle and the position of the 2 particle x_1 and x_2 . Among them, the numerical solution procedure for particle 1 is as follows:

$$x_1(t+h) = x_1(t) + \frac{1}{2}h(F_{11} + F_{12}) + \sqrt{2Dh}Y_1, \quad (8)$$

$$F_{11} = \frac{\partial U(x_1(t))}{\partial x_1}, \quad (9)$$

$$F_{12} = \frac{\partial U(x_1(t) + hF_{11} + \sqrt{2Dh}Y_1)}{\partial x_1}, \quad (10)$$

2 Particle positions are calculated as follows

$$x_2(t+h) = x_2(t) + \frac{1}{2}h(F_{21} + F_{22}) + \sqrt{2Dh}Y_2, \quad (11)$$

$$F_{21} = \frac{\partial U(x_2(t))}{\partial x_2}, \quad (12)$$

$$F_{22} = \frac{\partial U(x_2(t) + hF_{21} + \sqrt{2Dh}Y_2)}{\partial x_2}. \quad (13)$$

Where Y_1 and Y_2 are Gaussian random numbers with a mean of zero and a variance of 1, h is the step length of the numerical calculation.

The position of the center of mass of the coupled Brownian particle can be calculated by the results of equations (9) and (12), and the further effective diffusion coefficient $Deff$ can be obtained by equation (8). For the convenience of calculation, it can be simplified to the following form:

$$Deff = \frac{\langle x_c^2(t) \rangle - \langle x_c(t) \rangle^2}{2t}. \quad (14)$$

For the diffusion process, the asymptotic time evolution of the variance is usually a function of increasing time, satisfying the following power law.

$$\langle \Delta x_i^2(t) \rangle \sim t^\alpha. \quad (15)$$

The exponent α in the above formula can reflect the diffusion type of the system. At that time, $\alpha = 1$ was

normal diffusion. At $0 < \alpha < 1$ time, the system behaved as underdiffusion, and at $\alpha > 1$ time, it was superdiffusion. It is easy to know that in the case of underdiffusion, the position variance increases more slowly with time than normal diffusion, while overdiffusion is faster than normal diffusion. Therefore, the time-dependent diffusion coefficient $Deff$ can distinguish between these anomalous intermediate diffusion regions, that is, when $Deff$ increases with time, it indicates superdiffusion, when $Deff$ decreases with time, it corresponds to subdiffusion, and when $Deff$ constant, the system behaves as normal diffusion. It is worth noting that only then is $\alpha \rightarrow 1$ the time-independent diffusion coefficient $Deff$ given by equation (6).

4. Conclusion

In this paper, the diffusion of coupled Brownian particles is studied theoretically by the Langevin equation, the motion equation is solved numerically by the Runge-Kutta algorithm, the centroid position of coupled Brownian particles is obtained, and the effective diffusion coefficient $Deff$ of coupled ratchets is further obtained. The diffusion research of coupled Brownian particles has shown significant theoretical value and practical significance in many fields. Through numerical simulation methods, researchers can deeply explore the dynamics of complex systems and provide references for theoretical exploration and experimental research in related fields. Especially in the field of biophysics, the model is often used to explain the motion mechanisms of various biological macromolecules, such as the energy conversion process of molecular motors, the spatial conformation change of proteins, and the migration behavior of receptors on the surface of cell membranes. Importantly, by numerically solving the effective diffusion coefficients, researchers can more accurately understand the movement of these biomolecules in the complex intracellular environment and thereby elucidate the underlying mechanisms of their biological functions. In the field of soft condensed matter physics, the model provides a powerful tool for the study of the microdynamics of colloidal dispersion systems and polymer solutions. In particular, the quantitative analysis of the effective diffusion coefficient plays an important role in exploring the mechanism of the interaction between particles affecting the macroscopic properties of the system. For example, the quantitative analysis provides a theoretical reference for understanding the rheological properties and phase behavior changes of materials. In addition, in the field of environmental science, the model can also be used to describe the migration and diffusion process of pollutant particles in complex media, providing a theoretical basis for environmental governance.

Disclosure statement

The authors declare no conflict of interest.

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An Empirical Study on the Influencing Factors of Short Videos in New Mainstream Media Constructing National Image

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Abstract: This paper applies the rooting theory to study and analyze how the short video “China Mosaic” constructs the national image on Facebook. Through three levels of coding: open coding, spindle coding, and selective coding, it summarizes the communication influencing factors of the short video in constructing and presenting the national image from five dimensions, such as politics, economy, culture, natural environment, society, with a view to providing reference samples for the mainstream media in constructing the national image.

Keywords: Mainstream media; National image construction; Short video; China Three Minutes (China Mosaic)

Online publication: April 3, 2025

1. Introduction

Constructing the national image is the focus of enhancing China’s overall image recognition, which plays an important role in improving international political and economic status and enhancing China’s national cultural soft power. China Mosaic is a bilingual short video program launched by China’s mainstream media China.com for overseas audiences. Since its broadcast in May 2015, as of May 22, 2024, a total of 459 episodes have been launched, covering a wide range of topics such as economy, culture, diplomacy, society and people’s livelihood, etc. and the cumulative number of clicks received on Facebook and other international social platforms has exceeded 2 billion, becoming a better window for overseas audiences to learn about China.

In the literature on “China Mosaic”, “China in 3 minutes”, the research mainly focuses on four dimensions, namely, the dimension of national image construction, the dimension of semiotic theory analysis, the dimension of strategy suggestion, and the dimension of analysis of communication effect. Which is valuable, but the sample is not very timely. From the analysis dimension of communication effect, Zhang Lingyan analyzed how the program tells Chinese stories well and achieves better external communication effects ^[1]. Deng Guofeng

and Zhang Chengcheng proposed that it is necessary to extract and grasp the characteristic positioning, deal with key issues directly, improve the precision strategy design, and strengthen the localization operation ^[2]. From the dimension of national image construction, Wang Yishi analyzes the success of the program in the construction of national image from three aspects: national position, positive emotion, and value communication ^[3]. Zhang Shan analyzes the material and value dimensions of national image and explores whether there is a deviation between the image people want to present on Facebook (self-expected image) and the image of China under public perception (actual image) ^[4]. From the perspective of semiotic theoretical analysis, Wang Li analyzed how to achieve directional, precise, and penetrating communication effects through the effective construction of content symbols and discourse symbols, and formed a diversified communication matrix ^[5]. Meng Xingchen analyzes different issues in the program and studies four kinds of Chinese image frames constructed by it ^[6]. From the perspective of strategy suggestion, Liao Peixu analyzed the program itself from four aspects of international communication, topic selection, language, and audiovisual, and explored the successful experience of how to tell Chinese stories well ^[7]. Han Xue analyzed and put forward promoting strategies ^[8]. Wu Gehong analyzes the characteristics and experience of external communication of programs in the new era and discusses its communication strategy ^[9-10].

2. Research design

2.1. Rationale

In this paper, the authors will apply the rootedness theory to the collected China Mosaic programs broadcasted by China.com on the overseas social media platform Facebook and adopt the classification of the constituent elements of the national image in Liu Jinan and He Hui's "China's Image: The Status Quo of China's National Image in International Communication and Countermeasures", and combine the content of the short video program of China Mosaic with its political, economic and other basic dimensions, using three-level coding to analyze the video content step by step according to the required analysis indexes in terms of several basic dimensions such as politics and economy.

2.2. Content analysis methodology

In this study, the authors first searched the short videos related to China Three Minutes (China Mosaic) posted by Chinese web accounts on the Facebook platform according to keywords, and selected the samples through manual filtering and supplementation; then the authors conducted in-depth analyses of the collected short videos and established quantitative indicator then analyses them in conjunction with the relevant literature, finally get the summarization of the basic features of the short videos.

3. Sample selection and category construction

3.1. Selection of the study sample

From its broadcast in May 2015 to May 22, 2024, the China network short video program "China Three Minutes (China Mosaic)" has launched a total of 459 episodes covering a wide range of topics such as economy, culture, diplomacy, society, and people's livelihoods, and has reaped a cumulative total of more than 2 billion hits on many international social platforms such as Facebook. In this paper, the authors select the programs broadcasted on the Facebook account of China Mosaic from February 1, 2021, to February 1, 2024, which were captured by

Python, and use the N Vivo 12 software to obtain 140 valid samples after the initial screening invalid samples such as repetitive, irrelevant clips and other invalid samples, and constructing the class categories according to the required analytical indexes.

3.2. Category construction

Firstly, the text collected from the program was screened and pre-processed to remove the meaningless content and form a corrected text sample. Then, the text samples are imported into the N Vivo 12 software for “word frequency search.” In this step, the “synonym grouping” function is set to ensure that semantically similar words are correctly categorized, and the minimum text length is set to two characters to exclude unnecessary single-character noise. By applying a list of deactivated words, words that are common but irrelevant to the analysis are filtered out. By analyzing this data, the authors can gain an in-depth understanding of the core topics and focus of the program content. The results of the word frequency analysis show (**Figure 1**) that the word “China” ranks first with a high frequency of 543 occurrences, followed by “development” (152 occurrences), “put forward” (145 occurrences), “achieve” (145 occurrences), and “development” (145 occurrences), “realize” (135 times), and “world” (126 times). These high-frequency words not only show the main focus of the program’s content, but also reveal the core messages and values that the program aims to convey, such as China’s development, its role on the world stage, and China’s attitudes and solutions to international problems.

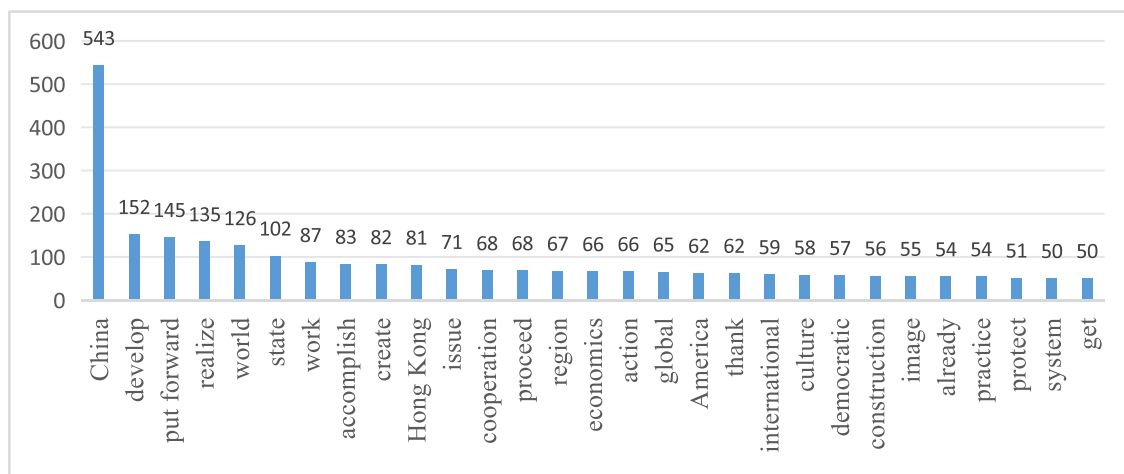


Figure 1. Keyword frequency chart

By analyzing the keywords and themes of the 140 programs, it was found that the contents of the programs covered a wide range of fields such as politics, economy, society, culture, etc. Then the sentences were taken as the unit of analysis and coding analysis was carried out by using three levels of coding, namely open coding, axial coding, and selective coding. Coding analyses were conducted and supported by quantitative statistical results.

3.2.1. Open coding

Open coding refers to the process of breaking down, comparing, conceptualizing, and categorizing the data collected at the beginning of the study, that is, an operationalization process that breaks up heavy data according to certain principles, assigns concepts to them, and then reassembles them with key high-frequency words as

markers. The aim is to identify the same or similar types from the primary data collected and at the same time to name the types to define their concepts and dimensions.

3.2.2. Spindle code

NVivo12 the second step of the qualitative analysis is the main axis coding of the textual material. The main axis coding is a secondary inductive analysis based on the key nodes marked by the open coding, to discover the relationship between the new main core concepts, and to achieve the organic association of multiple concepts such as politics and economy, and the authors refer to the category that combines and associates the new concepts as the “main category.” N vivo 12 is encoded step by step, and 31 free nodes are initially obtained to form the initial concepts. According to the frequency of utterance and the theoretical significance of the nodes, 9 secondary nodes are summarized and merged to form the main category, and the correspondence between each category and the free node is shown.

3.2.3. Selective coding

Selective coding, also known as “core coding”, is a distillation of the category genera that encompasses the entire analysis system. It is the core of the whole model, and all levels of categories form a connected whole around the core code. According to the five categories of politics, economy, culture, natural environment, and society, they can be grouped into one main category: China’s image construction.

4. Reliability test

Combining the results of the statistical analysis of the content coding of all the samples of short videos, the elemental composition and proportion of the national image presented by the short video are summarized from five dimensions, including politics, economy, culture, natural environment, and society.

4.1. Composition and share of elements of the political dimension

Domestic political coding, accounting for 54.8 percent of the total, highlights the intrinsic elements of China’s political stability and governance capacity. The international political codes, accounting for 45.2 percent of the total, show China’s interaction and influence in the international arena, as well as its posture of actively participating in international affairs and contributing to global governance. It focuses on the composite nature of China’s political image, which includes both the stability and efficiency of domestic political governance, as well as China’s role and foreign relations in international politics, reflecting the multi-dimensional character of Chinese politics and its active participation in international politics.

4.2. Composition and share of elements of the economic dimension

The coding of the economic system, with the highest share of 50 percent, emphasizes the state of macroeconomic management and industry development, showing the characteristics of China’s economic structure and policy environment. People’s living standard codes, accounting for 22.7 percent of the total, reflect how the fruits of economic development are reflected and improved in people’s lives. Product codes, accounting for 2.3%, though small in number, highlight the influence and brand value of Made in China. International economic exchange codes, accounting for 18.2 percent, demonstrate China’s interaction and contribution to the global economy. Infrastructure codes, accounting for 6.8%, reflect the material foundation

and supporting conditions behind economic development.

4.3. Composition and share of elements of the cultural dimension

Art coding, accounting for 14.3 percent of the total, shows the prosperity and diversity of Chinese art and emphasizes the role of art in cultural inheritance and innovation. Cultural heritage coding, accounting for 10.2%, highlights the importance of cultural heritage and national identity. History coding, at 16.3%, highlights the importance of history in shaping national and ethnic identity. Cultural exchange coding, with the highest percentage of 46.9 percent, highlights China's active participation and contribution to global cultural exchange and cultural diplomacy. Folklore coding, with a share of 12.2%, highlights the role of folklore in maintaining cultural diversity and promoting cultural understanding.

4.4. Composition and share of elements of the natural environment dimension

In the analysis of the natural environment dimension of the short video content of "Three Minutes in China (China Mosaic)", two open codes, geographic environment, and ecological environment, were formed by observing and categorizing the features of the natural environment shown in the video. The geographic environment code, accounting for 26.7% of the total, shows the rich and diverse natural landscapes and geographic features of China, emphasizing the contribution of natural beauty to tourism and cultural values. The ecological environment code, with a larger share of 73.3%, reflects China's efforts and challenges in ecological protection and environmental management, highlighting the importance of ecological environmental protection in sustainable development.

4.5. Composition and share of elements of the social dimension

Social ethos coding, which occupies a great proportion of 84%, reflects the main trends and characteristics of Chinese society amid rapid development and change, such as emerging lifestyles, cultural trends, and the evolution of social values, emphasizing the dynamic nature of society and the spirit of the times. Social order codes, accounting for 12.3 percent of the total, demonstrate the governance capacity and social stability of Chinese society, highlighting the importance of the rule of law and order in social development. The public facilities code, with a relatively small percentage of 3.7%, reflects the role of public services and infrastructure development in improving people's quality of life and meeting social needs.

5. Conclusion

Through analyses and research, the authors have come up with a suggested strategy for the mainstream media to build a national image. Firstly, focusing on the theme of the community of human destiny. Considering the acceptance characteristics of foreign netizens, analyzing and selecting themes that are common among different countries and regions, it is easier to break the high and low contexts and country-specific cultural barriers, and arouse the emotional resonance of netizens, so that it is easy to reach a consensus. Secondly, the authors take the initiative to respond to international news hotspots. News hotspots are fleeting, actively respond to international news hotspots, purposeful and selective information to set the topics, and proactive, timely response can effectively stimulate netizens to pay attention to deepen the image. Thirdly, the authors will use the language that is easy to be accepted by overseas netizens. The authors will create new concepts and expressions that link the world, and interpret the special practices of China's development. The discourse system comes from

how China faces the world and needs to explore the acceptance habits and characteristics of overseas netizens from a global perspective. The mainstream media should fully embody the value of an inclusive and open communication discourse system in the process of foreign communication, and China's worldview of "beauty for each" and "beauty for all" should be disseminated to foreign audiences.

Acknowledgments

The author is extremely grateful to Mr. Fang Xupu for his contribution to this article. The valuable ideas he provided have enhanced the author's understanding in the field of international communication targeting the new generation.

Disclosure statement

The author declares no conflict of interest.

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Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Reflections on Integrating Red Sports Culture into School Physical Education

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Abstract: Red sports culture, rooted in China's revolutionary history, integrates physical activities with the spirit of perseverance, unity, and patriotism. As China's educational reforms increasingly emphasize holistic development, incorporating red sports culture into school physical education has emerged as a vital approach to fostering students' physical, mental, and moral growth. This study explores the educational value of red sports culture and its integration into PE curricula. By analyzing its historical origins, core values, and practical case studies, the research highlights how red sports culture enriches PE's ideological depth, enhances student engagement, and achieves dual goals of physical fitness and moral cultivation. Innovative teaching methods, such as theme-based simulations of historical events (e.g., the Long March), experiential learning, and curriculum redesign, are shown to strengthen patriotism, teamwork, and resilience. Student feedback and assessments demonstrate improved physical health, historical awareness, and social responsibility. The study concludes with recommendations for policy support, teacher training, and diverse cultural activities to further leverage red sports culture in nurturing well-rounded, socially responsible students.

Keywords: Red sports culture; School physical education; Educational integration; Moral cultivation; Patriotic education; Curriculum innovation

Online publication: April 3, 2025

1. Introduction

Red sports culture originates from the practice of early revolutionary activities in China, with its core being the integration of sports and revolutionary history to convey the spirit of perseverance, unity, and relentless struggle. In traditional Chinese culture, sports are not only a means of physical fitness but also an important carrier for cultural heritage and spiritual promotion. Red sports culture, drawing on the struggle of revolutionary martyrs, promotes revolutionary spirit, patriotism, and national integrity through sports activities^[1]. In recent years, with the continuous deepening of educational reform, the importance of sports in education has become increasingly prominent. Physical education not only helps students master sports skills but also emphasizes

cultivating students' willpower, team spirit, and sense of responsibility through sports activities. As a unique form of cultural heritage, red sports culture has particularly prominent educational value. By combining revolutionary historical stories with sports, it helps students understand the country's past, present, and future, inspires patriotism, and fosters social responsibility. This study aims to explore the application value of red sports culture in education, particularly its significance in integrating into school physical education. By studying the role of red sports culture in education, researchers can better understand its unique advantages in cultivating students' physical fitness, psychological quality, and core values. Specifically, the objectives of this study are as follows. To reveal the core connotation of red sports culture: By analyzing the historical background, cultural value, and spiritual connotation of red sports culture, and to provide a theoretical basis for educational practice. Exploring the application value of red sports culture in education: Investigate the specific role of red sports culture in cultivating students' team spirit, fighting spirit, and revolutionary sentiment. Clarifying the significance of integrating red sports culture into school physical education: Analyze the points of convergence between red sports culture and school physical education to provide feasible guidance for educational practice.

The significance of studying the application of red sports culture in education lies not only in its innovation in educational methods but also as an important path for cultural heritage and educational reform. Integrating red sports culture into school physical education can not only enhance students' physical fitness and mental health but also help students better understand the country's history and culture, cultivate correct values, and promote their comprehensive development. Additionally, the integration of red sports culture can drive educational reform, enrich the school curriculum system, and improve educational quality. Studying the application of red sports culture in education holds significant theoretical and practical value. It not only contributes to deepening the understanding of red sports culture but also provides useful insights for the reform of school physical education. Through this study, researchers hope to provide new ideas and directions for the application of red sports culture in education.

2. Overview of red sports culture

Red sports culture, as a unique cultural form, originates from the practice of early revolutionary activities in China. Its core lies in combining sports with a revolutionary spirit, conveying the tenets of perseverance, unity, and relentless struggle. Red sports culture is not only an extension of sports activities but also a vivid manifestation of China's revolutionary history and traditional culture, possessing profound historical significance and practical value.

2.1. Definition and connotation of red sports culture

Red sports culture refers to the cultural phenomenon of integrating the revolutionary spirit of the Red Army with sports. It draws on the struggle of Chinese revolutionary martyrs as its background and promotes patriotism, revolutionary spirit, and collectivism through sports. Red sports culture is not merely a collection of sports activities but also a carrier of cultural heritage and spiritual transmission. The definition of red sports culture can be expanded from the following five aspects.

Origin and development: Red sports culture originated from the practice of the early revolutionary activities of the Chinese Communist Party. During the Revolutionary War years, revolutionary martyrs

transmitted the revolutionary spirit through sports and cultivated the willpower of future generations of revolutionaries. Red sports culture has evolved differently in various historical periods. For example, during the socialist construction period, red sports culture was used to inspire patriotism among the people; after reform and opening up, it was infused with new connotations and became an important force driving sports reform.

Cultural value: The value of red sports culture is not only embodied in sports activities but also its profound cultural connotations and spiritual strength. Through sports, it conveys the perseverant revolutionary spirit, the collective spirit of unity and cooperation, and the striving spirit of winning honor for the country. The value of red sports culture also lies in its promotion of human comprehensive development, which not only enhances physical fitness but also elevates willpower, mental health, and value pursuit.

Revolutionary spirit: Red sports culture conveys the revolutionary spirit of fearlessness sacrifice and heroic struggle, which is an important reason for the success of the Chinese Communist Party's revolution.

Collective spirit: Red sports culture emphasizes teamwork and collective struggle, which is an indispensable spiritual pillar in contemporary society.

Striving spirit: Through sports, red sports culture promotes the spirit of down-to-earth and unremitting struggle, inspiring people to constantly pursue excellence.

Patriotism: Deeply rooted in the excellent traditional culture of the Chinese nation, red sports culture inherits the patriotism of the Chinese nation and inspires the people's national pride and sense of responsibility.

2.2. Spiritual value of red sports culture

The spiritual value of red sports culture is mainly reflected in the following four aspects.

Inheritance of collective spirit: Red sports culture emphasizes teamwork and collective struggle, which is highly consistent with the collective spirit in socialist core values. Through red sports activities, people can learn to listen to others' opinions, respect others' strengths, and work together, thereby cultivating a stronger sense of teamwork and collective honor.

Promotion of striving spirit: Red sports culture promotes the spirit of fearlessness of difficulties and courage to strive through sports. This spirit not only inspires people to overcome difficulties and pursue excellence in daily life but also cultivates the tenacious quality of never giving up.

Inheritance of revolutionary spirit: Red sports culture conveys the revolutionary spirit of fearlessness sacrifice and heroic struggle, which is of great significance for inspiring people's patriotic enthusiasm and national pride. Through red sports activities, people can more deeply understand the sacrificial spirit of revolutionary martyrs and be inspired and motivated.

Enhancement of patriotic feelings: Deeply rooted in the excellent traditional culture of the Chinese nation, red sports culture inherits the patriotism of the Chinese nation. Through red sports activities, people can more deeply understand the country's history and culture, thereby enhancing their sense of identity and belonging to the country.

2.3. Historical stories and figures of red sports culture

The historical stories and figures of red sports culture are essential components of red sports culture. These stories and figures are not only the spiritual wealth of red sports culture but also important resources for its education and inheritance. Here are some revolutionary stories and heroic figures related to red sports culture.

Inheritance of the Long March Spirit: In the history of the Communist Party of China, the Long March

spirit is an important part of red sports culture. The Long March was a great historical process undertaken by revolutionary martyrs for the liberation of the country and nation, filled with hardships and touching stories. Through red sports activities, people can more deeply understand the connotation of the Long March spirit and be inspired and educated.

Heroic figures in the Anti-Japanese War: During the Anti-Japanese War, red sports culture promoted patriotism and national unity through sports. Many revolutionary martyrs transmitted the revolutionary spirit through sports during the war years, cultivating the people's patriotism. For example, during the Anti-Japanese War, the Eighth Route Army and the New Fourth Army, among others, made tremendous contributions to China's liberation cause through fierce battles and sports training.

Heroic deeds in the Liberation War: During the Liberation War, red sports culture conveyed the heroic deeds and revolutionary spirit of revolutionary martyrs through sports. Many heroic figures demonstrated their indomitable and fearless fighting spirit through sports performance. For example, Zhu De, Chen Yun, and other older-generation revolutionaries inspired the broad masses of the people and promoted the progress of the Liberation War through red sports activities.

Sports spirit after reform and opening up: After reform and opening up, red sports culture was infused with new connotations. Through sports, people gained a deeper understanding of the striving spirit and collectivism in socialist core values. For example, many enterprises promoted teamwork and striving spirit through red sports activities, thereby fostering a positive cultural atmosphere within the enterprise.

The historical stories and figures of red sports culture are not only the spiritual wealth of red sports culture but also important resources for its education and inheritance. Through these stories and figures, people can more deeply understand the connotation of red sports culture and be inspired and educated. As a unique cultural form, red sports culture possesses significant practical and historical value in its definition, connotation, spiritual value, and historical stories. It is not only a form of sports but also a carrier of cultural heritage and spiritual transmission. Through red sports culture, researchers can better understand the country's history and culture, inherit the revolutionary spirit, cultivate collectivism and striving spirit, and thus contribute to social harmony and progress.

3. The value of integrating red sports culture into school physical education

Red sports culture, as a unique cultural form, embodies its value not only in sports activities themselves but also in their profound ideological connotations and educational significance. Integrating red sports culture into school physical education can effectively enhance the ideological and educational aspects of physical education courses, stimulate students' enthusiasm for participating in sports activities, and simultaneously promote the comprehensive development of students' physical fitness and spiritual qualities. The following is a detailed analysis of the value of integrating red sports culture into school physical education from three aspects.

3.1. Enriching the ideological connotation of physical education courses

Red sports culture is an essential component of the excellent traditional culture of the Chinese nation, with its core spirits including revolution, struggle, unity, and patriotism. Integrating red sports culture into school physical education can enrich the ideological connotation of physical education courses, making them no longer limited to the transmission of skills but rather an important vehicle for conveying socialist core values.

Firstly, red sports culture can enhance the ideological nature of physical education courses. Through red sports activities, students can feel the influence of red culture in sports, understand the struggle spirit of revolutionary martyrs, and the importance of national unity. This integration of ideology can not only enhance students' patriotism but also cultivate their unyielding willpower. For example, in academic teaching, teachers can guide students to deeply understand the connotation of red sports culture through red sports stories and deeds of red sports figures, thereby elevating their ideological level.

Secondly, red sports culture can promote the deep integration of physical education and moral education. Through red sports activities, students can feel the importance of teamwork in sports, learn to face difficulties and overcome challenges together, thereby cultivating team spirit and collectivism. This moral education process can not only enhance students' sense of collective identity but also help them establish correct values and outlooks on life ^[2].

In addition, red sports culture can inspire students' sense of mission and responsibility. Through red sports activities, students can feel the positive meaning of their strength to society in sports, thereby inspiring their sense of mission to contribute to the realization of the Chinese Dream of national rejuvenation. This integration of ideology can not only enhance students' social responsibility but also stimulate their intrinsic motivation for progress in study and life.

The integration of red sports culture into school physical education can effectively enhance the ideological nature of physical education courses, making them an important channel for conveying socialist core values.

3.2. Stimulating students' enthusiasm for participating in sports activities

Due to its rich cultural connotation and strong spirit of the times, red sports culture has a strong interest and popularity, which can effectively stimulate students' enthusiasm for participating in sports activities and thereby achieve the goal of a "Healthy China."

Firstly, red sports culture can stimulate students' interest in sports activities. Traditional physical education often focuses on boring theoretical explanations and repetitive exercises, which can easily lead students to lose interest in sports. However, red sports culture integrates revolutionary spirit, historical stories, and cultural elements into sports activities, making sports more lively and interesting ^[3]. For example, red sports courses can simulate battle scenes during the Revolutionary War period, allowing students to experience the fun of sports in the process of "fighting and struggling", thereby stimulating their enthusiasm for participating in sports activities.

Secondly, red sports culture can enhance students' participation awareness. Through red sports activities, students can feel the importance of teamwork in sports, thereby cultivating their positive mental state. This participation awareness can not only improve students' sports participation but also enhance their sense of collective belonging and cohesion. For example, in red sports activities, students can complete tasks through teamwork, thereby feeling the power of the collective and the importance of team spirit.

Furthermore, red sports culture can stimulate students' sense of competition. Through red sports competitions, students can feel their progress and growth in competition, thereby enhancing their self-confidence and resilience. This positive participation attitude can not only improve students' sports skills but also promote their mental health development.

In general, red sports culture can effectively stimulate students' enthusiasm for participating in sports activities due to its interest and popularity, thereby injecting new vitality into school physical education.

3.3. Promoting the educational effect of “physical fitness” and “mental cultivation”

Red sports culture is not only a sports activity but also an educational tool. Through red sports activities, students can not only improve their physical fitness but also achieve spiritual sublimation through the spiritual core of red culture. This dual educational effect of “physical fitness” and “mental cultivation” can achieve the overall goal of physical education.

Firstly, red sports activities can effectively improve students’ physical fitness. Through red sports courses, students can not only enhance their physical fitness in sports but also improve their cardiorespiratory function, muscle strength, and flexibility through high-intensity training. This improvement in physical fitness can not only lay the foundation for student’s future study and life but also enhance their disease resistance, thereby achieving the teaching goal of “building a strong physique”^[4].

Secondly, red sports activities can promote the integration of students’ bodies and minds. Through red sports activities, students can feel the interaction between their bodies and the external environment in sports, thereby enhancing their control and adaptability over their bodies. This sense of body ownership can not only improve students’ sports skills but also enhance their self-confidence and sense of responsibility.

Moreover, red sports activities can promote students’ moral improvement and personality perfection through the spiritual core of red culture. Through red sports activities, students can feel the importance of teamwork in sports, learn to face difficulties and overcome challenges together, thereby cultivating their team spirit and collectivism. At the same time, red sports activities can also stimulate students’ sense of mission and responsibility, enabling them to establish correct values and outlooks on life.

Overall, red sports culture can achieve the overall goal of school physical education by promoting the educational effect of “physical fitness” and “mental cultivation”, providing strong support for students’ comprehensive development.

4. Practical cases of integrating red sports culture into school physical education

Red sports culture, as an important component of socialist culture with Chinese characteristics, encompasses the core spirits of revolution, struggle, unity, and patriotism. Integrating it into school physical education not only enhances the ideological depth of physical education courses but also stimulates students’ enthusiasm for participating in sports activities, promoting the educational effects of both “physical health” and “mental cultivation”^[5]. This article will analyze practical cases of integrating red sports culture into school physical education through specific examples, exploring innovations in teaching methods, student feedback, and effect evaluations.

4.1. Teaching case analysis

When integrating red sports culture into physical education, a middle school adopted the theme of “red classics”, combining revolutionary historical stories with physical education courses. The school selected the red theme of the “Long March Spirit” and designed a series of teaching activities.

Case 1: Red physical education class on the Long March theme. In the “Long March Spirit” red physical education class, teachers simulated scenarios along the Long March route to allow students to experience the hardships faced by Red Army soldiers. For example, students had to complete a series of physical training exercises in a simulated snowy mountain environment, including rock climbing and obstacle courses. Through this situational teaching method, students not only exercised their physical fitness but also profoundly felt the

fearless and forward-looking spirit of the Red Army soldiers. Additionally, teachers introduced the difficulties overcome and achievements made by the Red Army soldiers during the Long March through storytelling. During the lectures, students not only learned physical education knowledge but also gained a deeper understanding of the spiritual connotations of red culture.

Case 2: Red sports and patriotism education. An elementary school integrated red sports culture into patriotism education by designing a “red classics” running drill activity. In this activity, students experienced the marching training of ancient soldiers by imitating ancient warfare scenes. For instance, students had to complete queue training within a specified time and perform war songs and queue movements from ancient wars. Through this running drill activity, students not only enhanced their physical fitness but also profoundly felt the discipline and team spirit of ancient warriors. Simultaneously, teachers explained the historical backgrounds and significance of ancient wars in conjunction with red stories, further strengthening students’ patriotic sentiments.

4.2. Innovation in teaching methods

The key to integrating red sports culture into school physical education lies in the innovation of teaching methods. Some specific teaching methods are as follows.

4.2.1. Thematic teaching

Thematic teaching is a method that revolves around a central theme and guides students through situational learning ^[6]. For example, in a “red classics” themed physical education class, teachers simulate ancient warfare scenes to allow students to experience the tense atmosphere of war. Students need to complete a series of tasks within a limited time, such as evading enemy pursuit. Through this teaching method, students not only exercise their physical fitness but also feel the profound connotations of red culture. Concurrently, teachers can explain the historical backgrounds behind the wars by incorporating red stories, further enhancing students’ patriotic sentiments.

4.2.2. Situational teaching

Situational teaching is a method that simulates real-life situations to enable students to “learn by doing.” For instance, in a “Long March Spirit” physical education class, teachers simulate a snowy mountain environment to allow students to experience the hardships faced by Red Army soldiers. Students need to complete a series of physical training exercises within a limited space and accomplish tasks through teamwork. Through this teaching method, students not only exercise their physical fitness but also feel the spiritual power of red culture. Additionally, teachers can guide students to recall the historical deeds of Red Army soldiers, further strengthening their patriotic emotions.

4.2.3. Experiential teaching

Experiential teaching is a method that deepens students’ understanding of knowledge by allowing them to personally experience certain situations. For example, in a “red classics” running drill activity, students need to experience the marching training of ancient soldiers. Teachers can simulate ancient warfare scenes through performances, allowing students to feel the charm of red culture through real-life experiences. Through this teaching method, students not only exercise their physical fitness but also deeply understand the connotations

of red culture. Concurrently, teachers can guide students to reflect on their behavior, further strengthening their patriotic sentiments.

4.3. Student feedback and effect evaluation

To verify the practical effects of integrating red sports culture into school physical education, schools conducted comprehensive feedback and effect evaluations on students.

4.3.1. Student feedback

In the “Long March Spirit” red physical education class, students generally reported that it was an interesting and meaningful course. Some students said, “Through this class, I not only exercised my body but also profoundly felt the bravery and unity of Red Army soldiers. This experience gave me a deeper understanding of historical stories.”

Additionally, students indicated that their patriotic sentiments were significantly enhanced through red sports education. One student said, “I only had a simple understanding of red culture before, but now, through personal experience, I profoundly feel the spiritual power of red culture.”

4.3.2. Teacher observation

Through observing students’ participation and performance during teaching, teachers found that red sports education significantly improved students’ motivation for sports and teamwork awareness. For example, in the “red classics” running drill activity, students completed physical training within the specified time and demonstrated a high level of team spirit and discipline.

4.3.3. Effect evaluation

Schools evaluated the effects of red sports education through regular tests and questionnaires. Test results showed that students significantly improved in physical skills, physical fitness, and teamwork awareness. In the questionnaire survey, over 80% of students stated that red sports education gave them a deeper understanding of historical stories and enhanced their patriotic sentiments.

The practical cases of integrating red sports culture into school physical education demonstrate that through thematic, situational, and experiential teaching methods, students’ physical literacy and ideological awareness can be effectively enhanced. Concurrently, red sports education can stimulate students’ enthusiasm for participating in sports activities, promoting the educational effects of both “physical health” and “mental cultivation.” In the future, schools can continue to explore ways to integrate red sports culture with physical education, further enhancing students’ overall quality and comprehensive development.

5. The path of integrating red sports culture into school physical education

Red sports culture, as an essential component of the Chinese national spirit, encompasses core elements such as revolution, struggle, unity, and patriotism. Integrating it into school physical education not only enhances the ideological nature of physical education courses but also stimulates students’ enthusiasm for participating in sports activities, promoting the educational effects of “physical fitness” and “mental cultivation.” This article explores the path of integrating red sports culture into school physical education from aspects such as innovative teaching methods, curriculum design and textbook development, campus cultural construction, social practical activities, and teacher roles and training.

5.1. Innovative teaching methods

Traditional physical education tends to focus on skill transmission, neglecting the importance of ideological education. To integrate red sports culture into physical education, innovative teaching methods are required to naturally incorporate red cultural elements into the classroom. Thematic experiential teaching is a method that uses themes as the core, combines specific situations, and guides students to actively participate and experience. For example, in a “Red Classics” themed physical education class, teachers can simulate ancient war scenes and situations during the Long March of the Red Army, allowing students to experience firsthand the hardships and greatness of red culture. Specifically, there are four steps. First, determine the theme. Select themes related to red culture, such as “Long March Spirit” or “Red Revolution.” Second, design scenarios. Use multimedia, situational dramas, and other methods to simulate historical events or scenes of red culture. Third, experiential activities. Let students complete physical training, role-playing, and other experiential activities in simulated situations. Fourth, summarize and improve. Guide students to reflect on their experiences and combine the spiritual connotation of red culture to enhance their ideological understanding.

5.2. Curriculum design and textbook development

Curriculum design and textbook development are the foundations for integrating red sports culture into physical education. Through scientific design, it can ensure that red cultural elements are naturally integrated into the curriculum system.

Adjust course content according to red cultural themes to organically combine them with red cultural elements. For example, integrate red revolutionary historical stories and deeds of revolutionary heroes into physical education courses. First, determine the theme. Select red cultural themes such as “Long March Spirit” or “Red Classics.” Second, integrate content. Incorporate red cultural elements into course content, such as incorporating red stories into jogging exercises and revolutionary historical backgrounds into physical training. Third, innovate forms. Enrich course forms through videos, audio, pictures, etc., to enhance students’ interest in learning.

5.3. Campus cultural construction

Campus cultural construction is an important guarantee for integrating red sports culture into school physical education. Creating a good campus cultural atmosphere, can stimulate students’ enthusiasm for participating in red sports activities.

Create a strong red cultural atmosphere through decorations, signboards, cultural corridors, and other means both inside and outside the campus. For example, set up red cultural billboards in classrooms and playgrounds to display revolutionary historical pictures and heroic deeds. First, design promotional content: combine red cultural themes to design promotional content, such as red cultural images and inspirational quotes. Second, arrange the environment: set up red cultural billboards and cultural corridors both inside and outside the campus to create a strong cultural atmosphere. Third, conduct cultural activities: regularly hold red cultural activities, such as red classic music appreciation and red story recitals, to further enhance students’ understanding of red culture.

6. Conclusion

Elements such as unity and patriotism, when integrated into physical education, not only enhance students’

ideological awareness but also stimulate their enthusiasm for participating in sports activities, promoting their overall development.

6.1. Current situation and achievements

The path of integrating red sports culture into physical education has gradually gained the attention of schools and education departments. Many schools have successfully incorporated red cultural elements into physical education through innovative teaching methods, adjusting course content, and strengthening campus cultural construction. For example, by adopting thematic experiential teaching and situational experiential teaching methods, students are guided to experience the profound heritage of red culture through physical activities. Meanwhile, schools further deepen students' understanding of red culture by holding red sports culture festivals, visiting memorials, and organizing social practice activities. These initiatives not only enhance students' patriotism and national pride but also improve their physical fitness and teamwork abilities.

6.2. Prospects and development suggestions

The future development of red sports culture in physical education still holds broad prospects. Firstly, schools should further strengthen policy support to promote the deep integration of physical education and ideological and political education, ensuring the systematic and comprehensive nature of red-cultural education. Secondly, schools can conduct more diverse forms of social practice activities, such as outdoor sports with red themes and red classic music appreciation sessions, to further enrich students' experiences with red culture. Additionally, the role of teachers in red sports culture teaching needs to be further strengthened. Through professional training and teaching innovation, teachers' teaching abilities and curriculum design levels can be improved. Finally, schools can also promote the spirit of red culture and stimulate students' enthusiasm for participation by creating red sports culture brand activities, such as the "Red Classics" Sports Meet and the "Red Story" Speech Contest.

In summary, integrating red sports culture into physical education is not only an important way to improve students' ideological qualities but also a crucial means to achieve the goal of comprehensive education. In the future, schools should continue to explore ways to combine red sports culture with physical education, fully leveraging the educational value of red culture to make greater contributions to cultivating responsible and mission-driven newcomers of the era.

Funding

Research on the Value and Path of Integrating Red Sports Culture into School Physical Education Curriculum
Project Number: 2022X312-SXYC Special Project Funded by the Innovation and Development Center for Ideological and Political Work in Higher Education Institutions of the Ministry of Education (Beijing Polytechnic)

Disclosure statement

The author declares no conflict of interest.

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Research Progress in Synthesis of Itaconic Esters

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Abstract: To prepare high-quality dimethyl itaconate, this analysis focuses on the synthesis of itaconate esters. Through the test preparation analysis, the optimal reaction temperature is 120 °C, the reaction time is 9 hours, and the reaction pressure is 163 kPa. In addition, the resin is selected as the catalyst in the synthesis test, which not only effectively solves the problem of corrosion of reaction equipment, but also improves the catalytic activity, physical stability, and chemical stability of the synthesis test process, which is more conducive to absorption and separation, to provide some reference for the synthesis and preparation of dimethyl itaconate in the future.

Keywords: Itaconic acid; Methanol; Dimethyl itaconate; Resin

Online publication: April 3, 2025

1. Introduction

Itaconic acid (methylene succinic acid) is a very important raw material in chemical production. The more common are polymer materials, non-toxic packaging materials, etc. The more conventional raw material of itaconic acid is glucose. According to the itaconic acid industry development report, the market size of itaconic acid in the world and China will reach 797 million yuan (RMB) and 206 million yuan in 2024. It is predicted that the compound annual growth rate of the global itaconic acid market will reach 6.67%, and the total size of the global itaconic acid market may reach 1.174 billion yuan by 2030. It can be seen that the domestic production of itaconic acid has a good prospect. Referring to the current synthesis experience of itaconic acid, the rotary tube condenser is more used in the synthesis process. Methanol is added dropwise in the reaction process. The time required for this link is about 9h, and the reaction temperature also needs to be maintained between 100–120 °C. The actual water and methanol reach the outside of the reaction system after distillation. On the whole, this process is cumbersome and difficult to control. In this paper, the synthesis of itaconic acid esters is the object, using itaconic acid and methanol to synthesize dimethyl itaconic acid, to simplify the synthesis process.

2. Test materials and equipment

2.1. Raw materials and reagents

The raw materials and reagents selected for the synthesis of itaconic acid esters are: 99% industrial itaconic acid, produced by Hubei Chenghai Chemical Co., Ltd.; 98% sulfuric acid; 85% phosphoric acid; Methanol and other analytes; The catalyst is mainly resin.

2.2. Instrument equipment and test conditions

Synthetic test instruments and equipment mainly include gas chromatograph, infrared spectrometer, etc., specifically: Agilent 7890b gas chromatograph produced by Agilent; 8% DEGC column; Hydrogen flame ion detector; Amd Ryzen 9950x data processor; Bruker alpha Fourier transform infrared spectrometer. **Table 1** shows the test conditions.

Table 1. Synthetic test conditions

Conditions	Parameter
Temperature rise requirements	Temperature programmed
Column temperature	140 °C
Gasification temperature	200 °C
Flow rate	50 mL/min
carrier gas	Nitrogen
Injection volume	0.3 µL
Test method	Liquid membrane method

2.3. Comparison of synthetic processes

To compare the synthesis effect of itaconic acid esters, the atmospheric pressure method and pressure method were selected for this test ^[1]. For the operation of the atmospheric pressure method, itaconic acid, methanol, and resin catalyst should be added into a three port flask with a capacity of 250 ml. The container contains an electric stirrer, thermometer, and reflux condensing pipe at the same time, and is heated, stirred and reflux treated for 9h ^[2]. The reaction time is observed. After the reaction is over, the tester needs to replace the equipment with a distillation unit and complete methanol recovery after frequent pressure distillation. The recovered methanol is cooled to room temperature, and the remaining material is transferred to the separation funnel. The solution with w NaOH (10%) is mainly used for neutralization treatment, which reaches neutral after water washing ^[3]. Determine the separation of the water layer, and treat the formed organic layer with a vacuum distillation process to obtain a fraction of 122 °C/5.35kPa. This is the product obtained after atmospheric pressure treatment. The tester needs to calculate the yield after weighing.

The pressurization method is applied in synthesis. The initial operation is the same as that of the atmospheric pressure method. Add a series of solutions into a 1 L autoclave container, set the reaction temperature at 120 °C, and the reaction time at 10h. The reaction material is cooled to room temperature, and then methanol is recovered by atmospheric distillation. The remaining substances are neutralized with w NaOH (10%) solution, and treated to neutral by water washing process. After separating the effluent layer, the organic layer was distilled under reduced pressure to obtain a fraction of about 122 °C/5.35kPa. Finally, the yield was obtained by weighing and calculating.

3. Results and analysis

3.1. Catalyst

This time, dimethyl itaconate was synthesized from itaconic acid and methanol. The resin was selected as the catalyst, and the effects of other catalysts on the yield of synthetic substances were compared. The results are shown in **Table 2**.

According to the data in **Table 2**, it can be recognized that the selection of catalyst will affect the synthesis yield of dimethyl itaconate to a certain extent. The yields of the three catalysts in **Table 2** are all above 75%, but the resin yield is the highest. In addition, resin is more applicable in industrial production, so the synthesis test mainly uses resin as a catalyst.

Table 2. Effect of catalyst on synthesis yield

	Catalyzer			
	Nothing	Resin	P-toluenesulfonic acid	w(H ₃ PO ₄)=85%
Yield	41.5%	85.7%	80.3%	78.1%

Note: The reaction conditions for sorting out the data in **Table 2** are itaconic acid: methanol=1:10, resin: itaconic acid=1:100, and the reaction temperature, pressure, and time are set at 120 °C, 163 kPa, and 9 h respectively

3.2. Acid alcohol

During the test, the effect of acid alcohol on the formation of the final synthesis yield of dimethyl itaconate was observed, and the data are summarized in **Table 3**. According to the data in **Table 3**, it is found that the initial reaction temperature and yield begin to increase after the alcohol content decreases. Generally, if the amount of alcohol decreases, the yield will also decrease; If the temperature is increased, the yield will also increase. Therefore, the setting of reaction temperature during the synthesis test directly affects the yield of the final synthesis, and the degree of influence is significantly greater than that of the decrease of alcohol content. Based on this finding, the synthesis of dimethyl itaconate can be carried out by the atmospheric pressure method, which is an important prerequisite for raising the reaction temperature. During this period, observe the change in the yield of the final product. **Table 4** shows the sorted data. According to the data in **Table 4**, when the amount of alcohol increases, the yield of dimethyl itaconate is positively proportional to it, showing an increasing trend. When the amount of acid and alcohol is adjusted to 1:10, any adjustment thereafter will not have a direct impact on the yield. Therefore, when the amount of acid and alcohol is 1:10, the yield can exceed 87%.

Table 3. Effect of acid alcohol on synthesis yield

	Acid: alcohol			
	1:8	1:5	1:3	1:2.2
t	71–75 °C	80–87 °C	85–93 °C	95–113 °C
Yield	35.1%	46.8%	70.3%	55.2%

Note: The reaction conditions for sorting out the data in **Table 3** are itaconic acid 66 g, resin 0.8 g, and reaction time 9 h

Table 4. Effect of acid-alcohol ratio synthesis yield after pressurization

	Acid: alcohol				
	1:3	1:5	1:8	1:10	1:12
Yield	70.2%	77.0%	83.2%	87.5%	87.1%

3.3. Reaction temperature

The effect of reaction temperature was observed during the test. **Table 5** shows the sorted data. According to the data in **Table 5**, it is found that the yield of dimethyl itaconate will also increase with the increase in reaction temperature. The reaction temperature reached about 120 °C, and then the reaction temperature continued to rise, but the yield decreased. When the reaction temperature was 130 °C, the discharge was observed, and it was found that the color of the reactants actually obtained was darker. After vacuum distillation, there were more viscous substances at the bottom of the reaction tank. The reason was that the polymerization of itaconic acid/itaconic acid ester occurred after the temperature increased. Therefore, the high reaction temperature is not conducive to the improvement of yield, and the optimal reaction temperature is 120 °C.

Table 5. Effect of different reaction temperature on product yield

	Reaction temperature				
	50°C	70°C	90°C	120°C	130°C
Yield	28.7%	60.2%	69.5%	79.8%	78.4%

Note: The reaction conditions for sorting out the data in **Table 5** are 130 g itaconic acid and 320 g resin, and the reaction temperature, pressure, and time are set at 120 °C, 163 kPa, and 9 h respectively

3.4. Reaction time

The acid-base titration analysis method is mainly used in the test and analysis process. The standard solution is C (KOH)=0.1mol/l, and the indicator is phenolphthalein. The reaction mixture obtained is tracked and observed at four time points of 1 h, 8 h, 9 h, and 12 h respectively. 5 ml of the sample was taken once to observe the amount of KOH solution consumed, and the test data was sorted out in **Table 6**. By analyzing the data in **Table 6**, it is found that after 10 h of the test, the fluctuation of KOH solution consumption is not obvious. It can be seen that 9 h has reached the reaction equilibrium point. If the reaction time of the test continues to be extended, it will not have a direct impact on the conversion rate. Therefore, the optimal reaction time for the synthesis of dimethyl itaconate is 10 h.

Table 6. Effect of different reaction times on test progress

	Reaction time			
	1 h	8 h	9 h	12 h
KOH solution consumption	45.9 mL	21.4 mL	14.3 mL	12.6 mL

Note: The reaction conditions of the data in the table are resin 1.3 g, acid: alcohol=1:10, and the reaction temperature and pressure are set at 120 °C and 163 kPa respectively

3.5. Content test and analysis of dimethyl itaconate

3.5.1. Chemical method

The tester accurately weighed about 2.5 g of dimethyl itaconate sample and tested the ester content by acid-base titration analysis. The test was carried out 3 times, and the average ester mass fraction calculated by numerical method was 98.28%. Calculation formula:

$$\text{Ester mass fraction} = [M \times (V_0 - V_1) / (20 \times m) - M \times A / 130] \times 100\% \quad (1)$$

In Formula 1, M represents the molar mass of dimethyl itaconate, V_0 and V_1 represent the volume of HCl standard solution used for blank sample and the volume of HCl standard solution consumed by KOH that is still unreacted after saponification of the sample, A represents the acidity, and M represents the mass of the sample.

3.5.2. Gas chromatography

The gas chromatograph was used in this test, and the tester determined the ester content in dimethyl itaconate by gas chromatography. The experimental results showed that the final mass fraction of dimethyl itaconate was 99.15%, which was close to the data obtained by the chemical method (98.26%), indicating that the final mass fraction of dimethyl itaconate was more than 98%.

3.5.3. Fourier transform infrared spectroscopy

To verify the validity of the data related to the synthesis of dimethyl itaconate determined in this test, the final test also needs to determine the product by Fourier transform infrared spectroscopy. The absorption peaks of the synthesized dimethyl itaconate and the dimethyl itaconate stored in the infrared spectrum library were consistent, which also verified that the product prepared in this test was dimethyl itaconate.

4. Conclusions

Combined with the test process and results of the synthesis of dimethyl itaconate from itaconic acid and methanol, the resin was selected as the catalyst, and the test conclusions are as follows.

Dimethyl itaconate was synthesized after the experiment. The infrared spectrum and standard spectrum were compared, and it was confirmed that they were the same. According to the results of gas chromatography analysis, the synthetic product is dimethyl itaconate, and the purity is as high as 98%.

The optimal synthesis conditions of dimethyl itaconate synthesized in the test are summarized in **Table 7**. Based on this condition, dimethyl itaconate can be synthesized, and the yield of the product is more than 85%.

Table 7. Optimum conditions for the synthesis of dimethyl itaconate

Condition	Parameter
Itaconic acid: methanol	1:10
Catalyst (resin): itaconic acid	1:100
Reaction temperature	120 °C
Reaction time	9 h
Reaction pressure	163 kPa

5. Suggestions

5.1. Basic reaction conditions

5.1.1. Raw material ratio

Based on the experience of synthesis and preparation of dimethyl itaconic acid in the industry and combined with the results of this synthesis test, it is suggested that the molar ratio should be set between 1:6 and 1:10 in the synthesis test of itaconic acid and methanol in the future. If methanol is excessive, the equilibrium

conversion of the esterification reaction in the synthesis process can be effectively improved. In addition, the catalyst selected for this synthesis test is resin. In addition, it is recommended to use a chitosan sulfate catalyst, and the appropriate acid-alcohol ratio is 7:1 and 4.

5.1.2. Catalyst

Given the previous use of acid catalysts in the industry, such as sulfuric acid and molybdenum nickel catalysts, the amount of catalyst needs to reach about 1%–3% of the total mass of reaction materials ^[4]. Considering the importance of environmental protection in industrial production, environmental protection catalysts, such as resin and chitosan sulfate, should also be given priority in the selection of catalysts in the future. The specific dosage should reach 2% of the total material. This environmental protection catalyst supports recycling, and the yield of the final product can exceed 80% ^[5].

5.1.3. Reaction temperature and time

Compared with the parameters of the traditional catalyst used in the synthesis of dimethyl itaconate in the past, such as the reaction temperature of 120 °C, the reaction time of the synthesis test of about 6–10h, and the yield of 80%. When the catalyst is changed to resin, the reaction time can be increased to about 9 h ^[6]. In the future, it is suggested to choose glycan sulfate as the catalyst for the synthesis of dimethyl itaconate, which is conducive to raising the reaction temperature, shortening the reaction time and increasing the yield.

5.2. Optimization of synthesis process

5.2.1. Pressure control

The sulfuric acid catalytic system was constructed during the synthesis test. It is suggested to adjust the reaction pressure to about 163 kPa. This data is conducive to accelerating the reaction rate.

5.2.2. Post treatment and purification

The tester observed that the reaction was over, and the non-reactive methanol was recovered by the fractionation process. If there was residual product, the purification was completed by vacuum distillation. The purity of the product obtained by this process was greater than 98%, which was conducive to saving production costs ^[7].

5.3. Precautions

5.3.1. Corrosion resistance of synthetic equipment

Considering that the strong acid catalyst may cause corrosion to the equipment, it is necessary to optimize the corrosion resistance of the reactor, for example, glass lining or Hastelloy material is preferred.

5.3.2. Timely identification of synthetic products

For the final synthetic product, the tester needs to determine the purity of dimethyl itaconate by using Fourier transform infrared spectroscopy, comparing the standard spectrum, gas chromatography quantitative analysis, and other procedures.

5.3.3. Recommended process

The catalyst selected for synthesis is resin, which can maintain high activity, stability, and environmental protection, and has high recovery efficiency. It can prevent the erosion of different chemicals and can reflect

good adaptability in different chemical reaction environments. It is one of the key measures for the realization of green and environmental protection in the chemical industry.

Disclosure statement

The authors declare no conflict of interest.

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Research on the Role of Digital Art in Cultural Inheritance and Innovation Based on the Philosophy of New Media Technology

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Abstract: Digital art, as a core derivative of new media technology, is reconstructing the paradigm of cultural inheritance and innovation based on its digitization, interactivity, and virtuality, and has become a key carrier for the empowerment of cultural strategy in the context of globalization. Based on the perspective of Philosophy of New Media Technology, this study analyzes the intrinsic connection between digital art and cultural inheritance and innovation. By explaining the characteristics of digital art and the connotation of Philosophy of New Media Technology, the study reveals its multiple roles in cultural inheritance and innovation. During the research process, a large amount of empirical data and classical theories are used, such as citing the communication data of Henan TV's "Tang Palace Night Banquet" and Walter Benjamin's theory of "aura fading", etc., to enhance the persuasive power of the argument. Given the technical ethics and legal challenges faced by digital art, practical response strategies are proposed to provide solid theoretical support and practical guidance for digital art to promote the development of cultural prosperity.

Keywords: Philosophy of New Media Technology (PNMT); Digital art; Cultural heritage; Cultural innovation

Online publication: April 3, 2025

1. Introduction

With the exponential development of information technology, new media technology has penetrated all levels of society, profoundly changing human life, working mode, and thinking structure. As the crystallization of the in-depth integration of new media technology and art, digital art, with its unique forms of expression and dissemination paths, has demonstrated its inestimable value in the process of cultural inheritance and innovation. Examining digital art from the perspective of the philosophy of new media technology can help people gain a deep insight into its essential attributes and the inner mechanism of its effectiveness in the cultural field ^[1].

Under the wave of globalization, cultural inheritance and innovation are of far-reaching significance to the sustainable development of nations and countries. However, the current academic community has not yet reached a full consensus on how digital art can balance the authenticity of cultural inheritance and the openness of innovation under the framework of technological philosophy. Foreign scholar Lev Manovich has made an in-depth analysis of the form and language of digital art in *The Language of New Media*, which provides an important theoretical cornerstone for the understanding of the nature of digital art; domestic scholar Xu Peng has also made fruitful achievements in the theoretical research of new media art, which emphasizes the significance of new media art in the paradigm and transformation. However, there is still room for research on the specific mechanism of digital art and cultural inheritance and innovation, as well as coping strategies to face the challenges. This study aims to fill this gap and contribute new insights to the theoretical development and practical application of related fields by systematically analyzing the role of digital art in cultural inheritance and innovation ^[2].

2. Interpretation of the philosophy of new media technology and the connotation of digital art

2.1. Core perspectives of the philosophy of new media technologies

Philosophy of new media technology is a philosophical field of reflection and inquiry on new media technology. German philosopher Heidegger pointed out that technology is a kind of “demystifying” way, and new media technology breaks through the shackles of traditional information dissemination by means of digitization and networking, and “demystifies” hidden information and knowledge so that people can more conveniently access and Communication. New media technology has autonomy and self-organization, and once created, it develops and evolves according to its own internal logic and law. Take the social media platform as an example, it initially originated from people’s demand for social interaction, but in the process of development, it has continuously derived diversified new functions and applications, and gradually built up a self-development ecosystem. Its high degree of network relevance has given rise to coexistence, prompting different individuals and groups to be closely connected through the network. Marx once said that man is the sum of all social relations, new media technology builds network social relations, so that people can cross the time and space limitations to carry out exchanges and cooperation, online education platform realizes the real-time interaction between teachers and students in different regions. New media technology also shows deep embeddedness or involvement, intermingling with culture, and reshaping people’s behavior, interaction, and life patterns, wearable devices, smart homes, and other technologies are increasingly integrated into the subtleties of people’s daily lives ^[3].

According to Don Ihde’s “technological embodiment theory”, technology plays an intermediary role in the interaction between human beings and the world, and human beings establish embodied relationships with the world through technology. In the field of digital art, this theory is embodied in the fact that creators and viewers interact with digital artworks by means of digital technological devices, such as computers and VR headsets, etc., and that digital technology has become an embodied intermediary between human beings and artworks, which has reconfigured the mode of interaction between human beings and culture. Katherine Hayles’ view of “posthumanism” emphasizes the reshaping of human subjectivity by technology, and in the process of digital art creation and appreciation, the intervention of technology has changed human creative thinking, aesthetic

experience, and identity cognition, further highlighting the impact of digital art on human and culture under the philosophical framework of new media technology. This further highlights the profound impact of digital art on the interaction between human beings and culture under the framework of the philosophy of new media technology.

2.2. Definition and characteristics of digital art

Digital art is a form of art that uses digital technology as a means of creation and display, covering a wide range of types such as digital painting, digital photography, digital music, digital video, virtual reality art, augmented reality art, etc. It has significant features such as digitization, interaction, virtualization, and diversity. It is characterized by digitization, interactivity, virtuality, and diversity. Digitalization is its foundation, and all art elements are stored and processed in digital form for easy editing, copying, and dissemination. Digital paintings can be modified and adjusted at will through software and can be quickly shared around the world. Interactivity is a key quality that distinguishes digital art from traditional art, as the audience is no longer a passive receiver, but can interact with the work and influence the presentation of the work. In virtual reality art exhibitions, viewers can manipulate elements in the virtual environment through gestures and movements, changing the course of the exhibition. Virtuality opens up unlimited creative space for artists, enabling them to create fantastical scenes and images that transcend reality. In digital games, designers build virtual worlds of all shapes and sizes, allowing players to enjoy unique adventures. Diversity is reflected in the integration of digital art with a variety of art forms and media, breaking the boundaries of traditional art categories, digital video works can be integrated with music, painting, literature, and other elements to create a rich and diverse artistic experience ^[4].

2.3. The intrinsic connection between new media technologies and digital art

New media technology provides technical support for the birth and development of digital art, which would not be possible without the digitization, networking, and interactivity of new media technology. Digital painting software relies on computer graphics processing technology to enable artists to create on a virtual canvas; virtual reality art relies on hardware technology such as VR equipment and sensors, as well as software technology such as 3D modeling and real-time rendering. Digital art is the concrete application and practical achievements of new media technology in the field of art, which highlights the advantages and charms of new media technology through art creation and display. Some new media artworks are disseminated through new media platforms, attracting massive audiences and enhancing the influence and recognition of new media technology. The two are complementary and synergistic, the innovation of new media technology brings new forms of expression and creative ideas for digital art, and the development needs of digital art also promote the continuous improvement and advancement of new media technology.

3. The role of digital arts in cultural transmission

3.1. Digital preservation and storage of cultural heritage

Cultural heritage carries heavy historical and cultural information and is a brilliant treasure of human civilization, but many cultural heritages are facing the crisis of damage or even disappearance due to factors such as age, natural erosion, and human destruction. With digital technology, such as 3D modeling, high-resolution image acquisition, virtual reality, etc., digital art can record and store cultural heritage

comprehensively. For ancient buildings, the use of laser scanning technology to obtain accurate three-dimensional data, and build virtual models, to achieve its appearance and structure of the permanent retention of information; for cultural relics, with the help of high-definition photography, three-dimensional reconstruction and other means to record the details of cultural relics, even if the cultural relics are damaged, can also be based on the implementation of digital models to repair. China's National Palace Museum uses digital technology for a large number of ancient buildings and cultural relics for digital acquisition and storage, to create a "digital Palace" project, so people can remotely utilize the network platform to enjoy the majestic beauty of the palace buildings and cultural relics of the precious value of the cultural heritage to achieve the permanent preservation of cultural heritage and wide dissemination.

3.2. Digital presentation and dissemination of traditional cultural elements

Traditional cultural elements, such as folk stories, traditional festivals, and folk customs, are the core components of national culture. Digital art integrates these elements into the creation and presents and disseminates them in a novel form. In digital animation, folk stories are integrated into the subject matter, and by virtue of exquisite graphics, vivid characterization, and exciting plots, folk stories are presented to the audience in a new light, expanding the influence of traditional culture. Some digital music works draw on traditional music elements, such as pentatonic scales and ethnic instruments, to create music with both modernity and traditional cultural flavor, which is widely circulated on online platforms, allowing more people to understand and love traditional music and culture. On social media, people spread the customs and cultural connotations of traditional festivals by sharing digital artworks, enhancing the public's knowledge and recognition of traditional culture ^[5].

3.3. Case study on digital arts for cultural transmission

Take Henan TV's "Chinese Festivals" series of programs as an example, the program cleverly uses digital art means to realize the perfect blend of traditional culture and modern technology. In "Tang Palace Night Banquet", with the help of virtual reality, augmented reality, and other technologies, it creates a luxurious scene of the Tang court, with actors dressed in Tang costumes as if coming from the depths of history, vividly interpreting Tang court music and dance. The program sparked a strong reaction on the Internet, with the microblogging topic #Tang Palace Night Banquet# being read more than 2 billion times, and a single episode of the program being played more than 5 million times on B station. According to the audience questionnaire survey, more than 80% of the viewers said that their awareness of traditional culture has been significantly improved, and the program has successfully stimulated people's strong interest in and love for traditional culture.

In the field of digital games, "The Original God" is based on traditional Chinese mythology, history, and culture, and incorporates a large number of traditional Chinese cultural elements. According to Sensor Tower's data, "The Original God" attracted \$245 million globally in the first month of its launch. According to the research of Reddit, NGA, and other player communities, over 70% of players highly recognize the traditional Chinese cultural elements in the game, and players are exposed to and learn about traditional Chinese culture in the process of playing the game, which is a way of teaching and enjoying the game, and plays a positive role in promoting cultural inheritance.

4. Synergistic relationship between digital arts in cultural heritage and innovation

Cultural inheritance and innovation are not isolated from each other but are complementary and synergistic organic whole. The digital cultural resources accumulated by digital art in the process of cultural inheritance, such as digital models of cultural heritage and digital presentation of traditional cultural elements, provide rich materials for cultural innovation. Taking the innovative interpretation of folk stories in digital animation creation as an example, the creators, based on the digitized records and organization of traditional cultural stories, make innovative designs for story characters, plots, picture styles, and so on through modern digital technology means, giving new vitality to traditional culture.

In turn, the new concepts, forms, and methods brought about by cultural innovation have injected vitality into cultural inheritance. For example, some digital art exhibitions integrating virtual reality technology have attracted more young audiences to traditional culture through innovative display methods, enhancing the dissemination effect and influence of traditional culture, and making cultural inheritance more vigorous and contemporary. Digital art builds a bridge between cultural inheritance and innovation and promotes the benign interaction and synergistic development of the two ^[6].

5. The role of digital arts in cultural innovation

5.1. Forms and means of expanding cultural innovation in the digital arts

Digital art breaks down the barriers of traditional artistic creation and expression, providing rich and diverse forms and means for cultural innovation. At the level of creative tools, digital painting software, and music production software provide artists with convenient and efficient ways of creation, lowering the threshold of creation and enabling more people to devote themselves to cultural creation. In terms of presentation, emerging digital art forms such as virtual reality, augmented reality, and artificial intelligence-generated art create unprecedented visual and auditory experiences. Virtual reality art immerses the audience in the virtual world constructed by the artworks, while augmented reality art skillfully integrates virtual elements with real-life scenarios, opening up new perspectives for artistic creation. Generative AI, represented by MidJourney and DALL-E, can create unique artworks through algorithms and machine learning, greatly expanding the boundaries of art creation and injecting new vitality into cultural innovation ^[7].

5.2. Digital art promotes the innovative development of the cultural industry

As an important component of the cultural industry, digital art has strongly promoted the innovation and development of the cultural industry. Digital arts have given rise to new cultural industries, such as digital games, online literature, online film and television, virtual idols, etc., which have become new growth points of the cultural industry. Take the digital game industry as an example, its scale continues to expand, and some popular games have not only achieved remarkable results in the domestic market but also made great achievements in the international market, creating huge economic benefits.

6. Techno-ethical and legal challenges facing digital arts in cultural transmission and innovation

Digital art is highly dependent on new media technology, and any malfunction or lag in updating the technology may adversely affect the creation, display, and dissemination of works. Software loopholes and damage to

hardware equipment may cause digital artworks to fail to operate normally or even lose data. Digital art faces serious network security risks, hacker attacks, data leakage, and other problems, which may damage the rights and interests of artists and the cultural industry. To meet the market, some digital artworks simply pile up and splice the cultural elements without deep excavation and innovation, resulting in the weakening of the cultural connotation. The virtual and interactive nature of digital art may make some creators pay too much attention to the immediate feedback from the audience and give up the exploration of the essence of art and cultural depth, thus affecting the quality and effectiveness of digital art in cultural inheritance and innovation. It is sometimes difficult to clearly define the copyright of digital artworks, and the copyright of AI-generated artworks has triggered a wide range of controversies. Due to the rapid development of digital art, relevant laws and regulations are relatively lagging behind, making it difficult to effectively deal with new problems in copyright protection of digital art, resulting in a lack of a clear legal basis for handling copyright disputes ^[8].

7. Strategies to address the challenges of digital arts in cultural heritage and innovation

Increase investment in the research and development of new media technologies, improve technical stability and safety, and reduce technical risks. Research institutions and enterprises should strengthen cooperation to develop more advanced digital art creation, display, and dissemination technologies, more efficient virtual reality equipment, and more intelligent creation software. Establish a sound management system for the application of technology, standardize the use of technology in the process of digital art creation, display, and dissemination, strengthen the maintenance and management of technical equipment, and ensure the smooth operation of technology. Strictly supervise digital art platforms, prevent network security risks, and guarantee the safety of user information and works.

Strengthen the cultural education and artistic literacy training of digital art creators, and guide them to deeply explore cultural connotations and emphasize the expression of artistic values. Colleges and art education institutions should offer relevant courses to cultivate students' understanding and inheritance of traditional culture, as well as a keen sense of artistic innovation. Encourage creators to study traditional culture in depth, integrate its essence into digital artworks, and create works with both deep cultural heritage and unique artistic style. Construct an evaluation system for digital artworks, emphasize the evaluation of the cultural connotation and artistic value of the works, and guide creators to pay attention to the quality of the works ^[9].

8. Conclusion

Based on the philosophical perspective of new media technology, this study deeply analyzes the important role of digital art in cultural inheritance and innovation. By virtue of its unique advantages, digital art has played a positive role in the protection of cultural heritage and the dissemination of traditional culture, while expanding the forms, inspiring the inspiration for cultural innovation, and vigorously promoting the innovative development of the cultural industry. However, in the process of development, digital art also faces challenges in various aspects such as technical ethics and law. By strengthening the management of technology research and development and application, focusing on the cultivation of cultural connotation and artistic value, perfecting the copyright protection mechanism, and exploring the potential of meta-universe technology in cultural heritage dissemination and other strategies, these challenges can be effectively dealt with, and the

sustained and healthy development of digital art in cultural inheritance and innovation can be promoted ^[10].

Disclosure statement

The author declares no conflict of interest.

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Research on the Application and Practice of Task-based Teaching Method in College English Teaching

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Abstract: The task-based teaching method has a long history and is an excellent teaching method tested by time. The integration of the task-based approach into college English teaching is an important path in line with students' growth and learning trajectories. For example, teachers can stimulate students' interest in learning, improve students' ability to understand the language and apply it in life practice by designing tasks that are consistent with students' learning background. The research shows that this teaching method can effectively improve students' oral expression, written writing, and team cooperation. At the same time, it also points out the problems faced in the implementation process, such as task difficulty control, time management, etc., and puts forward corresponding improvement strategies and suggestions for these problems.

Keywords: Task-based teaching; College English; Integration; Application

Online publication: April 3, 2025

1. Introduction

Under the background of economic globalization, the English language has gradually played an important role in international communication, so its importance in university education has become increasingly prominent. College English education is not only to teach students a language skill but also an important external factor to assist students' high-quality development in the future workplace. The quality of teaching is directly related to the future development of students and has a far-reaching impact on the cultivation of international comprehensive talents. The traditional English teaching mode is presented in the way of one person teaching and many people listening, which is not conducive to stimulating students' interest in learning and improving students' language understanding and application ability. The task-based teaching method emphasizes student-centered and students' dominant position in the classroom. Teachers design a variety of tasks that are very close

to the reality of life, such as group discussions, scenario simulations, project reports, etc., to encourage them to use English in practice and stimulate students' internal learning motivation. At present, the deep integration of college English and task-based teaching method needs further exploration. This paper will discuss the significance of the integration of the two according to the teaching practice, study the current situation, and put forward the optimization path for reference.

2. Overview of task-based teaching method

The task-based teaching method is an innovative teaching method that has arisen in recent years. Its educational core is to let students use language naturally in the process of gradually completing tasks based on real and meaningful tasks to improve their language learning and application ability ^[1]. In the task-based teaching method, "task" is the key element. Such tasks usually have clear objectives, such as solving a practical problem, completing a research report, organizing a simulation meeting, etc. Different from the traditional teaching mode, the task emphasizes the communicative and practical nature of the language. Students need to comprehensively use the skills of listening, speaking, reading, and writing to complete it, and comprehensively consider the overall language level of students. For example, in the task of "planning campus cultural exchange activities", students should read relevant materials to understand the characteristics of campus culture, write activity planning books, orally introduce the scheme to students and listen to feedback, and also communicate and coordinate with other departments through e-mail, to fully mobilize their language skills in the whole process.

This teaching method has distinct characteristics. First, it is authentic and closer to students' lives, or it is positively related to students' future employment direction, making learning more realistic; Second, it is interactive, and the tasks are mostly completed by students through group cooperation, discussion, and communication, to promote the ideological collision and language interaction among students; Third, it has autonomy. Students have greater autonomy in task execution, can make decisions on the ways and strategies to complete tasks and cultivate the ability to think and solve problems independently.

The theoretical basis of the task-based teaching method integrates a variety of excellent theories and draws relevant experience from them to improve its theoretical system. For example, the social interaction theory believes that language development originates from social interaction, and task-driven interactive communication just provides a social environment for language development and helps learners' comprehensive development of language use ability.

3. Significance of integration of the two

3.1. Improve the theoretical system of language teaching

The task-based teaching method does not exist independently. It has been repeatedly demonstrated and studied by numerous excellent scholars and is based on a variety of advanced theories. And through the continuous use of this teaching method in English teaching can enrich the original teaching theory. For example, how students construct language knowledge through interactive communication in the process of completing tasks can provide more practical cases for constructivist learning theory, making it more detailed and operable ^[2]. At the same time, the teaching experience of the task-based teaching method in college English teaching practice will also provide feedback on the language teaching theory, promote the continuous update and development of the

theory, and promote the improvement of the whole language teaching theory system.

3.2. Expand the research field of teaching methods

Task-based teaching method provides inexhaustible educational inspiration for college English teaching, which opens up a new idea of language teaching ^[3]. In the past, the research on college English teaching methods mostly focused on traditional methods such as grammar translation, listening, speaking, reading, and writing, but now more attention is paid to improving the teaching system, which can be comprehensively considered from the initial stage of teaching to the later stage of evaluation. For example, how to design tasks that meet students' English level and interests, how to guide students to complete tasks effectively, and how to establish a scientific and reasonable task evaluation system. These studies not only enrich the content of teaching method research but also provide a reference for the innovation of teaching methods in other disciplines and promote the development of education and teaching method research in a broader and deeper direction.

3.3. Improve students' comprehensive language use ability

In traditional teaching, students often show a lack of confidence and ability in practical application. Task-based teaching method emphasizes "learning by doing." Students' language ability is often improved and improved by completing various real or near-real language tasks and applying the language knowledge they have learned to the actual situation ^[4]. Taking the group discussion task as an example, students need to use a certain amount of word reserve, grammar application ability, personal expression level, and other comprehensive English skills to express their views, listen to others' opinions, think and summarize, which has carried out a comprehensive exercise from all aspects of language learning and improved students' comprehensive language level in an all-round way. Through the completion of a series of tasks, students' comprehensive ability to use English has been comprehensively improved, and they can better meet the needs of English in future work and life.

3.4. Improve students' learning initiative

This teaching method will consider the difficulty when designing the task, making the learning process more interesting and challenging. Compared with traditional classroom teaching, students are more willing to participate in task activities. For example, when designing a task about "cross-cultural communication", students may need to collect information through surveys, interviews, etc., and then make a presentation for display. This learning method makes students change from passive acceptance of knowledge to active exploration of knowledge and stimulates their curiosity and thirst for knowledge ^[5]. At the same time, when students successfully complete the task, they will obtain a sense of achievement, further enhance their self-confidence and motivation in learning English, form a virtuous circle, and improve students' learning initiative and enthusiasm.

3.5. Improving teachers' professional standards

This teaching method puts forward higher requirements for teachers' personal professional levels in practical application. Teachers should flexibly change their educational concepts, clarify their educational status, actively guide students to enjoy the process of completing tasks, and comprehensively supervise and evaluate the completion of tasks. This also urges teachers to constantly stimulate their internal learning motivation and improve their professional quality. Teachers need to deeply understand students' English level and interests, and

design targeted and operable tasks; In the process of task implementation, teachers should have good classroom management ability and adaptability, and timely solve the problems encountered by students; After the task is completed, the overall situation of students should be comprehensively evaluated. This process is the process of teachers' self-study to improve teachers' comprehensive education literacy.

3.6. Training international talents

In the context of globalization, the importance of international talent is becoming more and more obvious. The application of the task-based teaching method in college English teaching pays more attention to the cultivation of students' comprehensive language ability and improves students' comprehensive language level from multiple angles and dimensions. Guide students to understand the local conditions and customs of different countries and improve their intercultural communicative competence. Contribute to the reserve of international talents.

4. Research status of task-based teaching method in college English teaching

The research shows that the research and application of task-based teaching methods in foreign countries started earlier, and the theoretical system is relatively perfect. Many experts and scholars in the field of education have found the applicability and scientificity of task-based teaching methods in their gradual exploration. Although it has taken a certain time from the initial concept to the gradual improvement, they have also explored the gradual improvement of the educational theory system and applied it skillfully in college English teaching. Willis proposed the basic framework of task-based teaching. On this basis, Skehan perfected the relationship between the type of task and the accuracy, fluency and complexity of language in the process of task execution. In practice, many foreign schools have skillfully applied the task-based teaching method to English teaching. Through this teaching method, students' interest in learning is stimulated, and students' ability of language understanding and application is comprehensively improved, and certain teaching results have been achieved.

At home, the research and use of this teaching method are slightly later than that in foreign countries. With the continuous reform of the curriculum standard and the issuance of the corresponding teaching system, the task-based teaching method has gradually received more attention. Based on foreign research, domestic scholars have studied the practicability of the theoretical system, improved and optimized it in combination with the actual domestic education market and the students' basic learning needs, and conducted repeated practice and demonstration. In the long-term practice and research, they have summarized relevant teaching experience, innovated task types, practically took students as the core, stimulated students' learning initiative, and comprehensively improved students' language use ability.

However, the application of this kind of teaching method varies widely in different regions and colleges, and its further improvement still needs some time. On the one hand, the influence of traditional teaching concepts and teaching modes still exists. Some teachers are used to teacher-centered teaching, and the understanding and application of task-based teaching methods are not deep enough, so it is difficult to give full play to its advantages. On the other hand, factors such as large class teaching, students' uneven English levels, and limited teaching resources also limit the effective implementation of task-based teaching methods. In addition, the teaching materials and teaching evaluation system supporting the task-based teaching method are not perfect enough, which also brings some difficulties to the teaching practice.

5. Application strategies of task-based teaching method in College English teaching

5.1. Clarify the teaching objectives and improve the teaching content

The key to task design is to clarify the teaching objectives, take the college English syllabus as the benchmark, and cover language knowledge, language skills, intercultural communicative competence, and other aspects. For example, when teaching business English-related units, the task design should focus on business negotiation. Students are required to use the business vocabulary, common expressions, and negotiation skills of this unit to complete the whole process from negotiation preparation to actual negotiation. This can not only help students master professional English terms but also exercise their language ability in the actual business scene. At the same time, the task content should be expanded and extended with the textbook as the core so that students can deepen their understanding of the textbook content in the process of completing the task.

In addition, the task design should not be divorced from reality and imagination. It should be fully combined with the student's actual life and future workplace needs. It should not only consider the students' interests but also comprehensively improve the students' language level. Design attractive tasks. For students who like movies, film review tasks can be designed. After watching English movies, they can write English film reviews in terms of plot, role, cultural connotation, etc., and display and discuss them in class. This not only stimulates students' enthusiasm for participation but also integrates English learning into their fields of interest.

Moreover, the difficulty of the task should also be taken into account. The primary task focuses on the consolidation of basic knowledge and the training of simple skills, such as basic dialogue imitation, short passage reading and blank filling. Intermediate tasks increase the complexity and comprehensiveness of tasks, requiring students to integrate information and express their views, such as group discussion and writing thematic reports. Advanced tasks focus on cultivating students' innovative thinking and ability to solve problems independently, such as allowing students to carry out English teaching practice activities independently and make reflections and summaries. Students can choose suitable tasks according to their own abilities and gradually challenge more difficult tasks with the progress of learning to improve their abilities.

5.2. Improve the task implementation system

In the process of task implementation, teachers should pay close attention to the progress of different task groups and give timely guidance and help. When students encounter language knowledge barriers, teachers can provide relevant vocabulary and grammar explanations. When there is disagreement or a deadlock in the group discussion, the teacher guides the students to think from different angles to promote the smooth progress of the discussion. However, teachers' guidance should be measured, not affect students' independent exploration process, and encourage students to solve problems through their own efforts. Teachers can visit each group regularly to observe students' performance and record existing problems, to make targeted comments in the summary stage.

In addition, a relaxed and pleasant classroom atmosphere helps to stimulate students' learning enthusiasm. Teachers should create a free and positive classroom atmosphere and encourage students to express their views and ideas boldly. For the positive performance of students, give timely affirmation and praise to enhance students' self-confidence and sense of achievement. At the same time, guide students to respect and listen to each other, encourage cooperation and communication among members of the group, and cultivate a good learning atmosphere.

5.3. Improve the task evaluation system

The establishment of a systematic assessment system is helpful in understanding students' language learning levels. Using the combination of teacher evaluation, student self-evaluation, and mutual evaluation, teachers make a comprehensive evaluation of students' task completion from a professional perspective, including the accuracy of language use, task quality, team cooperation ability, and so on. Students should also reflect on their performance in the process of task implementation, such as participation, effort, learning harvest, etc., which is helpful for students' self-cognition and self-adjustment. Students' mutual evaluation promotes students' mutual learning and communication and they can find their own shortcomings while evaluating others. In the task of film review, teachers evaluate the language standardization and depth of film review, students self-evaluate their ideas and difficulties in the process of writing, and students evaluate each other from the aspects of view novelty and language fluency.

5.4. Comprehensive use of process assessment and summative assessment

Process assessment focuses on the whole process of task implementation and is evaluated through classroom observation, learning logs, etc. The summative assessment focuses on the evaluation of the final results of the task, such as the quality of written reports and oral presentations. Combining the two can evaluate students' learning more comprehensively and objectively. In addition, timely feedback on the evaluation results to students, so that students can understand their advantages and disadvantages, and provide specific suggestions for improvement. For students with excellent performance, encourage them to continue. For students with problems, help them analyze problems and guide them to make improvement plans. In the process of feedback, teachers should pay attention to protecting students' enthusiasm, give priority to encouragement, and let students make continuous progress in evaluation.

6. Conclusion

The importance of a college English education is increasingly prominent in the current era. Teachers should be student-centered, cultivate students' comprehensive language level, and contribute to the reserve of international talents. In this process, the task-based teaching method plays an important role, which can stimulate students' enthusiasm, help students better improve their own language system, and improve students' comprehensive English level. It is imperative to promote the integration of task-based teaching methods and college English.

Disclosure statement

The author declares no conflict of interest.

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Exploration of Alternative Solutions to Campus Conflicts in the Context of China and Malaysia

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Abstract: Campus conflicts, particularly school bullying, have garnered significant global attention, necessitating the exploration of effective resolution mechanisms. Peer mediation has emerged as a promising alternative dispute resolution (ADR) method, demonstrating success in various contexts, including labor disputes and community conflicts. This study examines the feasibility and implementation of peer mediation in China and Malaysia by analyzing its institutional foundation, cultural influences, and legal positioning. The research highlights the impact of Confucian ethics and hierarchical teacher-student relationships on peer mediation in China, as well as the role of Islamic collectivism and multicultural diversity in Malaysia. Additionally, the study contrasts these regional practices with the well-established peer mediation models in the United States, emphasizing procedural justice, mediator selection, and the ethical-legal balance required for effective mediation. The findings suggest that while peer mediation has the potential to reduce campus conflicts and foster a culture of peaceful dispute resolution, its success in China and Malaysia hinges on developing structured legal frameworks, enhancing mediator training, and adapting mediation principles to local sociocultural dynamics. The study provides theoretical insights and policy recommendations to support the institutionalization of peer mediation in educational settings.

Keywords: Peer mediation; School bullying; Alternative dispute resolution; China; Malaysia

Online publication: April 3, 2025

1. Research background

In recent years, campus conflicts have become increasingly prominent, particularly the issue of school bullying. A survey conducted between 2001 and 2014 involving nearly 800,000 adolescent students from dozens of countries and regions revealed that school bullying is a widespread phenomenon globally. This issue has garnered significant societal attention. As an alternative dispute resolution (ADR) mechanism, mediation has proven effective in areas such as labor disputes, family conflicts, and economic disputes. Many countries have incorporated alternative dispute resolution procedures into their civil justice reforms as part of broader judicial

reforms. Mediation offers a more flexible and cost-effective solution ^[1]. Consequently, how to utilize mediation to address and prevent school bullying has become an urgent issue that society needs to address.

Against the backdrop of school bullying and mediation mechanisms, peer mediation has emerged as a significant approach. Since its rise in the late 20th century, peer mediation has quickly become an important method for addressing school bullying in the United States, achieving notable success ^[2]. The philosophy and practice of peer mediation can effectively reduce conflicts among students and incidents of school bullying, providing a practical, educational, and experiential pathway for students to develop rational and peaceful conflict resolution skills. Additionally, the introduction of peer mediation can address the shortcomings of home-school mediation by leveraging the equal relationships and shared perspectives among peers. This approach facilitates a clearer understanding of the events and offers solutions that align with the cognitive and emotional capacities of minors.

This paper examines the necessity and feasibility of peer mediation within the context of China and Malaysia, drawing on the institutional framework of peer mediation in the United States. It proposes a legal positioning for peer mediation in the Sino-Malaysian context and provides a theoretical foundation for the development of peer mediation systems and legal principles.

2. The current state of peer mediation in the context of cultural and institutional interplay

2.1. Chinese culture and teacher-student relationships, peer relationships

Deeply influenced by the legacy of Confucian culture, morality and practice have always been central themes in traditional Chinese education ^[3]. The monopoly of knowledge by Confucianism, a dominant cultural authority in China, is distinctly characterized by its emphasis on harmony, benevolence, hierarchical order, and the tradition of resolving conflicts through moral education rather than confrontation. Within this cultural context, the concept of “harmony as the highest value” significantly shapes Chinese students’ acceptance and approach to mediation. The influence of hierarchical notions in peer mediation may affect students’ trust in older or authoritative peers.

In the ethical relationships described by Confucius, such as the hierarchy of “Heaven, Earth, Sovereign, Parents, and Teacher,” the elevated status of teachers is evident. The virtue of “respecting teachers and valuing their teachings” underscores the importance of respecting and submitting to authoritative knowledge. In the context of peer relationships, from elementary to high school, these relationships largely depend on guidance from family, classroom settings, and teachers. Respect for teachers, parents, and even implicit authoritative knowledge can enhance self-awareness and thereby help curb school bullying. However, incidents of school bullying are increasingly occurring at younger ages, with factors such as ethnic differences, cultural disparities, and physical disabilities remaining significant causes of bullying. For university students, studies have shown that awareness, identification with, and practice of traditional culture positively influence peer interactions ^[4].

2.2. Islamic culture in Malaysia’s multicultural context

In a multicultural country like Malaysia, where Malays, Chinese, and Indians each have strong cultural roots, the educational journey from primary to secondary school reflects this diversity ^[5]. During primary school, the three major ethnic groups attended separate schools. At the secondary level, students can choose between government schools or independent schools, but the treatment of each ethnic group varies. The difficulty in

cultural exchange and integration among these groups is one of the contributing factors to school bullying.

In the context of Islamic culture, which is predominant among the Malay majority and serves as one of the primary religious cultures, the design of peer mediation mechanisms must take into account the influence of religious beliefs on individual behavior. It must also respect and integrate the values and teachings of multiple cultures. The collectivism inherent in Islamic culture emphasizes the connection between the individual and the community. Individual actions and decisions are often made with consideration of their impact on the family and the broader community. In peer mediation, this collectivist spirit encourages students to demonstrate higher levels of participation and responsibility during the mediation process.

The teachings and norms of Islam provide clear guidance for the behavior of its followers. In peer mediation, religious norms can serve as a moral framework and behavioral guidelines for conflict resolution. Students may invoke religious teachings during mediation to emphasize the importance of reconciliation and the principles of justice and fairness.

2.3. Developed countries with Christian cultural backgrounds

Christian culture emphasizes values such as “loving your neighbor as yourself” and “showing tolerance toward others.” These principles manifest in mediation by encouraging parties to approach disputes with a mindset of forgiveness and understanding. In many campus or community mediation scenarios, when conflicts arise between students or residents, this cultural framework guides them to move beyond mere competition over interests. Instead, they are encouraged to view the issue from the other party’s perspective and seek solutions grounded in love and tolerance.

2.3.1. Legal recognition and regulation of religious mediation

The legal system in the United States recognizes, to some extent, the role and status of religious organizations in mediation while also regulating their activities. In specific types of disputes involving minors, family relationships, and other sensitive matters, the law explicitly outlines the fundamental principles that religious mediation must adhere to. This is to prevent religious mediation from violating legal standards and basic human rights. This balance of recognition and regulation reflects the relationship between law and religion in the U.S. legal system, where mutual respect and restraint coexist, ensuring that religious mediation operates positively within the framework of the rule of law.

Church organizations in the U.S. hold significant influence and deep roots within communities. They often actively participate in community affairs, including dispute resolution. Churches utilize their facilities and human resources to organize various mediation activities, providing free mediation services to community residents.

2.3.2. The influence of religious doctrines on legal interpretation and practice

Christian doctrines can, in certain cases, influence how people understand and interpret the law, thereby impacting the practice of mediation within the legal system. When dealing with cases involving moral controversies, Christian teachings may shape public opinion and the judgments of some legal practitioners. This can introduce religious and moral considerations into the mediation process or the resolution of related legal disputes. Although the U.S. adheres to the principle of separation of church and state, the profound influence of religious culture in society inevitably permeates legal practice to some extent. As a result, the implementation

of mediation within the legal system often reflects an interplay between legal and religious cultural elements.

2.4. The positioning of peer mediation in the Chinese and Malaysian education systems

The Chinese education system is characterized by its school-centered approach, emphasizing ideological education for students. Currently, mediation, as an alternative dispute resolution (ADR) method, is widely used in China to address civil disputes, labor arbitration, traffic accident settlements, and other areas. However, in the context of peer mediation, there are no formal legal provisions. The existing institutional framework and legal basis include the People's Mediation Law of the People's Republic of China, the Law on the Protection of Minors, and the Education Law. The Ministry of Education has announced that peer mediation will be included as a significant component in the Eighth Five-Year Plan and the revised Outline for the Rule of Law Education for Adolescents.

On the positive side, peer mediation has shown initial success in the school environment and is gradually gaining attention. Some schools have actively explored and implemented related practices. For example, certain middle schools in Shanghai have organized peer mediator training camps to cultivate student mediators, enabling them to play an active role in resolving daily disputes among classmates. This has, to some extent, alleviated internal conflicts and fostered a more harmonious campus atmosphere. However, peer mediation is currently regarded only as a supplementary tool for resolving campus conflicts. In terms of institutional development, there is a lack of clear and unified laws and regulations to standardize various aspects of peer mediation, including the selection criteria for mediators, training content and methods, specific procedures for mediation, and the validity and enforcement of mediation agreements. This lack of standardization and operability in practice makes it difficult to ensure the fairness and authority of mediation, thereby limiting its further promotion and development.

The Malaysian education system, influenced by its Commonwealth heritage, emphasizes student autonomy and the cultivation of self-regulation skills. According to the Federal Court Practice Directive No. 5 of 2010, mediation was introduced in Malaysia to address case backlogs. To encourage the use of mediation, courts have also implemented court-annexed mediation ^[6]. In 2012, the Rules of Court 2012 ("RC 2012") officially replaced the Rules of the High Court 1980 ("RHC 1980"), stipulating that during the pre-trial stage, courts may consider whether to adopt mediation or other methods to resolve all or part of the issues in a case. For non-complex cases, mediation has been introduced as an alternative dispute resolution mechanism. In the context of peer mediation for campus disputes, Malaysia has yet to establish a comprehensive and specific mediation framework or procedures.

3. Challenges in establishing mediation procedures in China and Malaysia based on the U.S. model

Taking the United States as an example, although the methods and value systems of peer mediation vary across states, there are similar procedures in place. These procedures consist of two key components: mediator selection and the mediation process. The primary principle guiding both components is to ensure procedural fairness and justice.

3.1. A relatively mature peer mediation mechanism

Compared to other countries, the United States has a relatively mature and unique positioning in peer

mediation. Although there are differences among states, the U.S. as a whole provides a certain legal framework and support for peer mediation. Some states have enacted specific anti-bullying laws or related educational regulations, incorporating peer mediation as an essential component of campus conflict resolution mechanisms. This legally affirms the legitimacy and status of peer mediation, providing a solid legal foundation for its implementation. As a result, peer mediation in school environments is legally grounded, with its processes and outcomes enjoying corresponding legal protections.

In its development, three main mediation models have emerged: the San Francisco Community-Wide Model, the New Mexico Teacher-Supported Model, and the Massachusetts Evaluation Model. These models, based on different philosophies, have gradually established the primary procedures for peer mediation.

The San Francisco Community-Wide Model began in 1976, using mediation as an alternative to judicial mechanisms to resolve community disputes. In 1982, the Community Board implemented the first conflict management program in local elementary schools. By 1984, mediation had expanded to middle and high schools, and the School Mediation Association was established that same year. The core philosophy of the association is student self-governance and learning dispute resolution skills. According to Cohen, nearly every school conflict, except for the “most egregious disputes”, is suitable for peer mediation ^[7].

The New Mexico Teacher-Supported Model began in 1984 when six schools in New Mexico launched peer mediation programs. This model requires the approval and support of over 80% of teachers, and for elementary schools, over 80% of staff must be trained as mediators ^[8]. Consequently, this model is susceptible to changes in school administration. To mitigate this instability, program advocates sought to anchor the project within more robust district administrative structures.

In Massachusetts, the evaluation model relies on a comprehensive mediation program manual to initiate school mediation projects. Additionally, the state government provides financial support to each school implementing peer mediation. Funded coordinators are responsible for managing mediators, building strong working relationships with teachers, administrators, and students, arranging mediations, conducting supervision and follow-ups, and maintaining all mediation records and statistics. The program guidelines also recommend selecting and training peer mediators, communicating with the media, and addressing other operational details. The project organizes an annual national conference for student mediators. This initiative has gained attention in the field of conflict mediation and has been replicated and promoted by schools in New York State.

3.2. The selection of mediators marks the beginning of mediation

The mediation process serves not only as a participatory decision-making tool for resolving conflicts but also as a means to teach essential skills such as communication, active listening, and problem-solving—fundamental skills that foster self-regulation and self-esteem in individuals. By implementing mediation programs, school authorities do not relinquish their decision-making power. Instead, they provide a structured procedure to address interpersonal disputes that are traditionally handled through punitive measures. In U.S. schools, common conflicts such as fights, petty quarrels, bullying, threats, and harassment can be successfully resolved through peer mediation.

3.2.1. Mediator selection process

Mediators must undergo a selection and training process before they can assume their roles. Students with strong potential for mediation can be recommended through channels such as teachers or student councils.

Schools are microcosms of multicultural integration, where students interact with peers from diverse ethnic backgrounds in their daily academic and social lives. Students who excel in resolving disputes among classmates and demonstrate a deep understanding of different cultures can be considered as candidates for mediators.

Additionally, selected mediators must possess a strong sense of impartiality, enabling them to set aside biases and discrimination when dealing with parties from different ethnic backgrounds. This impartiality is reflected in treating both sides of a dispute equally, without favoring any party based on factors such as ethnic identity or social status.

3.2.2. The challenges and long-term nature of mediator training

Within the framework of peer mediation, it is crucial to clarify the rights and responsibilities of both students and mediators. As participants in mediation, students have the right to express their grievances, receive fair treatment, and have their personal privacy protected. At the same time, they bear the responsibility to present facts truthfully, respect others' perspectives, and adhere to mediation rules.

Although mediators come from the same peer group, they assume a quasi-judicial role during the mediation process. This includes impartially guiding the mediation process, maintaining order, and ensuring fairness. Their legal status is unique, functioning as temporary coordinators within the autonomous management systems of schools or communities.

The training of mediators involves multifaceted knowledge. In multiethnic countries like China and Malaysia, mediators need a deep understanding of the cultures, customs, and religious beliefs of various ethnic groups, as well as a foundational knowledge of national laws. Additionally, strong communication skills and emotional intelligence are essential for effective mediation. Each of these areas of knowledge and skills requires long-term learning and cultivation.

3.3. The main procedures of mediation

When students become involved in disputes, the school's mediation organization or teachers will ask if they wish to have mediators assist in resolving the issue. If they agree, the mediators will follow the mediation process to clarify the nature of the dispute, explore options, and reach a mutually satisfactory resolution. Generally, mediation consists of six stages: Agreement to mediate, understanding the conflict and perspectives, identifying interests and needs, exploring win-win solutions, evaluating feasibility, and reaching agreement and creating a protocol.

3.3.1. Procedural justice and substantive justice: A dual-dimensional examination of justice

When designing procedures, it is essential to involve all stakeholders and clearly define the roles and responsibilities of mediators. The fairness and justice of the mediation process should not rely solely on the mediators but on the procedures themselves^[9]. Humans, as individuals with subjective agency and potential biases, may unconsciously be influenced by personal values, emotional tendencies, cultural backgrounds, or preconceived notions, even after professional training. In contrast, procedures offer the advantages of objectivity and stability. A scientifically sound and reasonable mediation procedure can provide a standardized and regulated process for resolving disputes.

Procedural justice requires that peer mediation grants both parties equal opportunities to participate,

sufficient time to express their views, and clear communication of the mediation steps. In practice, this means that the mediation process should ensure that all parties present their cases, rebuttals, and negotiations under the same rules, preventing any party from being disadvantaged due to unreasonable procedural design.

Before the first stage: When convening a mediation meeting, both parties should receive the same meeting notice and agenda in advance, ensuring they have adequate time to prepare their statements.

During the second and third stages: The mediation process should strictly follow the established order, allowing both parties to take turns expressing their views to prevent one side from being unfairly interrupted or suppressed.

3.3.2. Conflict and balance between legal principles and mediation ethics

Peer mediation must strictly adhere to relevant legal principles, with the foremost being the principle of protecting minors. This ensures that the entire mediation process and its outcomes do not harm the physical and mental health or legal rights of underage students. It also avoids using mediation methods or language that could cause psychological trauma. Additionally, the educational principle should be upheld, treating each mediation as an opportunity to educate students on legal concepts, moral norms, and social interaction skills. By guiding students to reflect on their behavior and the conflict resolution process, their legal awareness and sense of justice can be enhanced.

As key facilitators of mediation activities, mediators must follow strict ethical guidelines. The principle of confidentiality requires mediators to strictly protect any information related to students' privacy or family background obtained during mediation. Such information must not be disclosed to any unrelated parties to prevent secondary harm to students. The principle of neutrality demands that mediators maintain an objective and impartial stance throughout the process, free from the influence of personal emotions, interests, or group pressure. They must treat both parties equally, without favoring the interests of either side.

However, in practice, conflicts may arise between legal principles and mediation ethics. From a legal perspective, fairness and justice often have clear standards and definitions. In mediation, however, the parties' perceptions of fairness may differ based on their respective interests and feelings. Mediators must balance the interests of both parties while adhering to legal principles, striving to achieve a resolution that aligns with the spirit of the law and is acceptable to both sides. This requires mediators to possess a high level of professional competence and ethical wisdom, carefully weighing the rigidity of the law against the flexibility of mediation. They must continuously explore how to uphold legal principles while fully leveraging the role of mediation ethics to achieve true fairness, justice, and effective mediation.

3.3.3. The goal of peer mediation: Achieving win-win outcomes rather than one-sided victories or superficial conflict resolution

In scenarios involving campus conflicts or other disputes among adolescents, using non-mediative, adversarial approaches to resolve issues often leads to a zero-sum game. For example, in a conflict over sports equipment, traditional authoritative adjudication might simply assign blame to one party and impose a penalty, such as banning the use of the equipment for a week. Such an outcome could leave the penalized party resentful and resistant, potentially triggering further retaliation.

In contrast, peer mediation guides both parties to recognize that the conflict is detrimental to everyone involved. Through negotiation, a mutually acceptable solution is reached, avoiding a situation where one

party's loss is seen as the other's "victory." This approach fosters a win-win outcome, ensuring that both parties feel heard and respected and that the resolution addresses the root causes of the conflict rather than merely suppressing it.

4. Conclusion

Peer mediation, as an alternative dispute resolution (ADR) mechanism, has demonstrated significant potential and effectiveness in addressing campus conflicts worldwide. At its core, peer mediation leverages mutual assistance among peers to resolve conflicts, reduce incidents of school bullying, and cultivate students' ability to resolve disputes rationally and peacefully. In the United States, peer mediation has become a mainstream mechanism for resolving campus conflicts. Its practice and fundamental philosophy are student-centered, emphasizing equal dialogue to resolve disputes and fostering students' sense of social responsibility.

In exploring the feasibility of peer mediation in China and Malaysia, it is evident that the two countries differ in their institutional frameworks and operational mechanisms for peer mediation, influenced by their respective cultural contexts. Both nations need to improve their institutional frameworks for peer mediation to ensure its fairness and authority. The peer mediation procedures in the United States offer valuable insights, particularly in emphasizing procedural justice as a key factor for successful mediation. The selection of mediators and the design of mediation procedures require careful planning to ensure the fairness and effectiveness of the mediation process.

In summary, peer mediation demonstrates clear feasibility and advantages in addressing campus conflicts. However, its successful implementation requires the collective efforts of policymakers, advocates, and practitioners. Legislatively, lawmakers must ensure that legal principles uphold fairness. In terms of procedural design, regional or state officials should tailor procedures to local contexts to guarantee impartiality. As peer mediation mechanisms continue to evolve and improve, they hold promise for further reducing school bullying and conflicts while nurturing students to become socially responsible adults with global perspectives.

Funding

This research is supported by the Tianjin Education Commission Research Program (Humanities and Social Sciences), Project No. 2022SK064.

Disclosure statement

The author declares no conflict of interest.

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Analysis and Research on Teachers' Professional Happiness

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Abstract: Nowadays, the issue of teachers' professional happiness in China is worth researching. This is because burn-out of teachers is harmful to the teachers' health. The research happiness is a hot topic which is a facilitate and help to the teachers. Society asks for equal and fair education which needs the life-long learning of all the teachers. The requirement is not excessive and can be realized. The profession of teachers should be happy. Teachers should make sacrifices for society and the students. Meanwhile, a sacrifice of time and energy is also demanded. The growth of students will make them happy. For the teachers, the analysis and research are also the experience of many years of teaching and practice. It is hoped that the research will facilitate other teachers' jobs and professions.

Keywords: Teachers; Sense of happiness; Analysis and research

Online publication: April 3, 2025

1. Introduction

Teachers should be happy, as the profession of teaching brings in a lot of happiness. Generally speaking, teaching students is important and special. Why do teachers experience a sense of unhappiness? Is the pressure of work so serious? Is the teachers' burnout feeling so serious? Some people may not be suitable to be teachers, so they will feel the teaching job is very hard and their achievements of job may be inferior to others. The profession of teaching is sacred because the teaching job is very important. Teachers must have a life-long teaching profession, and the teachers who quit are not so many.

Why do teachers find the job very hard? Are the teachers' professional levels not enough to meet the requirement? If the teachers cannot have life-long learning behaviors or methods, they will be discarded by the society quickly. The changing world needs inheritance and progress. To be teachers, they should learn to develop themselves. Human beings can study because human beings have this kind of inherited ability. Under many circumstances, the undeveloped teachers are due to themselves and are not because of others. The government should face all the teachers and provide opportunities for everyone — the opportunities to progress,

that is, active professional activities, active practice and promote the practice into theories. Theories must be combined with practice, and practice is the standard to test theories. Everyone should be educated, and everyone should have equal opportunities to progress. Society should provide each person with equal chances, and every person should have opportunities to progress successfully. Teaching is special, and it is different from the other professions. Teachers should develop and progress themselves actively and learn to be life-long learners. The progress of human beings is special, but the progress of human beings is normal. Society asks for every person to progress normally, and so the successful teachers must be the results of people's hard work.

Human beings should be educated and should progress actively. As teachers, they must be happy because their students will surpass them. The theory that "the pupils outdo the master" helps to solve many problems, that is, "the society is stronger by generation." People must develop themselves and people must realize the dream of life-long learning. There exist differences between human beings and it is hoped that the differences will not become distance. The two-extreme distance society is surely unequal. Education should be successful, or the social conflicts will be very sharp. The requirements that society needs for teachers are very high. Both parents and students have a certain requirement towards teachers, that is, the theory of "great learning makes a teacher, moral integrity makes a model." Teachers should be the examples of students, be the helpers of students and support the students to form life-long learning behaviors and methods.

The teachers should be happy because the profession is glorious and important. Is the problem of people's progress not important? The progress of human beings is the result of family, school, society and individuals' hard work. The people's hard work and the environmental factors form a person. The person must learn to study and must have learning behaviors and methods. Lifelong learning is a habit, and also a kind of methodology. If the students are happy, the teachers' senses of professions should be better. If the students cannot develop well, how can the teachers be happy? The distances between human beings should not be sharp and every person must be educated. The education should be as much as possible and be as perfect as possible. The degree of being educated is the symbol of social civilization, and human beings must develop themselves. Teachers must have the development and progress of students as the goals and tasks of their profession. How the students develop and progress determines, evaluates, and concludes the success of teachers' jobs.

2. Literature review

Teachers are happy because of the characteristics of the teaching profession. Teachers can develop by themselves because teachers are intellectuals. Society demands teachers to progress and so teachers can progress.

Although long working hours bring work pressure to teachers, they can achieve more self-realization in their work. From the perspective of positive psychology, teachers' work pressure reduction does not mean that they can improve professional happiness. The process of realizing self-value is the process of pursuing happiness. Job satisfaction includes satisfaction with the work environment, professionalism, and class autonomy. Self-efficacy includes classroom management efficacy, teaching efficacy, and helping students participate. As an important intermediate link, work pressure plays a role of connectivity and opposition. Researchers can analyze the level of teachers' professional happiness by analyzing the level of work pressure. When the self-actualized happiness of the physical and mental potential of teachers occupies the majority, the overall professional happiness makes them improve accordingly ^[1].

The mental health status of teachers is directly related to the success or failure of education. With the depth of quality education, the advancement of the new curriculum reform, and the growth of students, teachers can have a good psychological adjustment ability, which not only affects their own foundation and also related to the harmonious relationship between teachers and students, students' academic performance, and mental health. Improving the level of teachers' mental health is the basis of the students' psychological work. Improving teachers' professional happiness can help to improve teachers' mental health levels. Teachers can feel a sense of achievement and pleasure. Teachers are under great work pressure, so they need to ease their emotions and help them adjust their personal status. Teachers' sense of belonging and security also increase cohesion and centripetal force in mutual support ^[2].

This kind of happiness not only comes from the teachers' teaching achievements or teachers' honors in the work but also from the teachers' hearts in the process, which won the students' heartfelt love and happiness ^[3]. The factor of teachers' professional happiness is humanistic care, which directly affects the social support that teachers get. Humanistic care includes the affirmation, trust, and care of teachers given by school leaders. When school leaders make decisions, they should consider teachers' situations, opinions, harmonious and harmonious atmosphere among colleagues, etc., for better career development, better environment experience, and more social support. The material conditions of teachers mainly include salary income and job security, which are important factors affecting teachers' professional happiness. The positive factors of teachers' career happiness include better career development, better environmental experience, and more social support. The negative factors include insufficient subsidies, large workloads, and increased work pressure ^[4].

Educators should strengthen emotional management, pay attention to teachers' self-care and stress relaxation, and teach them how to maintain emotional homeostasis in a high-pressure environment. Cultivate teachers' optimism and tenacity to enhance their resilience after emotional effort. In practical work, teachers can effectively improve their professional happiness and promote teachers to realize their self-value and professional growth in their career ^[5].

The acquisition of professional happiness needs to be based on their own professional quality and work pressure. The deeper the professional quality, the stronger the working ability is. The fruits of labor should be affirmed at the same time to get everyone's respect and recognition. The higher the level of teachers, the higher their career happiness is. Educators should vigorously innovate teaching methods and skills, optimize classroom management methods, fully mobilize the enthusiasm and initiative of students, improve the classroom teaching effect, win positive feedback from students, and form positive incentives to improve professional happiness ^[6].

Teachers know themselves, analyze themselves, accept themselves, appreciate themselves, mobilize the enthusiasm of teachers, and improve their sense of professional belonging and career happiness ^[7]. To get a happy experience, teachers need to work hard, put their career ideals into practice, and seek self-realization ^[8]. Educators need to broaden teachers' horizons and improve their educational level and professional ability ^[9]. Educators found that the inability to address student discipline is an important factor contributing to teacher burnout. At the same time, a positive teacher-student relationship also affects teachers' job satisfaction, happiness, and teaching efficiency, and establishing a good relationship with students is the driving source of professional happiness. Educators also believe that social factors are the overall guarantee of teachers' happiness. The happiness of teachers in different regions is influenced by factors such as economic development, educational policies, and social recognition ^[10].

Teachers' happiness comes from the growth of students, their own efforts, the affirmation of peers, parents'

trust, dreams, the expectations of the future and other aspects, which is the high respect and love of personal work from the heart. Teachers must be good at learning, pioneering, innovating, studying hard, seeking truth from facts, and being pragmatic. Teachers should study lifelong, be a good guide for students' growth, be loyal to their duties, and have a lifelong responsibility for the cause of teaching and educating people ^[11].

All sectors of society should care about teachers' physical and mental health, overcome job burnout, stimulate work enthusiasm, so that the majority of teachers have a sense of achievement in the post, a sense of achievement in the career, a sense of dignity in the society, so that teachers become an enviable career. Occupational happiness is also contained in the embodiment of continuous self-challenges, potential play, innovative education methods, and personal and social value, that is, the meaning of psychological happiness. The satisfaction of self-value realization and persistence is a hot educational cause. The emotion of teachers and students always runs through it and become the link connecting subjective pleasure and psychological satisfaction. Only in this way can the sustainable development and high-quality development of a school be promoted ^[12-13].

Only by continuous learning can teachers be competent for career development and meet the needs of students' development ^[14]. The professional level of teachers directly affects the growth of students and is related to the rapid development of the school ^[15].

3. Research methodology

3.1. Research questions

As a teacher are they qualified? If not, what should they do?

If their students do not like them, what should they do?

If their degree is not enough, will they leave or continue to work? Why?

Are they burned out? What is their decision?

3.2. Hypothesis

Teachers' personal and academic qualities can affect students' academic achievements and good results.

Teachers' hard work will bring happiness to themselves.

Teachers' high academic level will bring great success and happiness to teachers themselves.

4. Discussion

Teachers are happy because teaching and educating students is of fundamental importance. In the old society, teachers were required to make no social distinctions in teaching. The modern society asks the teachers to sacrifice to students, the society and be life-long learners. People can learn because every person has this kind of inherited ability and this kind of intelligence. Teachers make society progress faster, and the development of education is the logical necessity of the development of education. People can be educated all their life long, and everyone should benefit from this policy. The learning behavior should be formed because every person's life-long learning needs a certain kind of learning method and behavior, without which people can never develop.

Teachers are happy because this kind of profession is special. Students should be educated well, and teachers themselves should learn all their lives. Modern people are happy because they have enough material

goods. People's spiritual life should be improved, so it is required that each citizen must have some degree of self-learning and the behavior of life-long learning. Each person has some degree of intelligence, so everyone can develop and progress. Students are developing individuals and teachers should help students grow, grow to be the people that society needs. The teachers' profession is happy because students progress and develop each day. The success of education will bring the emancipation of human beings. People can develop well, so the teaching job is very glorious and very dignified.

How is sacrificing knowledge a big deal? The soldiers even sacrifice their lives! Doctors can even save the lives of patients. Every person in the world also makes contributions to society. Teachers should be indifferent to fame and wealth, make themselves last long, and have a life-long reputation. The job of "generation is better than generation" means the people are more and more intelligent and can realize the problem of inheritance and development. Teachers should need and teach students well. The first-line teaching is very important and every student should be taught well. The education of people is really important and they should not take a wrong path. Educational work is of fundamental importance, so teachers should work wholeheartedly to make students progress well.

Teachers are happy because the teaching profession is special and a profession to seek souls. Loving students is a basic task, and the happiness of the profession will be realized. The burnout feelings can be conquered, and teachers should seek this happiness. Happy people must be sacrificed, glorious with moral integrity and are full of talents. Teachers should be such people to make themselves progress successfully and have a life-long happiness. The communication between teachers and students should show a person's knowledge level, talents and personal characters. Excellent teachers should also be all-sided people who should be life-long learners. This is the requirement of the modern society. Teachers should work hard and teach students well. In this way, they can have a wonderful life. Happy people do not only include the physical happiness but spiritual happiness. The teaching profession asks for teachers to be happy to devote themselves to their jobs and be lifelong learners. The good quality teachers should also have excellent knowledge level, or they cannot fulfill the teaching and educating task. Teachers should always read books, which is normal and true. Teachers should be intellectuals and the examples of students' progress. The requirements for teachers are high because students should be taught well. Moral education is very important, and I hope every teacher will actively participate in it.

5. Conclusion

Students should be educated well, which is the professional requirement of teachers. People should be educated because society develops very fast. This is the first reason. The second reason is that people must be suitable to the changing society and should have the abilities to change the world. It means that everyone must be educated. People should be educated, especially in modern society. In the old society, some people could receive education because they were the leisure class or the wealthy class. If common people can receive education, this means the society is good. Modern society pays more attention to education and the popularity of education makes the world progress greatly. People must progress and purposefully plan to develop themselves. Labor and knowledge should be combined, and people should develop in all aspects. The theory of overall educational progress is correct, and this theory is the product of modern industrial society. In the industrial society, people must be alienated, but this alienated behavior can be corrected. In schools, students are somewhat alienated,

so physical education classes are necessary. People are different. This kind of theory cannot be omitted. That means some people are not so all-round and they need to develop themselves in all aspects. Reading books is the solution or people cannot surpass the development of the society. Teachers should make sacrifices and contributions. Human beings are surely progressive animals, and people should always learn from each other because society develops quickly. People are different, so they should learn from each other, care for each other, progress, and support each other. In this way, the world can develop well. People are social animals, so they are necessary to integrate into society. The characteristics of the society are contribution and life-long learning. The other periods are different from now because the characteristics of each period are different. The modern society asks for teachers to dedicate that knowledge and their time to students and be life-long learners.

People must be seeking something. What to seek determines a person's progress. If seeking leisure, they can get nothing. If seeking professional achievements, they can get them. How one progresses is determined by oneself. Teachers should seek some values, and in this way the teachers can be happy. For teachers, they need to seek something. Educators think hard work is nothing difficult but the bad thing is having no professional achievements. Teachers should work hard and have some professional achievements. In this way, they will be happy. How the teachers progress is determined by themselves, the devoted teachers will be loved and respected by students. People must seek something and make contributions to society. This is the general social principle. An equal society needs their participation, and a fair society needs their hard work. Work hard, and educate the students well. Teachers should try their best in their own work and be indifferent to fame and wealth. As teachers, can they last long? As teachers, they should make contributions and dedicate all their lives to their careers.

People must be happy, which is also what one seeks. Sometimes teachers will meet with difficulties and sometimes students are difficult to deal with. This difficulty should be overcome. What they seek determines what they will get. If they seek physical enjoyment, they can achieve none. Teachers have a special job, and also are happy. People should be educated all their lives, which is one of the requirements of modern society. Modern society develops quickly, and the update of knowledge is fast and quick, so the teachers should progress and develop well. To be positive towards life and to be positive towards challenges, they will be happy. The job of educating students is sometimes different, and the job is special. As teachers, they should have a sense of happiness. This kind of life can be interesting and meaningful. Educators encounter many students, and they shoulder many responsibilities. If the job is well done, everything is fine. If the job fails, everything is nothing.

Intellectuals need to read books always. This is one of the obligations of the job. A happy job can bring in many good results and should make the teaching profession a happy occupation. People should progress, and people need progress. This kind of ecological principle should be obeyed. People must progress and develop. People can be happy if they develop diligently. Human beings can fulfill the objective of being happy human beings. Now, the situation is very good and so they need to read more books. At first, they should be a qualified teacher, and they will be happy. If they have spare strength, they can develop themselves well, for example to be an education specialist. The dream of being an educator is very good, and it can progress well.

Hardworking teachers are always appraised, and this kind of management is easy to master. People's ideas and thoughts must be correct. False ideas should not be owned because the wrong ideas will be harmful to the world and society. If they cannot progress well, they may regret their poor achievements in their profession. Men are created equal, and every person has the chance and the possibilities to progress, so they should try to develop well. The knowledge explosion is intense and the update of knowledge is very fast. As teachers, they

need to learn. Do they have a sense of crisis? Do they have a sense of challenge? This means people should make progress. Teachers are sacrificing jobs. The soldiers are required to dedicate their lives, while they just ask teachers to make sacrifices for knowledge. Humans is a kind of advanced animals with feelings and spiritual sustenance. People's life is surely the pursuit of a whole life, and people's lives are surely of requirement perfect. To be perfect, they need to be successful in their jobs. People with professions are rich, plentiful, and positive.

People's lives are fast and quick, so do not waste time. People must progress and develop. The world is colorful and rich. Because of the differences in brains, people's characters and personalities are different. The people's world will be more and more perfect with many people's participation. The collective results are various because there are many dedicated people. People's lives should be perfect and their job is one part of life. Jobs can bring in much success and many achievements. Teachers should try hard to work well and make sacrifices for society. These kinds of spirit, "silkworms" and "red candle" are still needed nowadays, because the society needs these spirits. People's lives can be fast and short, so please dedicate. To be the teachers and friends of students, they will harvest much, because the dedicated teachers will be respected by the society. Work hard, and they will be happy teachers.

Disclosure statement

The authors declare no conflict of interest.

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Ecotourism: A Sustainable Path or an Environmental Paradox?

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Abstract: Ecotourism has become a popular form of “sustainable travel” tourism intended to support conservation and local communities. The United Nations even declared 2002 the International Year of Ecotourism, reflecting optimism about its potential. However, ecotourism is controversial because if poorly managed, it can harm the very ecosystems it aims to protect. Supporters see ecotourism as a way to fund conservation and bring benefits to local people, whereas critics point to problems like the carbon footprint of travel and greenwashing (branding tourism as “eco” without real action). This paper examines both views and argues that with proper management, strong policies, and true community involvement, ecotourism can be a genuinely sustainable path rather than an environmental paradox. This article will discuss its environmental and socio-economic impacts, real-world successes and failures, policy frameworks, and challenges like greenwashing and inequitable benefit sharing.

Keywords: Ecotourism; Sustainability; Conservation

Online publication: April 3, 2025

1. Environmental benefits of ecotourism

Well-planned ecotourism can directly support environmental conservation. By tying economic value to intact ecosystems and wildlife, ecotourism creates financial incentives to preserve nature instead of exploiting it. Revenue from park fees, tours, and eco-lodges can fund park management, habitat restoration, and wildlife protection efforts. For example, ecotourism operations often partner with governments and NGOs to fund habitat restoration, wildlife monitoring, and anti-poaching patrols. By monetizing conservation, ecotourism creates economic incentives for governments and local stakeholders to prioritize protecting ecosystems over activities like logging or mining that would degrade them. In effect, ecotourism can make preserving endangered species and fragile habitats financially competitive with exploiting them.

Research supports the idea that well-designed ecotourism can align economic and ecological goals. Prihadi et al. documented how community-based ecotourism in Indonesian mangroves provided income for locals while

maintaining ecological health, as long as visitor numbers stayed within the area's carrying capacity ^[1]. Similarly, Baloch et al. found that tourism can foster jobs and infrastructure but also brings challenges like pollution and habitat loss, concluding that government regulation is needed to balance growth with conservation ^[2]. In other words, proactive planning and oversight are required so that tourism's economic gains do not come at the expense of environmental degradation. When such frameworks are in place, ecotourism can directly support conservation. For instance, many African wildlife reserves and Asian national parks use tourism revenue to fund anti-poaching units and scientific research on endangered species. These efforts have had tangible success, as shown in the following example. In Rwanda's Volcanoes National Park, carefully controlled gorilla tourism generates funds for ranger patrols and has contributed to an increase in the mountain gorilla population ^[3]. By channeling tourist dollars into conservation, ecotourism offers a sustainable financing mechanism for biodiversity protection.

In addition, ecotourism operations can be managed to minimize their own environmental footprint. Best practices include limiting visitor numbers to what the environment can sustain, using eco-friendly facilities (e.g., solar power, composting toilets), and enforcing strict rules for wildlife viewing and waste disposal. Many ecotourism destinations also employ zoning to protect sensitive core areas. For example, Galápagos National Park in Ecuador only permits tourism in designated sites and strictly controls itineraries to avoid overburdening any single island. Such measures show that with science-based management and enforcement, tourist visits can be compatible with ecological integrity. Parks like Yellowstone (USA) and Kruger (South Africa) have long used visitor caps and seasonal closures to prevent overuse and allow habitats to recover ^[4]. In short, ecotourism's environmental sustainability hinges on careful planning and limits that keep human impact within natural thresholds.

2. Local socio-economic and cultural benefits

Ecotourism can deliver significant socio-economic benefits to host communities, especially in rural areas. It creates jobs (e.g., as guides, rangers, lodge staff, artisans), diversifies livelihoods, and brings infrastructure improvements (better roads, electricity, water) to remote regions. By providing alternatives to activities like illegal logging or poaching, ecotourism can motivate communities to protect their natural resources. For instance, in areas of Africa and Asia where wildlife tourism thrives, local people often shift from hunting to guiding, which gives wildlife a higher value alive than dead. A notable example is Namibia's communal conservancies, where villages manage wildlife tourism on their lands and directly earn income from it. This program has generated thousands of jobs and over US\$5 million annually for rural Namibians, giving them a strong stake in protecting wildlife. In those conservancy areas, poaching dropped sharply, and wildlife populations rebounded, showing how economic incentives and conservation can align ^[5].

Ecotourism can also empower communities and help preserve local culture. Unlike mass tourism dominated by outside investors, ecotourism often involves community-based initiatives that give local people a say in development. Research suggests ecotourism works best when it leads to community empowerment economically, socially, psychologically (through pride in heritage), and politically ^[6]. Many successful projects are co-owned or co-managed by indigenous groups, ensuring tourism respects local values and traditions. When communities see tangible benefits from conservation, they become stewards of their environment. Ecotourism experiences also frequently incorporate cultural exchange — homestays, traditional crafts, indigenous

knowledge — which provides income for keeping cultural practices alive. For example, in parts of Indonesia and Malaysia, ecotourism has spurred renewed interest in traditional forest knowledge and handicrafts by turning them into attractions for visitors. Similarly, Bhutan’s high-value, low-volume tourism policy ties tourist experiences to cultural authenticity, helping sustain Bhutanese traditions ^[7].

However, socio-economic benefits are not automatic; deliberate efforts are needed to ensure broad, equitable gains. If tourism profits mostly go to outside operators or a local elite, communities may see little improvement, and inequality can worsen ^[8]. In some cases, foreign investors have bought up land for “eco-resorts”, displacing locals or limiting their earnings to low-wage jobs ^[9]. To avoid this, ecotourism initiatives should include inclusive hiring, profit-sharing, and community decision-making. Mechanisms like community trusts (sharing tourism revenue for community projects) or joint ventures (where the community co-owns a lodge) can help retain more benefits locally. It is also important to guard against cultural commodification — turning culture into a show for tourists. Communities should control how their culture is presented and set boundaries (e.g., restricting tourist access to sacred sites or ceremonies) so that tourism remains respectful. When managed well, ecotourism can boost local economies, strengthen social organization, and foster pride and cultural revitalization, all of which reinforce its sustainability.

3. Educational value and awareness

Another benefit of ecotourism is its role in education and awareness-building for both tourists and locals. Ecotourism experiences are often designed to be informative: guided nature walks, wildlife viewing with interpretation, and visitor centers teach travelers about ecology and conservation issues. This firsthand exposure can inspire tourists to adopt more sustainable behaviors even after their trip ^[3]. For example, seeing a coral reef or rainforest up close may motivate a visitor to support conservation or change their consumption habits (such as avoiding products that cause deforestation). Ecotourism thus helps cultivate a more environmentally conscious mindset.

Tourism revenue can also support environmental education in host communities. Some ecotour operators fund local schools, conservation workshops, or ranger training programs. By improving environmental literacy among residents, especially youth, ecotourism can build local capacity for sustainable resource management. In Belize, for instance, marine tour operators have partnered with schools to teach children about coral reef ecology, creating young advocates for reef protection.

Beyond individual learning, ecotourism demonstrates sustainability in practice. Many eco-lodges showcase renewable energy, recycling, and low-impact technologies, letting visitors see sustainable living solutions firsthand. Tourists often take these ideas home, multiplying the impact. As more travelers demand responsible practices, the broader tourism industry feels pressure to become greener. In recent years, even mainstream hotels and tour companies have adopted more eco-friendly measures (from reducing plastic waste to using solar power) to meet the expectations of eco-conscious customers. In this way, ecotourism acts as a catalyst for wider change, spreading principles of sustainability to a larger audience.

4. Policy and governance

Strong policy frameworks and governance are critical to realizing ecotourism’s sustainable potential. At the international level, guidelines such as the Québec Declaration on Ecotourism and the Global Sustainable

Tourism Council (GSTC) criteria lay out principles and standards for responsible tourism ^[10]. These emphasize stakeholder participation, poverty reduction, cultural respect, and environmental conservation, helping to define what genuine ecotourism entails and discouraging misuse of the label.

National governments play a key role by integrating such principles into laws and tourism plans. Many countries have developed ecotourism strategies to ensure that growth does not undermine conservation. For example, Costa Rica established the CST sustainability certification program in 1997 to evaluate tourism businesses on environmental and social performance, which has helped curb greenwashing ^[11]. Costa Rica also mandates environmental impact assessments for new tourism projects and offers incentives for sustainable operations, aligning the industry with conservation goals. In Bhutan, a government-imposed daily tariff on visitors and strict limits on tourist numbers (the “High Value, Low Volume” policy) have minimized environmental and cultural disruption while still generating substantial revenue ^[7].

Local regulations at the destination level are equally important. Protected areas often have specific rules: zoning to keep tourism out of fragile zones, caps on daily visitors, permit requirements for trekkers or divers, etc. Iconic sites like Machu Picchu in Peru and mountain gorilla reserves in Uganda now restrict visitor numbers per day and require guided visits to prevent overcrowding and damage. Enforcing rules such as staying on trails, not disturbing wildlife, and carrying out trash is vital. These measures address the paradox that tourists come for pristine nature but can destroy it without controls. Machu Picchu’s management, for instance, introduced timed entry tickets and limited group sizes once unchecked tourism started causing erosion at the ruins.

Moreover, certification and accreditation programs serve as additional governance tools. Eco-certification (e.g., by independent bodies like Green Globe or Rainforest Alliance) awards a seal of approval to operators or destinations that meet high sustainability standards. This not only guides businesses in best practices but also helps tourists identify legitimate ecotourism providers. Some countries support certifications by promoting certified businesses or even making certification a condition for certain permits. While not all “eco” labels are equally strict, credible certifications combined with regulations can greatly improve accountability. Ultimately, good governance — clear rules, enforcement, community rights, and transparency — is the backbone of sustainable ecotourism. Where regulations are weak or not enforced, there is a higher risk that ecotourism will devolve into mass tourism or harm the resources it depends on.

5. Challenges and risks

Despite good intentions, ecotourism can fail to be sustainable if key challenges are not addressed. One major risk is environmental degradation due to too many visitors, often called overtourism. Popular “eco” destinations can be loved to death. For example, Thailand’s famed Maya Bay attracted thousands of tourists per day after a Hollywood movie made it famous, resulting in devastated coral reefs (an estimated 80% destruction) and eroded beaches. In 2018 authorities closed the bay to let it recover. This illustrates that without limits, even nature-focused tourism can overwhelm ecosystems. Ecotourists also contribute to carbon emissions (often flying long distances) and can generate waste and pollution if operations are not carefully managed.

Another challenge is ensuring that local communities truly benefit. As noted, profits can leak away to outside companies if safeguards are not in place. Communities may also become over-dependent on tourism — a sector vulnerable to seasonal fluctuations and global events. The COVID-19 pandemic, for instance, caused

international travel to collapse, leaving many ecotourism areas with no income and highlighting the need for diversified livelihoods. Additionally, a sudden influx of tourism can strain local resources (water, food, land) and drive up living costs, potentially causing resentment if locals feel they bear costs but reap few rewards.

Cultural impacts are also a concern. Without sensitivity, tourism can erode cultural values or turn traditions into commodities. Indigenous communities may feel pressure to perform or alter cultural practices to meet tourist expectations, risking the loss of authenticity and meaning. Tensions can arise between generations if younger members adopt tourist habits or if sacred customs are commercialized. Maintaining control over cultural content and pacing tourism growth helps mitigate these issues.

Finally, greenwashing is a persistent problem that can undermine ecotourism. Some operators label themselves as “eco” for marketing while doing little to minimize harm or benefit locals. This ranges from lodges that tout sustainability yet dump waste in rivers to large resorts adopting superficial green measures for PR. Greenwashing misleads travelers and can tarnish the reputation of ecotourism as a whole. Industry bodies and governments must set and enforce truth-in-advertising standards for travelers to remain discerning. Tools like third-party certification, public reporting of sustainability metrics, and consumer education (learning how to spot false claims) are important to keep companies honest. As demand shifts toward authentic sustainable experiences, companies have a market incentive to improve or else risk reputational damage. In summary, while challenges like overtourism, inequitable development, cultural disruption, and greenwashing persist, they can be addressed through better management and accountability measures.

6. Case studies: Lessons from successes and failures

Costa Rica: This country is a leading ecotourism success. It protects about a quarter of its territory in parks and reserves, uses a strict sustainability certification for hotels, and reinvests tourism fees into conservation and communities. As a result, ecotourism has funded park protection, helped increase forest cover, and created many jobs. However, Costa Rica also faced issues like overcrowding in popular parks and some economic leakage to foreign-owned resorts, which it continues to address through better regulation.

Namibia: Namibia empowered local people through communal conservancies that give communities rights over wildlife and tourism. This policy led to strong community-based ecotourism where locals run lodges and safaris and share the profits. Wildlife that was once declining (like elephants, rhinos, and lions) has rebounded significantly under community stewardship, and rural incomes have risen ^[4]. Namibia demonstrates how local empowerment and clear benefit-sharing can make ecotourism a true win-win.

Maya Bay (Thailand): A cautionary tale where a lack of limits turned nature tourism into an environmental disaster. The tiny bay became so overrun that most of its coral reef was destroyed and wildlife fled. Authorities had to close the site for several years to rehabilitate it. It has since reopened with very strict rules and caps on visitor numbers. Maya Bay shows the dire consequences of unsustainable tourism and why proactive management is essential.

7. Conclusion

Ecotourism is not automatically sustainable, but when carefully managed it can be a powerful tool to advance conservation and community well-being simultaneously. The evidence from successful cases indicates that ecotourism can indeed be a sustainable path. It can generate funds to protect ecosystems, create jobs and pride

for local people, and educate visitors about the value of nature. Yet the pitfalls are real. Without enforceable limits, genuine community benefits, and honest practices, ecotourism can become an environmental paradox—causing damage under the banner of sustainability.

To ensure ecotourism fulfills its promise, several principles are key. Good governance must set clear environmental limits (caps on tourist numbers, strict zoning, impact assessments for projects) and ensure benefits flow to local stakeholders. Community involvement in planning and profit-sharing is crucial so that locals support and profit from tourism. Monitoring and adaptation are needed to catch problems early — whether ecological strain or social issues — and adjust management accordingly ^[3]. And a real commitment to sustainability is required from all players. Policies and certifications to prevent greenwashing, businesses investing in genuine eco-friendly operations, and tourists making responsible choices.

Ecotourism alone will not save the planet, but done right, it is one of the more promising avenues toward sustainable development. It offers a way to make conservation economically viable and to engage people in protecting natural and cultural heritage. The vision of ecotourism as a true “win-win” is achievable wherever stakeholders put in the effort and safeguards needed. If ecotourism consistently leaves places better — forests intact, wildlife thriving, local communities empowered — then it is indeed a sustainable path rather than an environmental paradox.

Disclosure statement

The author declares no conflict of interest.

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Digitally Enabled Aging-Responsive Design of Interior Spaces in Chongqing's Healthcare-Integrated Senior Living Institutions

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Abstract: With the aggravation of population aging, healthcare-integrated senior living facilities are also increasingly popular. As a region with a high degree of aging, Chongqing, how its senior care institutions combine smart technology with senior care services, empower the senior care industry with science and technology, and create a new model of smart medical care is of great significance for achieving healthy and happy aging of the elderly. This paper takes Chongqing medical and nursing integration senior living institutions as the research object, analyses the status quo and demand of its indoor space aging and intelligent design, and explores how digital technology empowers its aging design from the three aspects of spatial interaction, spatial guidance system, and barrier-free design, to improve the quality of life of the elderly and the service efficiency of senior living institutions, and help the intelligent development of Chongqing's senior living industry.

Keywords: Digital technology; Medical and nursing integration; Senior care institutions; Aging-friendly design; Chongqing

Online publication: April 3, 2025

1. Introduction

With the aggravation of the problem of population aging in China, the problem of elderly care has become the focus of social attention. The state has issued a series of measures to promote the improvement of the quality of senior care services. The "Several Measures on Further Promoting the Consumption of Senior Care Services and Enhancing the Quality of Life of the Elderly" issued in October 2024 proposes to innovate the "wisdom +" senior care scenarios, encourages the construction of intelligent senior care homes, and configures intelligent equipment for life care, rehabilitation care, health management, and so on ^[1]. In December of the same year, the Opinions

of the State Council of the Central Committee of the Communist Party of China on Deepening the Reform and Development of Elderly Services emphasized the optimization of the supply pattern of elderly services based on the home, community-based, institutional professional support, and the combination of medical care and nourishment, and the promotion of the expansion of the capacity and improvement of the quality of elderly services ^[2]. By the end of 2024, the proportion of Chongqing's elderly population aged 60 and above had reached 21.67%, and the proportion of the elderly population aged 65 and above was 17.75%, with the degree of aging at a high level. Chongqing has actively responded to the national policy and made some progress in the construction of the elderly service system, but it still faces a large amount of pressure and challenges. This paper mainly discusses the integration method of smart technology and the indoor space of medical and nursing integration of elderly institutions in terms of interaction, guidance, and accessibility design, aiming to create an indoor spatial environment that meets the physical and mental needs of the elderly, to improve the quality of life of the elderly and the service efficiency of Chongqing's senior care institutions, and to help the intelligent development of Chongqing's senior care industry.

2. Medical and nursing integration of elderly care institutions

Medical and nursing integration is the combination of medical and health services and senior care services, for the elderly at home, community, and institutional care, based on daily life care, to provide the medical and health services they need ^[3]. A healthcare-integrated senior living facility is a senior living facility that combines healthcare and senior living services to provide the elderly with a variety of services such as living and living, culture and entertainment, rehabilitation training, and healthcare and integrates the diverse functions of healthcare, rehabilitation, wellness, and senior living. It can meet the diversified health and old-age life needs of the elderly, and provide a warm, comfortable, safe, and convenient old-age environment for the elderly, thus improving the quality of life of the elderly, and realizing a sense of nourishment, medical care, and enjoyment for the elderly.

3. Demand analysis of aging-friendly design under digital empowerment

The key service objects of medical and nursing integration are the disabled (including dementia), chronically ill, elderly, disabled, and other elderly people, mainly providing services focusing on health education, preventive health care, disease diagnosis and treatment, rehabilitation care, hospice care, taking into account the services of daily life care ^[3]. Therefore, most of the elderly groups targeted by medical and nursing integration elderly care institutions have specific requirements in terms of physical function and emotional needs.

3.1. Physical needs and aging-friendly design

Physical function: due to the gradual decline of physical function, the elderly have weakened mobility and decreased balance, resulting in a higher risk of falling, and falls are more likely to lead to serious consequences such as fractures ^[4]. Therefore, barrier-free design is particularly important in spatial design, such as setting up barrier-free access, widening the space scale, and increasing handrails and other barrier-free facilities; the floor adopts non-slip materials to reduce the risk of falling; in addition, the introduction of intelligent facilities, such as intelligent detection equipment and emergency call systems, can further enhance the safety and convenience of the space.

Sensory ability: Elderly people's eyesight generally declines, their sensitivity to colors decreases, and their

ability to adapt to light is weakened; their hearing and tactile sensitivity also decreases. Therefore, in terms of the spatial guidance system, more saturated colors should be chosen to enhance the recognition of the signs; at the same time, the design of intelligent guidance systems, such as voice prompts and intelligent dialogues, should be increased to satisfy the dual needs of the elderly in terms of vision and hearing and to enhance their navigation experience in the space.

3.2. Psychological needs and aging-friendly design

Safety needs: The elderly are more likely to have a sense of insecurity due to the decline of their physical functions. Therefore, the introduction of intelligent facilities such as emergency call systems and intelligent monitoring in spatial design can provide timely services when the elderly need help, thus enhancing their sense of psychological security.

Emotional and social needs: The elderly are prone to loneliness due to the narrowing of their social circle, and their needs for emotional companionship and social interaction have increased accordingly. Therefore, the planning of interaction space should be emphasized in spatial design, and more open communication areas, recreational facilities, and public activity spaces should be set up for the communication, recreational needs, and social needs of the elderly, to enrich their spiritual life. At the same time, robotic companionship or remote interaction with loved ones using intelligent technology can be adopted to abate the loneliness of the elderly.

3.3. Aging-friendly design that eliminates the digital divide

With the rapid development of digital technologies such as artificial intelligence, big data analysis, and machine learning, the lifestyles of the elderly are experiencing an unprecedented transformation, and the first challenge brought about by this change is the cognitive limitations of the digital model of smart aging^[5]. Elderly people often have problems such as operating difficulties due to the sensory, cognitive, behavioral, and psychological barriers they face, and the loss of vision and hearing leading to fear of new technologies. Therefore, there is a need to help older people use intelligent spatial facilities more effectively through various forms of large fonts, high contrast, and voice interaction.

4. Research on the current situation of the application of wisdom in the indoor space of Chongqing's medical and nursing integration senior living institutions

With the development of intelligent technology, technology-assisted aging design of senior care facility space has become a necessary development trend. Through the visit and research of Chongqing Medical University Affiliated First Hospital Qingkang Elderly Nursing Centre and Chongqing New One City Longhu Chunshan Wanshu Yi Nian Apartment and other senior living institutions, it is found that their intelligent application scenes are mainly concentrated in the basic stage of health monitoring, emergency call, intelligent positioning system, intelligent access control, etc., and there is still a lot of room to be improved in the areas of accessibility design, spatial guiding design, spatial interaction design, and so on.

4.1. The intelligent application of barrier-free design is insufficient

The barrier-free design originated in the 1930s, aiming to eliminate physical barriers in the built environment so that all people can use various facilities and services equally and freely^[6]. It emphasizes attention to the special needs of the elderly and helps them to better participate in spatial activities through technical measures in spatial

design. Some senior living structures in Chongqing have made some progress in the intelligent application of barrier-free design, but there are still the following deficiencies. First, the application scope of intelligent barrier-free facilities is insufficient. For example, the Qingkang Elderly Nursing Centre of the First Affiliated Hospital of Chongqing Medical University has introduced wireless call and positioning systems, remote visitation systems, smart wristwatches, and other equipment to monitor the safety of the elderly in real time and provide convenient services. However, only a small number of smart devices are installed in key areas such as bathrooms and corridors, failing to form a systematic solution. Second, the transport space lacks an aging-friendly design, and barrier-free facilities are insufficient. For example, Chongqing New One City Longhu Chunshan Wanshu Yi Nian Apartment is located in the main city with convenient traffic and rich medical resources, but the internal space of the institution is crowded, and the traffic layout of the high-rise building is mainly vertical, which restricts the elderly's traveling and basically only allows them to move around in a limited space. Thirdly, due to the lack of technical adaptability and low digital literacy of the elderly's smart device application ability, some of the intelligent accessibility equipment is not used efficiently and fails to give full play to its function.

4.2. Insufficient spatial intelligent guide design

The design of the guidance system, also known as the design of the guidance system, the design of the guidance system, or the design of the signage, is the design of the interface of spatial information conveyance that helps people to distinguish spatial attributes, to find the target path, and to manage the purpose of behaviors in the space ^[7]. The intelligent spatial guide design of Chongqing's medical and nursing care institutions has had initial development, especially some newly built or renovated nursing care institutions, which have introduced intelligent guide systems, such as electronic displays and voice prompts, to provide navigation and information prompts for the elderly. However, most of the institutional guide design still stays at the stage of traditional signs, and there are still problems such as insufficiently clear signs, too small fonts, insufficient color contrast, insufficient barrier-free information prompts, and insufficient application of intelligent guides.

4.3. Insufficient spatial intelligent interaction design

The digital revolution has given birth to a virtual network with a high degree of interactivity and two-way communication characteristics, and this emerging field has gradually become another important platform for the socialization of citizens. It has reshaped interpersonal connections and continues to influence traditional social structures and people's lifestyles ^[8]. The interactivity and participation of the elderly in the space are promoted through digital technology. The category of intelligent application of spatial interaction design in Chongqing medical and nursing care institutions is more limited, and the application is still relatively single, mainly focusing on the medical and health care field, while there is insufficient application in the daily life of the elderly, social interaction and other aspects. For example, the activity space is not interactive enough, lacks diversified social places, and the utilization rate of some public spaces in non-activity time is low, failing to give full play to their social and leisure functions and making it difficult to meet the rehabilitation needs of the elderly.

5. Digital-enabled indoor space aging design proposal for healthcare and nursing care institutions in Chongqing

As a mountainous city with complex terrain, changing climate, and rich regional cultural resources, Chongqing, combined with the needs of the characteristics of the population in the healthcare and nursing care institutions,

discusses the digital empowerment of the aging design from the three aspects of accessibility design, spatial guidance design, and spatial interaction design.

5.1. Intelligent barrier-free design

The accessibility design of indoor space in Chongqing's elderly care institutions should be closely integrated with the characteristics of the local terrain with big undulations and humid and foggy climate, and improve the convenience and safety of the elderly with the help of digital technology. Specific measures include the following. First, optimizing the layout of indoor space and simplifying the design of spatial flow lines. Avoid complex paths and too many twists and turns in spatial design to reduce the walking burden of the elderly, and form a simple and clear spatial guide to help the elderly quickly find their destinations. Second, in terms of three-dimensional traffic and barrier-free access design, build a multi-level barrier-free traffic flow. Drawing on Chongqing's unique three-dimensional traffic system, the design of multi-level barrier-free traffic flow lines, the use of vertical lifts, barrier-free ramps and rain and wind corridors and other facilities, linking indoor spaces of different elevations, to resolve the obstacles brought about by the difference in height. Thirdly, intelligent assistive facilities are introduced. With the help of smart handrails, emergency call buttons, and smart sensors, the activity status of the elderly is monitored in real time to ensure that timely help is given to the elderly when necessary. Fourth, the design of intelligent environmental regulation. Through intelligent sensors and controllers, automatically adjust the indoor temperature, humidity, light, etc., to adapt to the climate change in Chongqing. Fifth, the configuration of barrier-free facilities. Barrier-free toilets, barrier-free showers, automatic sensor doors, intelligent toilets, etc. are set up to further enhance the convenience of life for the elderly. Sixth, set up intelligent health testing. Set up intelligent health detection equipment, such as smart mattresses and health monitoring terminals, in the living space and public activity areas to monitor the vital signs of the elderly in real time and upload the relevant data to the terminals of healthcare personnel, to detect abnormalities in a timely manner. Seventh, the introduction of smart home systems such as intelligent lighting, intelligent curtains, intelligent home appliances, etc., so that the elderly can easily operate through voice control. For example, through voice command lighting brightness, control curtains or air conditioning, and other switches. Eighth, emotional interaction support. Introducing intelligent video and other calling devices to help the elderly maintain close communication with family and friends. For example, through remote tactile interaction technology, family members in different places can also pass hugs and communicate emotionally to meet the emotional needs of the elderly and achieve barrier-free emotional communication.

5.2. Intellectualized spatial guide design

Chongqing's intelligent spatial guide design gives full consideration to the visual and cognitive characteristics of the elderly, and considers the problem of recognition of the elderly with different physiological conditions; at the same time, it integrates the regional culture to innovate, develops intelligent pension products and services with cultural characteristics, and integrates traditional cultural elements into the product design and the content of the digital platform^[9]. Specific design strategies are as follows. First, high contrast and eye-catching logo design. The guide signs should be saturated with colors, high contrast, and eye-catching so that it is easy for the elderly to identify quickly. Second, multimodal guidance system. Combined with language prompts and an intelligent dialogue system, it helps the elderly to identify the direction or functional area more conveniently and improves the convenience of navigation. Third, personalized intelligent navigation. Using intelligent navigation devices

such as smart bracelets or mobile phones to provide personalized navigation services for the elderly in real time. Fourth, configure intelligent navigation devices. Setting up in public areas, such as electronic maps, intelligent guide screens, and robotic guidance, to help the elderly quickly locate and plan their routes. Fifth, integrate regional culture. Digging deep into the cultural resources of the project location, applying cultural symbols, colors, materials, and other elements to the image design of the guidance system, increasing the sense of affinity and belonging of the elderly, and enhancing the experience of the elderly while also reflecting Chongqing's unique mountainous city style and humanistic care.

5.3. Intelligent spatial interaction design

The indoor space design of medical and nursing integration elderly institutions should not only focus on aesthetics and function, but also strengthen spatial interactivity and communication through intelligent design. The design suggestions are as follows. First, expand public space. Add more public spaces to meet the needs of the elderly for interaction and communication. For example, design multifunctional parlors, elderly gathering areas, rehabilitation gardens, and other activity areas to promote communication and interaction among the elderly. Secondly, set up intelligent interactive devices, such as interactive paving, interactive seats, and other vignette facilities. Third, apply augmented reality (AR) technology. Use AR technology to enrich the social and entertainment experience of the elderly, such as expanding their life horizons through virtual scene interaction or cultural display. Fourth, inherit regional cultural characteristics. Combine with Chongqing's Bayu culture, design cultural display areas and activity spaces with local characteristics, and enhance the artistic taste of the elderly institutions through the introduction of artwork and warm color matching, to satisfy the aesthetic needs of the elderly and enhance their sense of cultural identity.

6. Conclusion

Chongqing's unique natural resources and human resources provide unique cultural characteristics and spatial flavor to the medical and nursing integration of the elderly institutions, and at the same time, it also provides a better space for the elderly environment. Combining digital technology with regional cultural resources, through intelligent barrier-free design, spatial guide design, and spatial interaction design, it will effectively enhance the aging level of the senior care institutions, meet the diversified needs of the elderly, and provide strong support for them to achieve high-quality life in their twilight years.

Funding

Research Fund Projects of Chongqing Institute of Engineering: Research on the Intelligent Design of Indoor and Outdoor Spaces for Chongqing's "Integrated Medical and Elderly Care" Health and Wellness Buildings in the Context of Digitization (2023xsky01); Research on Spatial Syntax Parameters and Combination Patterns of Urban and Rural Community Elderly Care Centers from a Multi-Dimensional Perspective (2024XZKY003)

Funding Support: 2024 Curriculum Ideological and Political Demonstration Course Construction Project of Chongqing Institute of Engineering, "Residential Landscape Design" (Project Number: KC20240006)

Disclosure statement

The authors declare no conflict of interest.

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Exploring the Path of Developing the Elderly Human Resources Based on the Background of the Silver Wave Development

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Abstract: Under the background that the aging population has a strong influence on social patterns, employment is of great significance to the elderly, which is related to the realization of personal value, the increase of family income, and the stable development of society, highlighting the urgency and importance of the development of human resources for the elderly. Although international countries actively explore the relevant model and have domestic policy support, it still face the challenge of single employment form. Based on this, this paper focuses on the rational utilization of elderly human resources, and puts forward suggestions and countermeasures by analyzing the current situation, advantages and disadvantages, and value, to promote the positive interaction between the development of aging cause and the elderly and society.

Keywords: Elderly talents; Population aging; Society; Suggestions

Online publication: April 3, 2025

1. The background of developing the aged human resources

The trend of global population aging is accelerating at an unprecedented speed, and population aging has become a major social phenomenon faced by all countries in the world. According to relevant statistics, worldwide, the proportion of the elderly aged 65 and above in the total population continues to rise, and in some developed countries, the proportion has exceeded 20% ^[1]. As a country with a large population, China is also facing this severe challenge. The authoritative data of the National Bureau of Statistics clearly reveals that China has entered the ranks of an aging society, with the proportion of the elderly population showing a continuous upward trend, while the number and proportion of the working-age population have been declining since 2012 ^[2].

From the perspective of international experience, many countries are actively exploring effective ways to cope with population aging, and the development of human resources for the elderly has become a key direction.

The practice of many countries provides us with useful references ^[3]. The Republic of Korea, for example, has been vigorously promoting the employment and social activities of elderly human resources since 2004. According to official statistics, the number of elderly people participating in this program has been increasing year by year. In the first few years, the growth rate of the number of participants remained at about 10%. After 2010, the growth rate slowed down but continued to grow. By 2020, the cumulative number of participants has exceeded one million ^[4].

In China, the aging phenomenon causes the burden of social security expenditure to increase, and the development of human resources for the elderly has gradually become the focus of social attention. Despite the increasing policy support and the high willingness of the elderly to work, the actual employment situation still faces many challenges, such as single employment forms and restricted employment, which need to be solved ^[5]. In this context, through in-depth analysis of the development status, advantages and disadvantages, and value of human resources for the elderly, this study focuses on the rational utilization of human resources for the elderly, explores how to tap the dividend potential of the elderly population by means of Internet technology and intangible cultural heritage technology, promote inter-generational communication and mutual assistance between the elderly and the young, and realize the effective development of human resources for the elderly. This is to provide new ideas and methods for alleviating social pressure and promoting economic development, provide theoretical basis and practical guidance for solving the problem of employment for the elderly, promote the comprehensive development of the cause of aging, and realize the positive interaction between the elderly and social development ^[6].

2. Research methods and data analysis

This study comprehensively uses a variety of research methods to carry out an in-depth exploration of the re-employment of the elderly. ^[7]Through the questionnaire survey method, we carefully compile questionnaires for the young group and the retired elderly group, collect data from multiple dimensions, and obtain 311 valid questionnaires through multiple channels and strict screening.

In the process of data analysis, the author uses descriptive statistical analysis, cluster analysis and other methods. By calculating the frequency, percentage, average, standard difference, and other indicators of each variable, the basic situation and trend of the re-employment of the elderly are described, and the relationship between different variables is analyzed, such as the influence of age, gender, education level and other factors on the re-employment intention of the elderly ^[8]. The results of the data analysis show that society has a high degree of awareness of the re-employment of the elderly, but there are differences in the degree of recognition and support. First of all, young people have a more open and positive attitude towards the re-employment of the elderly, while the willingness of the elderly to re-employment is affected by their health status, skill level, and other factors. Secondly, motivation is diversified, driven by economic needs, social needs, self-actualization needs and other factors ^[9]. Moreover, the choice of employment forms tends to be dominated by flexible employment forms, part-time employment, remote work, and other forms of employment that are more in line with the physical conditions and time arrangements of the elderly.

At present, the re-employment of the elderly is faced with social prejudice, difficulties in their skills and time arrangement, and a low understanding of policies. Social prejudice affects the psychology of the elderly and social cognition of their re-employment; The skills of the elderly are out of step with the time, the working hours are difficult to adapt to, and the job search channels are narrow. Although there are policies, the lack of publicity leads to the low awareness of the elderly ^[10]. Based on these analyses, this paper will further explore solutions to

promote the re-employment of the elderly and achieve the goal of active aging in society.

3. The path to developing human resources for the elderly

Re-employment of the elderly is an important measure to cope with the challenge of the aging population. The author will put forward suggestions from three aspects: the government, the society, and the elderly themselves.

3.1. For the government

First of all, improving the legal and policy environment is the key to promoting the re-employment of the elderly. The government should formulate policies for the elderly talents, simplify the recruitment process, set up service windows for the elderly talents, and provide one-stop services for the elderly, including policy interpretation, job registration, job recommendation, etc., to improve the convenience and efficiency of the elderly's re-employment^[11]. Secondly, surrounding enterprises and social organizations should be invited to participate in community recruitment fairs for elderly talents regularly. In addition to surrounding enterprises and social organizations, communities should also be encouraged to develop jobs suitable for the elderly, such as community mediation, activity organization for the elderly, and community environment maintenance. In addition, a service platform for elderly talents should be built to integrate services such as online job hunting, online training, and policy consultation, and a database of elderly talents should be established through the platform to realize accurate docking between elderly talents and employers by using big data technology^[12].

3.2. Targeting society

Social institutions should strengthen the industry-university-research cooperation with universities and scientific research institutions, establish practice bases for elderly talents with universities, jointly carry out project research, and make full use of the expertise and practical experience of elderly talents, so that elderly talents can give full play to their experience advantages in the bases and realize knowledge renewal at the same time^[13]. In addition, social institutions can actively build a service platform for the elderly talents, provide diversified job information for the elderly talents, and set up positions suitable for the elderly talents such as volunteer service and cultural inheritance on the platform. At the same time, various social activities can be carried out to promote social exchanges and cooperation among elderly talents and enhance their sense of social integration.

3.3. For the elderly themselves

The elderly themselves should establish a positive concept of re-employment and regard re-employment as an important way to realize their self-worth and social integration. In addition, the elderly should abandon the traditional concept of employment, choose flexible forms of employment, such as part-time jobs, consultants, etc., according to their own advantages and interests, choose the right re-employment positions, and give full play to their surplus heat^[14].

In a word, through the concerted efforts of the government, the society, and the elderly themselves, the resources of elderly talents can be better developed and utilized, the potential of elderly talents can be fully tapped, and social harmony, stability, and development can be promoted.

4. Develop the value of the elderly human resources

In the context of continuous social progress and vigorous economic development, in-depth research on the importance and value of the re-employment of the elderly will play a strong role in promoting the sustainable development of society and is an important means for the rational allocation of elderly human resources.

4.1. Increase personal income and realize self-worth

Through re-employment, the elderly can increase their additional income, thereby improving the existing living environment and quality, and maintaining healthy physical and mental development. At present, with the rapid development of the digital era, some elderly people feel that they are seriously derailed from time and lack a certain sense of gain. Re-employment can help the elderly re-establish contact with society and enhance their self-worth and sense of accomplishment ^[15].

4.2. Alleviate the shortage of labor force and promote social development

On the one hand, the country has now entered an aging society, and the labor force is especially scarce. The aged human resources can contribute to the development of related industries. On the other hand, the elderly are patient and experienced enough to impart experience to the young to a certain extent and lead them steadily forward, so as to achieve the stable development of society.

4.3. Release the demographic dividend and reduce the burden of elderly care

According to the National Bureau of Statistics, the old-age dependency ratio will be 22.5 percent in 2023, making the burden of old-age care even heavier. The demographic dividend for the elderly comes with the change in the age structure of the population, and under certain conditions, it will promote economic development. By earning income through re-employment, the elderly can no longer rely solely on the economic support of pensions, and turn from passive to active participants in economic development. At the same time, the financial pressure of the pension security system can also be alleviated, providing financial support for the country to improve the infrastructure for the elderly.

5. Summary

This study makes an in-depth analysis of the development of human resources for the elderly. The increasingly serious aging population makes the development of human resources for the elderly more and more urgent. Although the industry has made many explorations, there are still many challenges in the employment of the elderly. The research shows that although society has a high awareness of the re-employment of the elderly, the degree of support is different, and the employment form tends to be flexible. Given this problem, the government, society, and the elderly themselves should work together to develop effective ways of human resources for the elderly, to cope with aging and promote social development.

Funding

This paper is the outcome of the 2024 college student innovation and entrepreneurship project “Exploring the Path of Developing Elderly Human Resources under the Background of Silver Wave Development.”

Disclosure statement

The authors declare no conflict of interest.

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Grassroots Operation of Therapeutic Function of Family Justice: Taking Psychological Counseling Mechanism as the Starting Point

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Abstract: The therapeutic function of family justice is based on therapeutic jurisprudence theory, aiming to reduce the negative impact of family disputes and justice on the parties involved and achieve unity between individual happiness and family harmony. In China's family justice practice, psychological counseling has become the primary means of achieving the therapeutic function of family justice. However, empirical research conducted in a grassroots court in City A of the southwestern region reveals several issues with the operation of the psychological intervention mechanism. These include low utilization and limited effectiveness of mental health services, difficulties in initiating psychological interventions, confusion regarding the role of psychological counseling techniques, unscientific methods, and a lack of a holistic family perspective. Therefore, China needs to expedite the establishment of family litigation law to provide legal protection for the psychological intervention mechanism. Simultaneously, it should strengthen the professional development of the family justice team, establish a scientific layered psychological intervention mechanism, and introduce psychological approaches such as family counseling to adjust family conflicts from a holistic perspective, enabling the smooth operation of the therapeutic function of family justice.

Keywords: Family justice; Family justice reform; Psychological counseling mechanism; Therapeutic jurisprudence

Online publication: April 3, 2025

1. Introduction

The theoretical foundation of the therapeutic function of family justice is therapeutic jurisprudence, a concept first proposed by American scholars David B. Wexler and Bruce J. Winick in the late 1980s. They defined therapeutic jurisprudence as the study of law as a therapeutic agent, viewing law as a social force that can have therapeutic (beneficial) or anti-therapeutic (harmful) effects. Here, the law includes substantive law, procedural law, and the implementation of the law (including the behavior of judges and lawyers). Professor Barbara A. Babb of the

University of Baltimore School of Law was among the first to introduce and apply this concept to the field of family law ^[1]. Simultaneously, many countries and regions have begun to emphasize the therapeutic role of family justice and have carried out a series of targeted reforms ^[2].

In April 2016, the Supreme People's Court issued the "Opinions of the Supreme People's Court on Carrying Out the Pilot Reform of Family Trial Methods and Working Mechanisms" (hereinafter referred to as the "Opinions"), kicking off the reform of family trials. In July 2018, based on a summary of the two-year pilot work, the Supreme People's Court issued the "Opinions of the Supreme People's Court on Further Deepening the Reform of Family Trial Methods and Working Mechanisms (Trial Implementation)" (hereinafter referred to as the "Deepening Opinions"). Both documents express the need to "play a diagnostic, repair, and therapeutic role", demonstrating a significant shift in China's family justice concept from adversarial to therapeutic. Both the "Opinions" and the "Deepening Opinions" clearly propose the introduction of psychological counseling in family justice, and the "Deepening Opinions" even include a series of norms for the application of psychological counseling procedures in the people's courts. However, the connotation of psychological counseling in family justice has never been defined, leading to a lack of consensus among practitioners and scholars. In the context of family trial reform, the implementation of psychological counseling varies among people's courts in practice. China has a vast territory, and the level of development varies among regions. Local governance emphasizes "Fengqiao Experience" and "Horseback Court", which are local experiences developed based on local knowledge. Similarly, family justice should respect regional differences and should not be generalized. This article aims to showcase the real picture of the operation of the therapeutic function in family justice through research on the actual operation of the psychological counseling mechanism in a grassroots court in a city in southwest China, providing regional experience for therapeutic family justice in China.

The author conducted a one-month field research activity at the C Family Court of the B District Court in City A of the southwest region and conducted multiple in-depth interviews with family judges from the W District Court and Y District Court in City A. The urbanization rates of the W District Court, B District Court, and Y District Court decrease sequentially. As samples from the high, medium, and low urbanization areas of City A, they roughly represent the operation of family justice in City A.

The C Family Court was designated as a family court in 2021, with jurisdiction over all family cases and a small number of civil cases in District B. It has 2 quota judges, 6 judge assistants, and 2 clerks. During the research process, the author observed the interactions between judges and judge assistants outside the courtroom and the entire trial process of 24 family cases, including family cases settled through mediation after the trial. Among them, there were 17 divorce disputes, 2 support disputes, 2 custody disputes, and 3 statutory inheritance disputes.

Based on research conducted in three grassroots courts in City A, this article presents the current status of the grassroots operation of the therapeutic function of family justice through the presentation of case processing details and the induction and summary of family case trial practices. The study analyzes the reasons behind the current situation and further proposes directions for improvement.

2. Clarification of the concept of psychological counseling

In China's family justice system, there is a divergence between practical and theoretical understandings of "psychological counseling." Without a unified understanding of the concept, it is difficult to research and improve the psychological counseling mechanism.

In judicial practice, psychological counseling is often seen as psychological consultation and guidance, excluding psychotherapy. It is a mental health service provided by experts with specific qualifications. For a long time, psychological counseling has existed as a service for family justice, typically sourced from three models: purchasing mental health services from social psychological institutions per session, establishing a studio within the court to hire full-time psychological consultants, or establishing cooperative relationships with social institutions to provide public welfare voluntary mental health services. Institutions that collaborate with the courts include multiple social institutions with psychological service capabilities, such as women's federations, universities, hospitals, and bar associations. These three models are often not used separately but are flexibly applied based on the court's conditions to maximize the utilization of available psychological service resources.

In the grassroots court investigated by the author, C Family Court primarily adopts the first model, which involves purchasing psychological assessments or consulting services from psychological counselors as needed and per session. The W District Court also cooperates with university psychological research institutions and social work service centers to purchase mental health services. The Y District Court combines the first and second models, providing mental health services in a complementary manner with full-time and part-time staff.

Some scholars in psychology discuss that psychological counseling, in a broad sense, includes psychological consultation, psychotherapy, and other technical methods involving people's psychological activities, which is close to the psychological intervention activities understood in people's daily lives. In a narrow sense, psychological counseling is a non-therapeutic method of psychological dredging and guidance, originating from psychological consultation in the broad sense of psychological counseling. However, the main difference from psychological consultation lies in whether qualifications are required. If obvious psychological abnormalities are found during the psychological counseling process, referral to a psychological consultation or treatment institution is necessary^[3]. In the medical field, psychological counseling therapy is also used as a treatment for psychological and mental illnesses^[4].

In the field of family law, Chinese scholars define psychological counseling in family justice based on the narrow concept of psychological counseling as "the use of psychological theories and methods to psychologically dredge and guide parties and related personnel who are emotionally disturbed in family cases, relieve their negative emotions, help them liberation from wrong cognitions, and cultivate a positive psychological intervention activity with self-esteem, confidence, rationality, calmness, and enthusiasm"^[5]. This definition excludes psychological consultation and psychotherapy and is a non-therapeutic psychological intervention technique.

In summary, the divergence in understanding between practice and theory in the field of psychological counseling lies in whether "psychological counseling" should be seen as a professional service included in psychological consultation or a technique that judicial personnel can generally master.

The understanding of the concept of "psychological counseling" in family justice can be considered from the following two aspects. Firstly, researchers can compare the statements on psychological counseling in the "Deepening Opinions" and "Opinions" issued by the Supreme People's Court.

The "Opinions" characterize psychological counseling as a "related professional service," advocating cooperation between the court and external professional institutions, especially public service institutions. The "Deepening Opinions" emphasizes the internalization of professional services such as psychological counseling, proposing various specific requirements such as establishing a specialized family team, establishing special entry, training, and assessment mechanisms for family judges, and providing judicial assistants who offer professional services. Evidently, after two years of pilot family trial reforms, the reform direction of the psychological

counseling mechanism advocated by the Supreme People's Court has shifted from outsourcing to internalization, integrating professional services into family justice and making it a part of family trials.

Secondly, researchers can consider the applicability of psychological counseling. If psychological counseling is merely understood as a professional service provided by external personnel, ignoring the guidance of the "Deepening Opinions" to establish a specialized family team, it becomes an optional measure that requires additional financial and time costs from the court, without a corresponding guarantee of effectiveness. Therefore, in an environment where there are many cases and few personnel, and with the goal of judicial efficiency, mental health services are less frequently applied. Additionally, judicial personnel have not fully clarified their role cognition, and there is passivity in relying on judicial personnel to actively learn psychological counseling techniques for psychological counseling. Currently, few courts across the country conduct large-scale, standardized psychological counseling training for family judges. Occasionally, psychological experts visit courts to give lectures on psychological knowledge to judicial personnel. Evidently, in practice, the court system rarely provides corresponding professional support to family judges. Even if family judges have enthusiasm for learning psychological knowledge, it is difficult for them to have sufficient time and energy.

In summary, it is more reasonable to view psychological counseling as a non-therapeutic professional technique. Its implementation subject is family judicial personnel. The distinction between psychological counseling and professional services such as psychological consultation and psychotherapy lies in whether qualifications are required. This makes it legitimate for judges to apply psychological counseling in family mediation, thereby enhancing professionalism.

3. Operation of psychological intervention mechanisms

By clarifying the concept of psychological counseling, psychological counseling and mental health services in family justice can be distinguished, collectively referred to as "psychological intervention mechanisms."

In judicial practice, due to the shaping of family justice personnel's family trial philosophy by the integration of treatment, repair, and emotional and legal reasoning since the family reform, such differences are not reflected in distinct means. Instead, family justice personnel often provide commonsense psychological counseling to parties during the judicial process, and mental health services are only provided for specific minority cases.

Therefore, the following will separately discuss the operation of mental health service procedures and psychological counseling techniques in practice.

3.1. Operation of mental health service procedures

A common problem in the operation of psychological counseling procedures is low utilization. Among them, judges from the W district court reported that only 3 or 4 family cases had initiated this procedure in the past year. After participating in and observing the judicial practice of the C family court, the author summarized the following constraining factors.

3.1.1. Limited resources

On the one hand, there is insufficient funding for mental health services. Family judges in the C family court proposed that the single cost of psychological counseling and other services provided to the parties ranges from 500 to 2000 yuan, depending on the qualifications of the psychological counselor. Moreover, mental health

services often require multiple sessions to be effective. However, statistics from the court's judicial big data platform show that the average litigation acceptance fee for family cases in the C family court in the past five years is approximately 500 yuan. In comparison, the court has incurred considerable financial costs to provide mental health services.

In a fiscal austerity environment, courts currently rely primarily on government funding or foundation support to provide professional services. Within the court system, the funding for professional services provided by family courts to litigants is influenced by various factors. Among them, the emphasis placed on family cases by the court headquarters plays a significant role. The issue of funding shortages for professional services provided by family courts is not unique to China. Even in many developed countries with a long history of family court services, funding shortages remain a persistent and difficult problem to solve^[6]. The welfare nature of professional services provided by family courts determines their inevitable economic constraints, which are difficult to improve effectively in the short term.

On the other hand, there is a shortage of mental health service providers. In recent years, due to policy guidance and practical needs, the number of institutions providing psychological treatment/counseling services in China has shown a significant increase. However, there is still a gap compared to global indicators.

In addition, there is a widespread phenomenon of uneven resource distribution across regions. Among them, the total amount of psychological service resources in the western regions has reached the same level as that in the central regions due to policy preferences. However, there is a significant issue of inaccessible resources due to the vast territory and sparse population^[7].

At the same time, due to the low threshold for psychological counseling qualifications and the small proportion of actual practitioners, the quality of psychological service providers is generally low^[8].

Regarding the shortage of personnel, the three cooperation models discussed earlier have somewhat ensured the source of psychological service providers and the smooth purchase of psychological service channels. However, there has not been an effective solution for the funding shortage issue.

3.1.2. Ineffective results

The effectiveness of mental health services can be divided into direct and indirect effects. The direct effect is the treatment effect, which is the resolution of the party's negative emotions in the present. Based on the achievement of the direct effect, the indirect effect of peacefully resolving disputes is further achieved.

Family judges interviewed by the author all indicated that the direct effect of psychological counseling is good, but the indirect effect is not ideal. For example, a judge from the C family court stated, "Once, I went with her (for psychological counseling), and the psychological counselor's words were somewhat pale and somewhat detached from the case and how to solve the problem."

Family cases are intertwined with emotional and legal issues, and their resolution is also difficult to separate. Mental health services should have complementary direct and indirect effects, but there are deficiencies and fragmentation. The achievement of the treatment effect, due to the lack of peaceful dispute resolution, has also led to the phenomenon of "treating the symptoms but not the root cause," resulting in mental health services in family trials not exerting their due effectiveness.

There are three influencing factors for the existence of this phenomenon. The first is the limitation of mental health services themselves. Mental health services are a gradual process that requires multiple sessions for the party to see results. Some courts even need to provide up to six psychological services for the parties involved in

the case^[9]. The widespread shortage of funds makes it difficult for mental health services to achieve the desired results. At the same time, the fit between the psychologist and the counselee also has some influence. People seeking psychological counseling often try to establish connections with multiple psychologists and choose the most effective one for long-term counseling. However, in providing psychological services in family trials, psychologists are often assigned by institutions, making it difficult to meet this demand.

The second is the degree of cooperation between judges and psychologists. The degree of cooperation between judges and psychologists profoundly affects the peaceful dispute resolution effect of mental health services. In practice, mental health services are generally divided into two modes: participation and non-participation. Generally, judges do not participate in mental health services. Psychological counselors provide mental health services to parties involved in family cases, form relevant reports, and then submit them to the presiding judge. However, some judges reflect that “understanding the parties indirectly through psychological reports lacks emotional communication between the judge and the parties. There are gaps in this information transmission process, and it is weakly correlated with the case, making it difficult to deeply understand the parties.” Their strategy is to select a more effective psychological service expert for long-term cooperation, participate in psychological services based on information exchange and mutual cooperation so that the parties can learn to deal with emotions and correctly adjust interpersonal relationships with the help of current conflicts. Judges can also take this opportunity to resolve both disputes and emotional knots, achieving the optimal solution.

The third is the standardization of mental health services. The “Deepening Opinions” and the psychological counseling rules issued by various regions have stipulated the confidentiality obligations of psychological counselors, regulating the professional ethics of psychological service experts^[10]. However, there are no relevant regulations on the methods of mental health services. Mental health service models in China are mainly divided into medical, educational, and social models. Usually, researchers refer to medical model mental health services as psychological treatment, educational model mental health services as psychological counseling, and social model mental health services as psychological counseling^[11]. The mental health services provided in family justice are mainly the latter two. Due to differences in cooperation partners or talent introduction among various courts, psychological counselors come from diverse backgrounds, including psychiatric and psychological medical personnel, psychology teachers, and psychological counselors. Their adopted mental health service methods also vary and have certain biases. As mental health services with certain public welfare characteristics, unlike commercial mental health services provided by social psychological counseling institutions, the latter is related to their own industry reputation, while the former is similar to completing fixed indicators. Under different backgrounds, there is no competitive pressure on mental health services in family cases, so their quality is also difficult to guarantee.

3.1.3. Difficulties in initiation

The initiation of psychological counseling includes two scenarios: court-suggested initiation and voluntary request by the parties, with the necessary condition for court-suggested initiation being the consent of the parties.

Regarding the former, the “Deepening Opinions” lists four situations where people’s courts can suggest to case parties or juveniles to receive psychological counseling based on actual circumstances^[12]. The descriptions of initiation criteria include “emotionally excited”, “large emotional fluctuations”, “significant impact on the physical and mental health of the parties”, and “abnormal behavior.”

Firstly, the first three descriptions are greatly influenced by the subjective understanding of judges, and there

are significant differences in the identification of “emotionally excited” or “large fluctuations” among different judges. Simultaneously, due to the specificity of family cases in practice, it is a common phenomenon that the parties experience significant emotional fluctuations. Family judges do not simply rely on this criterion to initiate the psychological counseling procedure.

Based on the author’s observation of the family trial process in the C outreach court, it is common for parties to argue during mediation or trials due to difficulties in proving family disputes and emotional factors. A small number of emotionally excited parties may even escalate to physical conflicts. In such cases, even if the parties are emotionally excited, the judge will not initiate the psychological counseling mechanism. The reason is that such emotional fluctuations are instantaneous, and the parties can quickly calm down after being discouraged by judicial personnel. The most commonly used method of discouragement is back-to-back mediation.

Secondly, psychological issues are not always manifested externally, and the type and severity of psychological issues affect their degree of external manifestation. The judge of the C Family Court pointed out that “in practice, parties with psychological issues often manifest as depression and are concentrated in cases involving domestic violence.” Parties who are depressed or anxious often do not show significant emotional fluctuations during the trial process, and their psychological issues are only revealed to family members or attorneys. For example, during the trial of a domestic violence divorce case involving Gan and Li, which the author attended, Gan’s attorney proposed that Gan had considerable anxiety. However, during the trial process, Gan did not show significant emotional fluctuations. Instead, compared to the parties in other cases, he was more silent and timid about expressing his own demands. In such cases, as long as it does not affect the trial and case closure, judges will not consider initiating mental health service procedures.

In fact, in family judicial practice, family judges usually use the criterion of whether there is an urgent risk of civil-to-criminal transformation in family cases, especially whether there is substantial harm, as the initiation standard for psychological service procedures, which is close to the description of “abnormal behavior.” For example, in a divorce case investigated by the author, the parties had a fierce argument during the mediation process, and one party made an extreme statement about dying together if their demands were not met, but no relevant action was taken. The presiding judge chose to conduct the mediation on another day after providing advice.

Thus, the initiation standards for psychological service procedures have great subjectivity and uncertainty, granting family judges significant discretionary power. In practice, there are significant hidden dangers when family judges rely solely on their subjective understanding to judge whether there is an urgent risk of civil-to-criminal transformation in family cases and whether to initiate mental health service procedures.

Regarding the latter, it is rare in practice for parties to actively and voluntarily initiate mental health service procedures. The main reasons are inadequate policy promotion and general disregard for mental health issues among the population. When interviewing family judges from the W District Court, they stated that “after the introduction of the psychological counseling mechanism, no party has actively proposed the need for mental health services, and they are not even aware of its existence.”

Even when suggested by the court, parties rarely accept mental health services, including those for juveniles. Parties with psychological issues who are unaware of them often show resistance and reluctance when faced with suggestions to provide mental health services.

Especially for mental health services for juveniles, the “Reform Opinions” stipulate that the initiation condition is the consent of the guardian. Juveniles in family cases cannot directly propose or consent to receive mental health services from the court, resulting in certain restrictions even for juveniles with mental health issues

who want to seek help.

3.2. Operation of psychological counseling techniques in family justice

The implementation of psychological counseling techniques by family justice personnel is applied in both mediation and trial proceedings. This section summarizes issues based on participatory observation of the family trial process in C Family Court.

3.2.1. Difficulties in role transition for judicial personnel

Since the reform of family justice, there has been a certain degree of change in the trial concept of family justice personnel, namely, a shift from adversarialism to inquisitorialism. The role of family justice judges has gradually changed from “professional” to “therapeutic.” This transformation is similar to the transition of people’s courts from a “professional” to a “governance” role in grassroots governance. Due to differences in resource endowments among various family justice departments, there are variations. For example, in developed areas, the economic foundation of the parties is solid, and there are fewer concerns and obsessions after divorce. Family justice personnel can generally smoothly conclude cases by reasonably handling issues such as property division. Therefore, family justice personnel in developed areas tend to favor the “professional” role orientation^[13]. However, in less developed areas, parties are limited by economic conditions and inherent beliefs and have greater concerns about divorce. Disputes often arise during mediation and trial proceedings. Family justice personnel usually need to mediate and guide the emotions of the parties, favoring the “therapeutic” role orientation. However, due to the limited application of mental health service procedures and the lack of scientific psychological counseling techniques among family justice personnel, most family justice departments are formally “therapeutic” but not fully realized.

A typical example in judicial practice is family mediation. The statements of parties in family disputes are often emotional and deviate from the core contradiction. Under the pressure of case volume and deadlines, it is difficult for family judges to devote energy to listening to the parties’ grievances^[14]. However, under the concept of therapeutic and restorative family trials, family judges need to listen carefully to the voices of the parties to understand the specific circumstances of the case and guide their emotions. Therefore, this contradiction makes family mediation a highly difficult technique that requires a balance between efficiency and effectiveness, rationality and emotion. Practical responses are reflected in three ways: patient listening, guided conversation, and avoiding topics. In C Family Court, due to the large number of cases and tight mediation time, only the latter two methods are generally adopted. Since guided conversation requires considerable experience to comfort the parties while guiding the topic to facts related to the case’s dispute, many young judge assistants tend to get caught up in the emotional whirlwind of the parties when conducting family mediation, consuming a lot of time, or simply avoiding irrelevant topics. However, the presiding judge can usually use therapeutic, adjudicative, and mediative discourses flexibly to achieve effective mediation.

The difficulties in role transition for family justice personnel mainly include the lack of special procedures in China’s Family Procedure Law, insufficient specialization of family trial institutions, and the deficiency of psychological counseling techniques among family justice personnel. These factors result in family justice personnel remaining in a formal “therapeutic role” and struggling to handle the substantive “therapeutic” role, making it difficult to flexibly adjust the role orientation between “professional” and “therapeutic” based on the specific circumstances of the case, taking into account both efficiency and effectiveness.

3.2.2. Counter-therapeutic effects on judicial personnel

Firstly, the empathy of the parties affects the emotions of the family justice personnel. Matters such as separation, divorce, and custody battles in family disputes can bring a series of negative emotions. Everyone involved in this dispute will be affected by a series of powerful, empathetic emotions. When family justice personnel enter into the parties' disputes as mediators, they are either subjected to unrealistic expectations or vilified ^[15].

When family justice personnel cannot alleviate the excited emotions of the parties through simple reasoning, interpretation of the law, or emotional influence, and when the parties spread their anger and dissatisfaction to the judicial personnel, regardless of whether the psychological counseling methods of the family justice personnel are scientific and effective, the long-term imbalance between energy investment and return greatly affects the enthusiasm and confidence of the family justice personnel.

Secondly, the counter-empathetic emotions of family justice personnel affect the enthusiasm for applying counseling techniques. When parties in family disputes make moral and ethical mistakes, it can impact the enthusiasm of family justice personnel for counseling. For example, when a party is at fault, such as having an affair or committing domestic violence, it can affect the counseling enthusiasm of family justice personnel. Most family justice personnel are aware of this and strive to remain objective and neutral, which also leads to the withdrawal of their empathy and a reluctance to further understand the underlying reasons for psychological counseling ^[15]. The key "fault" determination is mainly influenced by the values and experiences of the judiciary. For example, in a dispute over alimony, a party arranged for their intellectually disabled daughter to marry and become pregnant without registration. A young judge assistant could not understand this behavior, while an older judge believed that the party was already old, and arranging for their daughter to marry and become pregnant was a helpless move to ensure that their daughter could continue to be cared for in the future. For behaviors such as having an affair and committing domestic violence, experienced and professional judges can also penetrate the surface behavior to discover the underlying reasons, allowing for further questioning, education, and counseling.

Finally, the ethical and risky nature of family disputes can easily cause family justice personnel to fall into negative emotions. Family disputes are often intertwined with emotions and reason. Compared to other civil disputes between strangers, family justice personnel need to be more cautious when mediating and guiding the parties; otherwise, there is a risk of "taking sides", which can easily intensify conflicts or even lead to complaints and affect their personal safety. Family justice personnel bear the unique pressure brought by such family disputes, and long-term single-handed handling of family cases can easily lead to negative emotions such as depression.

Therefore, family justice has a counter-therapeutic effect on judicial personnel, which is obviously contrary to the original intention of family justice.

4. Reflections and countermeasures

4.1. Improving relevant laws and regulations

Overall, China has not established a specialized family litigation procedure. Relevant laws and regulations are scattered across the Marriage and Family section of the Civil Code of the People's Republic of China, the Civil Procedure Law of the People's Republic of China, and related judicial interpretations. There is a lack of systematic summarization and induction, and the focus is primarily on divorce cases with fewer legal provisions for other family matters. Although the particularity of family disputes is widely recognized, and the Seventh Research Group of the Advisory Committee of the Supreme People's Court has proposed specific ideas for a special procedure law for family litigation and requested the Standing Committee of the National People's Congress to include it in

the legislative plan, the family litigation law has still not been implemented. As a new mechanism, the psychological counseling mechanism is like a tree without roots. Family justice personnel have no legal basis for psychological counseling, and their role perception is relatively confused. Some parties may experience strong distrust when facing mediation and counseling from family justice personnel without authoritative endorsement, leading to poor operational effectiveness of the psychological counseling mechanism. Family litigation law is the core of the family law system, and the special procedure law for family litigation should establish the therapeutic function of family justice from legislative purposes and trial principles, clarifying the application of relevant specific systems.

In terms of specific systems, it is necessary to establish and improve relevant special systems that complement and promote each other with the psychological intervention system. These mainly include a system for representing the rights and interests of minor children, a system for family education guidance, and a system for follow-up visits in family cases.

Regarding the psychological intervention system, operational rules for family mental health services should be developed to ensure the quality of these services and regulate violations. The legal nature and applicable procedures of psychological intervention reports should also be clarified.

4.2. Strengthening the professional development of family justice teams

The professionalization of family justice teams is not only the overall requirement of China's family trial reform but also the foundation for achieving the therapeutic function of family trials. Without relevant professional knowledge and skills, it is difficult for family justice personnel to accurately grasp the psychological state of the parties, integrate psychological counseling techniques into family mediation, and timely refer them to mental health service providers for corresponding mental health services, unless they have considerable experience.

Currently, only a few courts in China have achieved professional development of their family justice teams, while most courts still have inadequate professionalization of family justice^[16]. Only some courts with sufficient resources can achieve full-chain coverage of mental health services for family trials. For example, the family judge in the Y District Court, as a family judge who masters psychological counseling techniques, has basically realized the vision of integrating psychological elements into the entire chain of family trials. Besides providing psychological counseling to the parties, the family judge is also responsible for the psychological counseling services provided by the civil affairs department.

Strengthening the professionalization of family justice teams and achieving the role transition of family justice personnel from "professional" to "therapeutic" requires providing them with sufficient time, energy, and corresponding hardware support. At the source, law schools should encourage the cultivation of interdisciplinary talents in law, psychology, and education. Courts should set special entry standards for family justice personnel, giving priority to those with backgrounds in education, psychology, and rich mediation experience. For existing family justice personnel, systematic psychological counseling training courses should be provided to save their time and energy, help them efficiently master psychological counseling techniques, and improve their family mediation abilities. Simultaneously, courts should establish incentive mechanisms to encourage family justice personnel to study psychology, education and obtain relevant qualification certificates. Special assessment mechanisms should also be developed to provide sufficient time for family justice personnel to improve their professional skills and enhance their professional literacy.

4.3. Establishing a tiered referral mechanism for psychological intervention

China's family justice system should establish a scientific psychological intervention mechanism. This mechanism should use psychological counseling by family justice personnel as a pre-procedure and mental health services provided by psychological experts as a post-guarantee. This would form an efficient psychological intervention mechanism with reasonable allocation of judicial resources, enabling the smooth operation of the therapeutic function of family justice.

In practice, a similar tiered intervention has already been formed within the court system. Two family judges in the C Family Court adopt different models: one conducts mediation personally, while the other assigns judge assistants to conduct mediation first. From the perspective of case volume, the latter model has significantly reduced the number of cases entering the trial procedure. Even though the judicial assistants undertaking this task face considerable pressure due to the authority of their superiors and the demand for judicial efficiency, their mediation skills have indeed grown rapidly.

The establishment of this psychological intervention mechanism presupposes that family justice personnel possess psychological counseling techniques to ensure the normal operation of the pre-procedure and prevent the misuse of mental health services in family justice. However, given the current funding constraints in most family justice institutions in China, it is almost impossible to apply mental health services universally, and discussing abuse scenarios is premature. Therefore, similar to the growth of mediation skills among judge assistants, the advancement of the psychological intervention mechanism can actually accelerate the professionalization of the family justice team for the purpose of economic cost savings. This allows family justice institutions to quickly establish pre-procedures and integrate psychological elements into the entire process of family justice.

The purpose of proposing a tiered referral mechanism for psychological intervention is to clarify the therapeutic responsibilities of family justice personnel. As for the specific referral conditions, it is difficult to establish a unified standard. Flexibility should be exercised based on the court's own resource conditions, the technical level of family justice personnel, and the specific circumstances of the case. Further research and summation are needed after the professionalization of the family justice team reaches a certain level.

4.4. Introducing psychological methods focusing on the family as a whole

China's family justice reform emphasizes both "establishing a family-oriented adjudicative concept" and "comprehensively protecting the interests of the parties." However, there are inherent contradictions and conflicts between family interests and individual interests. Chinese family legislation and justice have been oscillating between "family orientation" and "individual orientation." Both the "family-oriented" concept, which aims to maintain family unity and integrity, and the "individual-oriented" concept, which focuses on protecting individual rights and freedoms, present certain drawbacks. Therefore, extracting the essence and discarding the dross, the new ethical principle of "equality and unity" has demonstrated positive practical significance in the current family justice reform and China's social development ^[17].

Compared to other civil cases, maintaining family integrity is a special requirement in family cases. To preserve family unity, understanding the family information of the parties is crucial. However, currently, both mental health services and the application of psychological counseling techniques pay little attention to the family as a whole. Family justice personnel currently have an inadequate understanding of the family ecology of the parties, ignoring the principle of combining "family-orientation" with "individual-orientation." They simply and crudely apply the "family-oriented" principle in family justice, which is specifically reflected in the

common phenomenon of “not granting divorce for the first time” and “prolonged mediation without verdict, prolonged verdict without divorce” in divorce cases ^[18]. Additionally, there is a lack of adjustment to interpersonal relationships between the parties and between parents and children after the verdict of divorce ^[19]. Meanwhile, the mental health services provided by family justice mainly consist of psychological counseling and psychological evaluation services, which are single in type and lack a holistic perspective.

Introducing a holistic family perspective into the psychological intervention mechanism requires judicial personnel to focus on the overall family situation during mediation. Through the case follow-up system, attention should be paid to the living and psychological conditions of minor children, especially those of divorced parties. In terms of mental health services, psychological methods such as family counseling should be introduced to address family conflicts from a holistic perspective. By focusing on family disputes through a holistic family perspective, intergenerational conflicts and children’s interests that are easily overlooked can be identified. This allows for accurate identification of emotional pain points in family cases, effectively improving the outcomes of mental health services and psychological counseling, thereby promoting family harmony and stability, achieving both personal happiness and family harmony, and fully realizing the therapeutic function of family justice.

5. Conclusion

Since the reform of family justice, the therapeutic function of family justice in China has been established. However, the psychological counseling mechanism, as the main form of implementation, has not been well implemented in practice, and the therapeutic function of family justice remains a mere formality. Simultaneously, it appears that due to systemic issues such as the lack of family litigation law and rigid court systems, this situation is difficult to improve rapidly in the short term. Strengthening the professional development of the family justice team and other countermeasures are targeted at the current transitional and reform stages, which can somewhat enhance the efficiency and therapeutic effectiveness of family justice. More specific psychological intervention mechanisms await further empirical research and summation after resolving their systemic constraints.

Funding

Fund project: “Exploring the Path of Introducing Psychological Rehabilitation Mechanism in Family Trials” (Project No. S202410656055), a college student innovation and entrepreneurship training program at Southwest Minzu University

Disclosure statement

The author declares no conflict of interest.

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Research on the Defects and Perfection of the Criminal Law Protection of Chinese Citizens' Personal Information Rights

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Abstract: With the rapid development of technology, humanity has entered the era of big data. Big data technology can accurately identify users' daily needs and push content that interests them. However, while enjoying this convenience, the issue of information leakage has also emerged. Some criminals steal personal information and use it as a tool for illegal profit. As a result, citizens' personal information is virtually exposed to the public, leading to an influx of spam messages and harassing phone calls. This not only disrupts people's lives but also poses a serious threat to their personal and financial security. Therefore, it is urgently necessary to use criminal law to regulate crimes that infringe upon citizens' personal information. To address the shortcomings in China's criminal law regarding personal information protection, this study proposes several suggestions, such as replacing "citizens' personal information" with "personal information", establishing the public nature of legal interests, and adding new forms of criminal behavior. The goal of this paper is to enable criminal law to play its role fully in protecting personal information.

Keywords: Citizens' personal information; Criminal law protection; Crime of infringing on citizens' personal information

Online publication: April 3, 2025

1. Introduction

Regarding personal information protection, the current issues are not only limited to incomplete legal frameworks but also include citizens' lack of awareness and disregard for protecting their own personal information and rights. Therefore, it is urgent to improve personal information protection methods, accelerate legislative advancements, and enhance public awareness of personal information security. This has become increasingly important to ensure better protection of personal information amid the rapid development of the big data era.

2. The importance of strengthening the protection of citizens' personal information

2.1. The normalization of the information leakage trend

In the era of big data, the leakage of personal information has become increasingly normalized, and people have gradually grown numb to it. Rather than embracing openness, they have, in effect, abandoned their rights. Personal information has become the fuel driving the rapid development of big data, with citizens' data making up the largest share. Recognizing its immeasurable value, some countries even refer to personal information as “the oil of the future”, underscoring its critical importance. However, due to inadequate legal protection and citizens' weak awareness of data security, many individuals passively allow their data to be exploited. The perceived inconvenience and high cost of pursuing legal action further discourage people from taking steps to protect their personal information, fueling the rampant spread of data breaches. This highlights the urgent need for stronger regulations on data collection, clear limitations on data usage, and stricter accountability for those who illegally obtain and exploit personal data ^[1]. Without decisive legal intervention, massive leaks of personal information will continue to be the norm. There are two main causes of this issue: First, many individuals fail to protect their data, blindly granting app permissions, filling in extensive personal details, and sharing their locations online, creating opportunities for criminals to exploit and posing significant risks to personal and financial security. Second, many applications excessively collect users' personal data, including search history, browsing history, and credit information, far beyond what people expect. This over-collection has become a widespread norm as companies use the data to build databases and support future business development.

2.2. Threatening the safety of citizens' life and property

Since the beginning of the 21st century, the digital era has experienced rapid development, bringing with it challenges in strengthening information protection. In recent years, cases of personal information infringement have risen annually, leading to public doubts about the government's ability to safeguard personal data ^[2]. As a result, a phenomenon has emerged where people avoid clicking on unknown links or answering calls from unfamiliar numbers due to a deep-seated distrust in personal information protection, believing these are tactics for scams fueled by data breaches. This has left individuals feeling exposed, as if they are walking naked in public. Due to incomplete protection mechanisms, sensitive information may already be in the hands of others, used for illicit financial gain. Once personal data is illegally collected and exploited, individuals are bombarded with spam calls, messages, and emails—often tailored based on their recent activity, showing a direct consequence of the imbalance in data protection. The root cause of these illegal activities lies in personal information leakage, highlighting the urgent need to strengthen criminal law protections for personal data. Such legal measures are not only necessary for legislative integrity but also align with the demands of the times ^[3].

3. The inadequacy of the protection of Chinese citizens' personal information

3.1. The crime of “infringing on citizens' personal information” is not clear

The prevailing view in criminal law holds that the target of a crime refers to the specific person or object directly affected by the criminal act, as explicitly stated in the provisions of the criminal code. Currently, the criminal target of the crime of “Infringement of Citizens' Personal Information” in China's criminal law is “citizens' personal information.” However, the law does not clearly define the scope of “citizens”, leading to ambiguity in the protection range and raising questions about whether the personal information rights of foreigners and stateless persons are safeguarded under Chinese criminal law ^[4]. From a theoretical perspective, the law upholds

the principle of equality, meaning that everyone's personal information rights should be equally protected. From a social development standpoint, China has embraced an open-door policy, and the number of non-citizens residing in China has surged in recent years. If equal protection is not extended to them, it could negatively impact the country's development and social stability. However, the wording of the criminal offense—"Infringement of Citizens' Personal Information"—raises the question of whether the law is intended to protect only Chinese citizens' personal data. In practice, the Supreme People's Court addressed this issue in its 2012 research opinion on Article 253(1) of the Criminal Law, stating that "citizens" in the crime of "Illegally Obtaining Citizens' Personal Information" should not be limited solely to Chinese nationals. This implies that "citizens' personal information" and "personal information" carry no substantial difference, with "citizens" being interpreted in an expanded sense. However, since the term "citizens" in this crime is not explicitly defined in the Criminal Law, it may still be misinterpreted as limiting personal information protection exclusively to citizens, underscoring the need for clearer legal definitions ^[5].

3.2. The legal interest protected under criminal law on citizens' personal information is not accurately defined

China's Criminal Law classifies the crime of "Infringement of Citizens' Personal Information" under the chapter on "Crimes of Infringing on Citizens' Personal and Democratic Rights." This categorization suggests that the crime primarily infringes upon an individual's most fundamental and personal legal interests. However, practical cases have demonstrated that this crime not only violates personal legal interests but also disrupts public and national interests, highlighting an issue with its legal interest positioning ^[6].

First, while the crime's target is personal information, offenders often target an "indeterminate majority" rather than specific individuals. This broad scope of victimization suggests a societal impact beyond personal harm.

Second, the government collects citizens' personal information for regulatory and service purposes. If such information is leaked and the law only considers it a violation of individual rights, the low cost of committing the crime compared to the potential gains creates a disproportionate risk-reward dynamic. This imbalance makes personal information crimes harder to control and can lead to broader social and national issues ^[7].

Third, criminals often package and sell illegally obtained personal information for profit, meaning that this crime also infringes upon property-related legal interests. Therefore, limiting its classification to violations of personal rights is insufficient to capture fully its legal implications. A broader perspective, incorporating aspects of public and economic harm, is necessary for a more comprehensive legal evaluation and effective deterrence.

3.3. The provisions of behavior are not comprehensive

On one hand, in recent years, cases of personal information infringement have surged, yet the Criminal Law does not regulate "illegal use", making it difficult to address cases where information was collected legally but later misused. On the other hand, numerous cases indicate that the primary harm to individuals does not arise during the collection or provision of information but rather during its processing and use. The collection and provision stages often serve only as preliminary steps enabling illegal use ^[8].

On the other hand, compared to the collection and provision stages, the illegal use of personal information poses a more severe threat to legal interests. First, in terms of precision, personal information is inherently identifiable, meaning each piece of data corresponds to a specific individual. When criminals engage in illegal use,

they can easily target individuals with high accuracy, enabling a range of exploitative activities for profit. Second, in terms of direct impact, the harm caused by illegal use is often immediate and direct, whereas the collection and provision stages typically result in only indirect harm. If no subsequent illegal use occurs, the collection and provision of personal data alone do not cause direct harm to the rights and interests of individuals^[9].

4. Suggestions on perfecting the information protection of Chinese citizens

4.1. Replace “citizens’ personal information” with “personal information”

The prerequisite for protecting personal information under criminal law is to first accurately define the scope of “citizens’ personal information.” The author argues that the term “citizen” in the crime of “Infringement of Citizens’ Personal Information” should not be strictly interpreted as referring only to Chinese nationals. Instead, the personal information rights of foreigners and stateless persons should be equally protected. There are two main reasons for this: First, according to the principle of territorial jurisdiction in China’s Criminal Law, if either the act or the consequence of a crime occurs within China’s jurisdiction, Chinese criminal law applies. Therefore, foreigners and stateless persons within China’s jurisdiction should receive the same level of protection as Chinese citizens against personal information crimes^[10]. Second, the 2012 Opinion of the Supreme People’s Court Research Office on Article 253(1) of the Criminal Law explicitly stated that the term “citizen” in the crime of “Illegally Obtaining Citizens’ Personal Information” should include foreigners within China. In the current legal framework, the crime of “Infringement of Citizens’ Personal Information” encompasses not only illegal acquisition but also other forms of infringement. Since there is no justification for treating illegal acquisition differently from other types of infringement, other personal information violations should also adopt the broader interpretation of “citizen.” Therefore, the author suggests that, when appropriate, the crime of “Infringement of Citizens’ Personal Information” should be renamed “Infringement of Personal Information” to avoid misunderstandings regarding the scope of its legal protection^[11].

4.2. Establish the publicity of legal interests

First, the target of this crime is often not a specific individual but rather an indeterminate group of people. Many cases have shown that criminals engage in the bulk trade of personal information, affecting a vast number of victims. This reality surpasses the scope of individual legal interests and meets the public security threat threshold due to its widespread impact.

Second, citizens’ personal information plays an increasingly vital role in economic development, carrying significant commercial value. Criminals obtain and sell this information through various means, which directly infringes on property rights. Since personal information possesses both personal rights and property rights attributes, it is evident that it should not be regulated solely under personal rights protections^[12].

Therefore, although the crime of “Infringement of Citizens’ Personal Information” falls under individual legal interests, it also exhibits characteristics of a public security threat, extending beyond the scope of individual rights protection^[13].

4.3. Add new ways of behavior

In recent years, with the rapid development of society, the demand for citizens’ personal information has surged, giving rise to a gray industry chain of personal information infringement (collection—provision—illegal use). Collection and provision serve as preliminary steps leading to the ultimate stage of illegal use. This establishes

a supply-demand relationship, where regulating only the “supply” (collection and provision) while leaving the “demand” (illegal use) unchecked fails to eliminate the root cause of the problem. If demand remains unchanged while supply decreases, the profitability of trading personal information will rise, further incentivizing criminals to take risks. Therefore, only by incorporating illegal use into criminal law can we achieve comprehensive legal regulation, effectively preventing and punishing such crimes ^[14].

Although Criminal Law Amendment (VII) and Criminal Law Amendment (IX) have gradually improved regulations on the infringement of citizens’ personal information, and subsequent judicial interpretations by the Supreme People’s Court and Supreme People’s Procuratorate have expanded the definition of “illegally obtaining personal information by other means”, these legal provisions still focus only on the collection and provision stages. The lack of regulation on illegal use has led to practical legal loopholes. For instance, e-commerce platforms legally obtain citizens’ personal information but then illegally use it for marketing purposes, such as sending spam messages. Since these businesses initially acquire the information legally, and illegal use is not covered under criminal law, such activities have become increasingly normalized ^[15].

In summary, to effectively combat the crime of the infringement of personal information, illegal use must be explicitly criminalized. Since judicial interpretations cannot create new offenses, as this would violate the principle of legality, the recommended approach is to amend the Criminal Law to introduce a new offense: “Crime of Illegally Using Citizens’ Personal Information.” This amendment would fill existing legal gaps and strengthen the comprehensive protection of personal information.

Disclosure statement

The author declares no conflict of interest.

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The Evolution of the “Lying Flat” Mentality and its Social Media Expression: The Youth Perspective

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Abstract: In this digital era, social media has become an indispensable part of people’s lives. As young people are the primary users of social media, their mentality and behavior have received widespread attention. Among the mentalities that have become a popular social phenomenon among young people in China is “lying flat.” In the face of the development process of the outside world and amidst social involution, young people who are lying flat maintain a personal philosophy of living their own “slow life” as a set of attitudes and behaviors. Through conducting image analyses and in-depth interviews, this study aims to examine the lying flat mentality among some Chinese youth and explores the reasons for its evolution and strategies for coping with it. The study concludes that in a period of complex transition in Chinese society, young people feel confused, anxious, lost, and conflicted, and in lying flat, they self-construct a set of values and a lifestyle as a method of relieving pressure.

Keywords: Lying flat; Youth; Digital era; Social media; Chinese society

Online publication: April 3, 2025

1. Introduction

Young people in China find themselves in a period of digital transformation, with social media now an established part of their everyday lives. According to data released by the China Internet Network Information Center (CINIC), a large proportion of the total number of online social networking users are in the 18–25 age group^[1]. The digital transformation has brought unprecedented convenience and opportunities to young people but also great pressure and a range of challenges. It is against this background that the “tang ping” (lying flat) mentality has gradually become a popular social phenomenon in the country. In April 2021, Baidu users described their own lying flat way of pursuing a life of freedom and low desire: low living expenses, two vegetarian meals each day, monthly spending of 200 yuan, and only two months of work each year. In May of that year, a post

by the founder of “Layflatology,” Luo Huazhong, described lying flat as “justice” and proposed to advocate a philosophy of life that was lethargic and non-invasive to embody the subjectivity of human beings. Since then, the concepts of “lying flat”, “lying flatism”, and “lying flat science” have spread like wildfire through social media networks, especially among Chinese youth.

The social media posts quickly triggered a hot debate as the phrase “lying flat” detonated public opinion. As related topics appeared as Weibo’s trending search terms, many people began to share their own lying flat life and lying flat thinking. The term “lying flat” gradually evolved into the Internet meme of “everyone wants to lie flat” and even formed a kind of “lying flat culture” reflecting a kind of pressure relief valve and lifestyle of young people facing intense stress in Chinese society. Having been created by young people and spread among them, the lying flat culture reflects their identity and values. As such, it is an important part of the contemporary cultural landscape and a key to understanding the relationship between youth and society. Examining their posts on WeChat Moments, one of the preferred spaces for self-expression in the country, can therefore be of significance for understanding the lying flat mentality and behavior of Chinese youth.

2. Lying flat

The rapid rise to popularity of the lying flat concept reflects its deep social and cultural foundations. “Lying flat” first spread across networks as a kind of buzzword with semantic and behavioral traces. Semantically, “tang ping”, “tang qiang” (lying gun), “tang yin” (lying win), and “tang zhuan” (lying earn) belong to the same word family of “tang x”; “lie” and “flat” meaning to lie down and not move and thus referring to a state of “doing nothing.” As a behavioral indicator, “lying flat” is similar to the 2016 buzzword “Ge You lying down” and can easily evoke associations with the image and derivation of the archetype of that earlier phrase^[2]. The “Ge You lying down” meme captured the pose of actor Ge You’s character slumped on a sofa in an episode of a 1993 sitcom, with this image considered to reflect a decadent status quo in China. It gave the popularity of lying flat a pragmatic basis.

With the common characteristics of fragmentation and rapid dissemination, new media technologies have given people more freedom and space to construct a lying flat culture. However, the spread of the lying flat concept should also be viewed in the context of the social process of continuous involution and accelerated development. “Involution” (“neijuan” in Chinese) was originally a term often used to describe a phenomenon of fierce competition in a limited space. First used by the German philosopher Immanuel Clifford Geertz and the American anthropologist Gordon Weiser, involution was applied initially to the study of agriculture, production and other fields of economics, then to the field of state power in political science, and further to social fields such as precision poverty alleviation, community governance, the interaction of rural migrant workers, institutional changes and education development. In China, “involution” is a popular term for the phenomenon of individuals competing intensely for limited resources, often leading to individuals making greater efforts for diminishing returns. The term has exploded as an Internet buzzword in recent years, associated with pictures of high-achieving students at prestigious universities, to describe irrational internal competition or the phenomenon of “being voluntarily” competing.

At the same time, the lying flat culture is a social phenomenon with deep value expressions. In line with the observation that a “general social phenomenon can be regarded as a youth subculture phenomenon if it contains overall and distinctive ideological underpinnings and can reflect the typical characteristics of the

ideological consciousness of the youth group, and there are obvious differences with the mainstream culture”, lying flat culture contains the distinctive value concepts of a certain group of young people ^[3]. These young people believe that in a social environment in which work is highly involuntarily and life is stressful, it is futile to work hard and the only way to get relief is to “lie down flat”: to transcend the mainstream path of working overtime, getting promoted, earning money and buying a house and to dissolve the external environment’s discipline on the individual by withdrawing from the mainstream path of life. The culture of lying flat is a “self-awakening” of youth ^[4]. It expresses people’s dissatisfaction with consumerism and the social division of labor and reflects the spiritual and existential anxiety of youth in the face of fierce competition and intense pressure ^[5].

Over the years, young people have developed lying flat from a buzzword into a distinctive stylistic symbol through social media communication and sharing and have given the phrase a new meaning by collaging it into their own lives. Collage is “a cultural process of improvisation or adaptation, whereby objects, symbols, or behaviors are transplanted into different systems of meaning and cultural contexts to acquire new meanings.” Lying flat, which originally referred to the body lying still and took its behavioral direction from “Ge You lying down”, has been reproduced in multimedia forms, such as pictures, texts, and videos. For example, “Ge You lying down” has been reproduced in texts such as “It’s better to lie down directly”, “As long as I lie down fast enough, capital cannot exploit me”, and “Society is dangerous, so I lie down first.” The quotes and emoticons have given the new meaning to lying flat of actively withdrawing from competition. As a result, and with media impetus, the physical gesture of lying flat has become a collective mind, a set of values and life attitudes, and a sociocultural psychology for the participation of and dissemination to the public. Its dissemination is like a kind of discursive projection, which has triggered a hot debate over social “anti-elasticity” and has a social “acceptance resonance” in its discursive echoes ^[6].

To summarize, in lying flat, certain young people who are unwilling to make excessive efforts in the pursuit of material wealth in contemporary society convey their attitudes towards life by displaying their lifestyles through social platforms. Because of the uncertainty of the future and the social pressure they are under, these young people feel helpless and lack motivation and incentive. In response, they look for a way of life in the state of lying flat in which they can focus on their own development and on realizing their life values while paying more attention to freedom and balancing the soul. In interpersonal relationships, one expression of “lying flat culture” is to display richer communication and emotions on social media than offline. Overall, the lying flat culture is different from the mainstream culture that emphasizes struggle and hard work, and it contains the distinctive value concepts of certain groups of young people. Related topics representing a new attitude towards life, such as “#Is it Shameful for Young People to Choose to Lie Flat?”, “#The Illustrated Guide to Lying Flat Youth”, and “#Life of Lying Flat Youth” continue to grow in popularity.

3. Social media expression

Images on social media platforms reflect the increasingly homogeneous nature of contemporary image production and dissemination, in which human life is pictorialized and many offline interpersonal relationships are replaced by social media relationships. Mobile phone photography makes capturing images more convenient and faster than ever before, and nowadays, people take and use images more than they have in any previous era. The world has now progressed to the pictorialization of individual lives, with people raising their mobile phones to take pictures anytime and anywhere to record and, more crucially, disseminate their lives and

express themselves through social media. Social networks built on the mobile Internet makes it possible for the production of images to be disseminated and seen by others immediately, which is a kind of image survival; people can turn themselves into images, show their life status on WeChat at any time, and use their own images to communicate with the images of their friends, such that the relationship of image-to-image replaces the relationship of person-to-person. The world of images in WeChat Moments is colorful, with greetings between images and interpersonal intimacy turning into a random relationship between images. Images therein constitute an archive of contemporaneity as they are always being produced, always being disseminated, and simultaneously always being archived by subject, author, genre, or any other criteria. Social networks have become perhaps the largest art archive of time.

The youth attitude towards lying flat is a constantly changing psychological state in which they do not expect too much from society, do not blindly pursue success and achievements, and instead choose to lower their material and spiritual standards in pursuit of a simple and comfortable lifestyle. The popularity of this mentality among young people is related to both the current economic and cultural environment in China and their own characteristics, and its evolution has been fully demonstrated on social media. It is mainly manifested in the following three ways. First, many young people are experiencing a lack of self-identity. They feel confused and uneasy about their future, often discussing on social networks the topics of self-doubt and self-denial. Second, there has been an increase in social pressure, which has led these young people to lower their demands on life and made them more inclined to choose lying flat as a way to cope with the pressure. Third, there is a change of values, with many young people questioning the traditional view of success and pursuing inner peace and freedom in its place.

With increasing numbers of young people joining the discussion, the lying flat mentality is spreading across social networks, and there are countless pictures, emoticons/memes, and passages of text about lying flat, which show the life and psychological state of young people in an intuitive and vivid way. In the process of the evolution of the lying flat mentality, some scholars have subdivided lying flat into “escapist”, “helpless”, and “self-deprecating” forms. “Self-deprecating lying flat” refers to the body lying flat but the heart still thinking it needs to work hard; the “lying flat” of the body is then just an illusion as the heart is full of dissatisfaction ^[7]. Among the lying flat youth is a group of contrary people who are more often than not just teasing and spitting at each other, or complaining and relieving pressure on the Internet, without in fact being in a real state of lying flat. Given these complexities and its wide diffusion, the evolving process of the lying flat mentality is worth exploring. While some people criticize lying flat as a negative and decadent attitude towards life, others understand and sympathize with the pressure and dilemmas faced by young people and call for attention and solutions to the underlying problems.

4. Methodology

This study takes lifestyle images posted on WeChat Moments as an entry point to discuss the evolution of the lying flat mentality among young people. The research methods include image analyses and in-depth interviews. Recruitment of informants was carried out through social media platforms, specifically from WeChat Moments and Weibo, focusing on young Chinese adults aged 18–25 years. The informants were selected from users of WeChat and Weibo for the following reasons. First, WeChat plays an important role in maintaining social relations in contemporary Chinese society, and WeChat Moments presents an organic combination of strong and

weak ties as well as private and performative sides, which makes it an important channel for cultivating social capital ^[8]. Second, compared with WeChat, the social relationships in Weibo are more inclined to be weak ties. These “weak relationships” establish a new type of trust relationship and make it more likely that young people will speak freely.

With the consent of the informants and following the snowball sampling method, users who had posted “lying flat” quotes on these social media platforms were initially interviewed. The interview questions included the following: “How long has the mentality of lying flat existed?”; “Why do people want to lie flat?”; “What are the motives for posting lying flat quotes on social media?”; and “What do you think about the social queries and criticisms about the phenomenon of lying flat?” The results of the initial interviews were screened and then we eliminated non-responsive and homogenized informants and finally selected 20 for secondary interviews, each of which lasted for about 30 minutes. Table 1 provides a summary of the demographics of the informants.

Table 1. Demographics of the lying flat informants

Interviewee (pseudonym)	Gender	Age	Duration of lying flat	Education attainment	Region	Type of work	Marital status	Consent to image display	Interview format
Min	Female	21	2 years	Undergraduate	Chengdu	Unemployed	Unmarried	Yes	On-line
Ken	Male	20	1 year	Undergraduate	Tibet	Self-media	Unmarried	Yes	On-line
Five	Female	23	1 year	Postgraduate	Chongqing	Student	Unmarried	Yes	On-line
Li	Female	24	4 years	High school	Hohhot	Unemployed	Married	No	On-line
Wang	Female	19	1 year	College	Liaoning	Corporate	Unmarried	Yes	On-line
Cheng	Male	20	2 years	Undergraduate	Hohhot	Unemployed	Unmarried	Yes	On-line
S	Female	25	1 year	Undergraduate	Chongqing	Unemployed	Unmarried	Yes	On-line
LL	Male	24	2 years	Undergraduate	Hohhot	Corporate	Unmarried	Yes	On-line
Chang	Male	23	1 year	Undergraduate	Baotou	Student	Unmarried	Yes	On-line
Wu	Male	18	1 year	High school	Beijing	Unemployed	Unmarried	Yes	On-line
Q	Male	18	3 years	Postgraduate	Chengdu	Student	Unmarried	Yes	On-line
STY	Male	21	1 year	Undergraduate	Chengdu	Enterprise	Unmarried	Yes	On-line
Zang	Male	25	3 years	Undergraduate	Hangzhou	Corporate	Unmarried	Yes	On-line
Ru	Female	24	2 years	Undergraduate	Hohhot	Business unit	Unmarried	Yes	On-line
Dan	Female	20	1 year	Undergraduate	Hohhot	Enterprise	Unmarried	Yes	On-line
E	Male	23	2 years	Undergraduate	Chongqing	Self-media	Unmarried	Yes	On-line
O	Female	24	3 years	Undergraduate	Guangzhou	Corporate	Unmarried	Yes	On-line
ST	Female	24	1 year	Undergraduate	Hohhot	Corporate	Unmarried	Yes	On-line
Nine	Male	18	1 year	Undergraduate	Beijing	Unemployed	Unmarried	Yes	On-line
D	Female	20	2 years	Undergraduate	Guangzhou	Unemployed	Unmarried	Yes	On-line

Although social media and networks play a role in promoting the pluralism of cultural expression and modes of existence in the digital era, the different interactions of youth between online and offline spaces are sometimes ignored. As only the network as a communication tool is seen to enable young people to gain

some right to speak, the real value of the media for youth is seldom further examined ^[9]. Meanwhile, for the theoretical interpretation of the lying flat culture, scholars have mostly followed the perspectives of the anxiety of modernity, accelerated social theory, intergenerational conflict, the dilemmas of involution, the “asset society” for the young generation, and the non-creative labor dilemma ^[10–11]. Against the above background, this study starts from primary data, conducts a close observation of and reflection on lying flat youth, and synthesizes their social media expression and offline performance in an attempt to address the following research question: What is the evolution of lying flat youth’s mentality in the context of the digital era? Facing involution, should one choose to lie flat or to struggle, and what kind of attitude towards life should one adopt for a healthy life? This study explores the evolution of their psychological characteristics amidst the lying flat culture and identifies their attempts to solve the social problems they face.

5. Results and discussion

From the interviews, it is found that the 20 informants display similarities and differences in their lying flat attitudes and behaviors. Some of the informants tend to pursue non-marriage and infertility, low levels of offline socializing, and relatively high levels of activity on the Internet. They enjoy the happiness of being alone, reduce their offline socializing, and look for their own relaxing lifestyle. Describing themselves as “happy to be alone and exploring the best way to get along with themselves”, some of them have reconciled with themselves and started to lie flat after underperforming in their examinations and studies. They have then begun to live a life of lying flat and, as Informant Dan reported, “my mental state is getting better at a speed that can be seen with the naked eye after getting rid of my identity as a female college student.” Informant CS also said, “After graduation, I was unable to change from my student status, and because of various aspirations to meet a lot of young people have been lying flat, to become a member of this group is currently seen as the right choice for me.” However, lying flat is not a permanent state of Informant STY’s life but rather just a stage of “escapist lying flat” adopted at the time under the high pressure of choosing between further education or employment after graduation. Informant K reported that “there is no clear goal for future planning yet, just take one step at a time.” A stage of lying flat has given these informants a chance to get rid of the stress they are feeling after graduation, allowing them time to think, clarify their goals, process information, actively prepare, and adjust their mindset to better cope with the pressure and make choices that are suitable for themselves.

In terms of social relations, some informants stated that they meet other lying flat youth on social media due to their similar life experiences and emotional needs and obtain weak relationship support by socializing with strangers. They are gradually getting rid of the social relationships of the acquaintance society, and weak relationships based on interests are becoming increasingly prominent. In WeChat Moments, as the social platform that is most proximate to offline life and in which people are therefore expressing themselves in front of acquaintances, most of the informants seem to show a more positive state, whereas in microblogging and other social media, where connections are often with strangers, it can be less stressful for them to express their feelings and start discussions. Some informants feel helpless in the face of today’s social pressures, and asking questions through social media to gain recognition from other youth has become a way to express these pressures.

In terms of economics and consumption, the informants tend to pursue a life of low desire and have a low willingness to work, choosing either not to work at all or to work only to make ends meet.” To cope with

the decrease in income, some of them have taken the initiative to lower their consumption level by reducing their materialistic desires, which to a certain extent reflects the pressure of social reality and the helplessness of young people today. As Informant W stated, “I do not want to go back to being a social animal, so I made adjustments — now I lead a minimalist life, I basically do not drink milk tea, just the essential things in life while minimizing extra spending as much as possible.” With different background conditions and different economic situations, some of the informants, however, shared that after graduation, they bought their first home with the help of their parents and have then begun to “feel at ease” lying flat.

In general, the lifestyle of the lying flat youth is characterized by a slow pace of life, freedom, and happiness. The interviews revealed that some informants have broken the shackles of traditional concepts and begun to give new meaning to lying flat, actively accepting and embracing a lying flat lifestyle. They believe that lying flat is not the same as giving up or not loving life but rather a simple choice not to live and work according to the traditional workplace model. As Informant Cheng put it, “Lying flat is not bad, anyway, life belongs to yourself, how to live it, to meet the rhythm and lifestyle of others does not make much sense to me.” The fast-paced and high-pressure environment of the workplace is leaving increasing numbers of people eager to have their own space and set their own pace of life. They are no longer satisfied with competing and being busy day after day and are paying more attention to their feelings and quality of life. While lying flat, they learn to find pleasure and satisfaction in the little things of everyday life, for example, reading a good book, enjoying a nice meal, getting a favorite drink, or spending time with family and friends (Figure 1). These young people are interpreting the diversity and possibilities of life in their own way and choosing a more free and casual way of life, no longer bound by traditional ideas and workplace rules. Although some might doubt their choice, and it might cause some controversy, it is undeniable that the lying flat culture is quietly changing the life concept and values of young people.



Figure 1. Informants find pleasure and satisfaction in the little things of everyday life (Left: Get up early and drive up the hill. Right: We shall not stay in a place with ceiling)

As lying flat youth continue to use social media to preach the need to lie flat, the culture of lying flat has gradually attracted the attention of and criticism from people in the mainstream media. Having experienced prolonged workplace frustration and being now without work, some of the informants have begun to develop a self-deprecating cognition and even learnt helplessness, calling themselves “trash” and “scum” and flirting with the idea that they “cannot do anything, but sleeping is number one” (Informant M). Some extend their job search failure to the failure of their whole life and are afraid to enter the job market again, having developed

negative feelings about themselves and their lives. Yet, for a few informants, while saying that they want to lie flat, they are still working hard in reality (Figure 2). For example, Informant LL reported, “Although I and my friends have found our ideal life state, most do not think that lying flat is a big trend.” Why, then, are there more and more people shouting “lie flat”? The interviews revealed that the term has become so popular that people are using it as a normal expression when facing problems and pressure. Few people really put lying flat into action, as they are often trapped in a material and spiritual double bondage. Even among those who have the conditions to lie flat, society and family, together with all kinds of pressures, prevent them from taking that step. To really lie flat, people must have enough social capital, and they must “lie up!”; in other words, not only be able to afford to lie flat but also dare to think and act accordingly.



Figure 2. Informants expressed that work has been causing a lot of stress, yet taking a day off has added to the stress as work keeps piling up (Left: Today is another hard battle. Right: After a day off, I feel like losing track of my work.)

6. Implication and conclusion

Young people are indeed the most sensitive to changing times. In the process of reform and opening-up of China, the post-70s and post-80s generations were undoubtedly the most direct beneficiaries, as the rapid growth of the economy had brought them unprecedented opportunities and more space for development. Those generations of young people could go out to work or accept the work assigned by the state, and in either way, they generally live a more stable life. However, as problems such as saturated market demand and stagnant business development have gradually surfaced in the recent decades, the cruelty of the market has been exposed. At the same time, while the popularization of higher education has improved people's general education levels, enterprises have to “streamline the team”, optimizing the number of staff to reduce costs, and this is resulting in a continuous decline in the value of qualifications as the employment threshold continues to increase, such that large numbers of university students have been facing repeated obstacles to employment.

The new generations of young people are in urgent need of finding a new path; this is also one of the reasons leading to the increasing popularity of graduate studies, civil service examinations, and career advisors in China. The country's master's degree and doctoral programs continue to grow as young people undertake additional studies as a way of delaying employment, and those young people who still cannot find a job after further studies are in lack of a sense of achievement and satisfaction from their struggles in the face of the cruel reality. In the competitive contemporary society, without a prominent background, superior education, and pride in their ability to stand out and to find a suitable job, and after repeated setbacks, young people gradually

lose the initiative to fight and are getting lost actively or passively in involution and lying flat. This is the most realistic portrayal of young hearts.

In this connection, the state-issued Medium- and Long-Term Youth Development Plan (2016–2025) of China comprehensively integrates youth development work into the Party's efforts to manage the country from a strategic perspective ^[12]. Focusing on the areas of ideology and morality, education, health, marriage and love, employment and entrepreneurship, organically combining guiding young people's thoughts with solving real-world problems, and providing a long-term plan for the development of young people and the forging of their skills, the document fully embodies the Chinese Party-state philosophy that "if the party and the country endeavors to develop, young people must first develop."

At present, the Internet and social media have become heavily embedded in every aspect of Chinese young people's lives. It is, therefore, clear that the social mentality of young people cannot be separated from the influence of the Internet, and in the process of their development, the intervention of social media will constantly affect their attention to and understanding of the emotional cognition of events. Social media is a complex and diverse cultural form that can be drawn upon to effectively explore the characteristics of the youth mentality and understand youth lifestyles in a more targeted way, thereby enabling a response to their psychological demands to help build a healthy society. This study examines the lifestyles of lying flat youth by analyzing images they posted on social media and conducting in-depth interviews with them.

The composition of the social context varies from person to person, and the informants of this study made different choices of lifestyle and exhibited similarities and differences in their attitudes and behaviors toward lying flat. Regardless of the choices, sharing images through social media has become a popular practice among young people for enabling self-expression and self-presentation or for maintaining social relationships with others. The phenomenon of lying flat arose from people's daily life practices and survives and develops through digital networks, as the images shared by young people on social media platforms record their lifestyles and attitudes. As revealed in the in-depth interviews, the lying flat culture produced in the complex social situation in China has its own complexity, and it is not possible to simply criticize lying flat youth as the phenomenon has arisen from different causes and conditions in the sociocultural and economic contexts. In response to the lying flat culture, mainstream media should clarify its characteristics and causes, understand the psychological characteristics of the different types of lying flat youth, and help to solve the social problems faced by young people.

Disclosure statement

The authors declare no conflict of interest.

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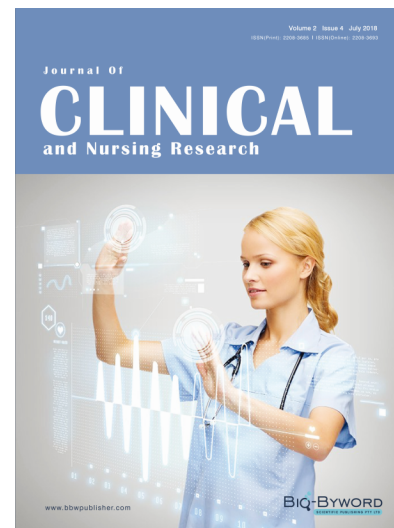
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