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# Exploring Nostalgic Narrative Patterns in Documentaries: An Emotion Computing-Based Analysis

## Qian Zhang[1] , Yao Wang[2]*

1.School of Literature and Communication, Hubei University of Arts and Sciences, Xiangyang, Hubei, 441000, China

2.College of Media, Nanchang Institute of Technology, Nanchang, Jiangxi, 330000, China

*Corresponding author: Yao Wang , 2384154789@qq.com*

**Abstract:** As a media form emphasizing authenticity, the emotional construction function of documentaries has not been adequately explored in existing literature. This study systematically reviews emotional construction theory through a comprehensive literature analysis, with a particular focus on the expression mechanisms of nostalgic emotions. By employing sentiment computing technology and utilizing the LTP text analysis platform, both quantitative and qualitative analyses were performed on three documentaries, including Visages villages. The findings effectively confirm the following: (1) there is a significant positive correlation between documentary language texts and audience comment emotional tendencies; (2) nostalgic narratives predominantly follow a "negative-positive" redemption sequence pattern; (3) the intensity of emotional arousal is negatively correlated with the discrepancy between expectation and reality; (4) the results substantiate the theoretical hypothesis that nostalgia functions as a defense mechanism against modernity. This study contributes methodological insights for the emotional construction of documentaries while acknowledging limitations in sample representativeness and computational depth.

**Keywords:** Documentary; Emotion Computing; Nostalgia; Emotion Construction; Narrative Mode

## 1.Nostalgia and the Rules of Nostalgic Narrative

Nostalgia, as a complex socio-psychological phenomenon, has evolved significantly—from its early conception as a pathological condition to its contemporary understanding as a positive psychological function. Etymologically, the term derives from the Greek words nostos (return home) and algos (pain), originally denoting a medical disorder induced by severe homesickness (Xue & Huang, 2011). By the late 20th century, sociological scholarship redefined nostalgia beyond its clinical origins. Davis (1979), through empirical research, broadened its scope from mere geographical longing to an emotional attachment to idealized past experiences, highlighting its association with positive affective memories. Harvard scholar Svetlana Boym (2001) further theorized nostalgia as a cultural response to modernity, arguing that it functions as a psychological defense mechanism against rapid societal fragmentation, fulfilling an innate human desire for temporal continuity.

Current psychological research has overcome earlier cognitive limitations that associated nostalgia primarily with negative affect. Health psychology studies demonstrate that nostalgia correlates not with sadness or depression, but rather constitutes

a distinct emotional experience (Farrié et al., 2021). Functioning as an adaptive psychological resource, nostalgia alleviates loneliness by activating autobiographical memories, thereby enhancing resilience against existential threats and reducing negative emotional states (Wildschut et al., 2006). Specifically, nostalgia serves four key psychological functions:Emotion regulation, Hedonic enhancement, Social connection reinforcement,Positive self-identity development(Abakoumkin & Green, 2021; Wildschut et al., 2006)

Despite its complexity, nostalgia follows identifiable emotional patterns (Feeling Rules). Empirical research has identified three primary triggering contexts:1. Fear and uncertainty (Routledge et al., 2008); 2. Social exclusion (Wildschut et al., 2006); 3. Existential anxiety (Davis, 1979).From a narrative perspective, Wildschut et al. (2006) demonstrate that nostalgic recollections typically involve:Diverse objects (e.g., significant people, life events);Common triggers (e.g., loneliness, sadness);Distinct self-oriented characteristics.This framework reveals nostalgia's compensatory psychological function, where initial narratives of loss or disappointment systematically transition to resolutions of success or transcendence, facilitating emotional equilibrium (McAdams et al., 2001). McAdams and colleagues established two fundamental narrative patterns:1. Redemption sequences (negative-to-positive transitions) - the predominant form;2. Contamination sequences (positive-to-negative transitions).

Therefore, society often regulates and standardizes the public expression of emotions by constructing specific rules of expression. These rules not only profoundly influence individuals perceptions and responses to others and their environment but also may facilitate the restructuring of cognitive frameworks, even stimulating behavior guided by emotions. They can be revised and polished to better meet the requirements for academic paper publication. Thus, delving into the strategies for generating and regulating nostalgic emotions in highly empathetic documentary works is crucial for understanding and optimizing the potential of documentaries in leveraging nostalgic emotions, both theoretically and practically.

## 2.Emotion Computing: Theory and Applications
### 2.1 Emotional computing theory and computing platform setting
Emotional computing, as an interdisciplinary research field, can trace its theoretical foundation to the systematic framework proposed by Picard (1997). This theory incorporates human emotional phenomena into a computable domain, establishing computational models for the mechanisms of emotion generation, recognition techniques, representation methods, and their influencing factors. In the field of text analysis, emotional computing is specifically manifested in methodological systems such as sentiment analysis and tendency analysis, with the core task being the systematic processing and reasoning of subjective texts that carry emotional tendencies. This theoretical framework provides crucial methodological support for the quantitative study of cultural products (Luo & Pan, 2003).

As computational linguistics advances, affective computing methods have primarily formed two major technical paths(Wankhade et al., 2022). Machine learning-based approaches rely on large-scale annotated datasets and use supervised learning to build classification models, but they have significant limitations in domain adaptability. In contrast, semantic dictionary-based methods achieve unsupervised analysis by constructing sentiment dictionaries, offering better cross-domain applicability and thus becoming the mainstream approach in cultural product analysis. In practical applications, affective computing technology has demonstrated significant value in academic research and public opinion analysis, especially in handling subjective texts, where it has unique advantages(Sánchez-Rada & Iglesias, 2019).

This study employs the Language Technology Platform (LTP) developed by Harbin Institute of Technology as an analytical tool, which boasts significant technical advantages. It integrates a complete technical chain for Chinese word usage, syntax, and semantic analysis, achieving outstanding results in multiple international evaluations. Notably, its syntactic and semantic analysis technologies topped the CoN-LL2009 international evaluation(Liu et al., 2011). These excellent evaluation results indicate that LTP has a certain level of reliability in Chinese sentiment computing, providing solid technical support for research.

### 2.2 Research Design and Case Selection Methodology
This study selects three documentaries, My Love, Don't Cross That River (South Korea), Visages villages(France) and

Searching for Sugar Man(USA/Sweden), as the text objects of nostalgic emotion research, mainly based on the following research considerations:

First, based on the constructability of nostalgic emotions, this study aims to explore the mechanisms of constructing nostalgic emotions in documentaries with significant empathetic effects. To systematically analyze the generation rules of nostalgic emotions, the emotional communication effectiveness of documentaries was given special consideration during the case selection process. Korkontzelos et al(2016). have shown that forums are important sources for sentiment analysis, which can serve as a basis for analyzing emotions in specific fields. Douban is one of the largest and most authoritative review websites in China(Xia & Dong, 2019),, with a broad user base and representativeness (Zhang et al., 2015). Moreover, as the most widely used movie forum in China, its movie reviews and ratings can effectively reflect the preferences of Chinese audiences(Chen & Liu, 2021). The more reviews there are, the higher the audiences attention to the documentary. Higher ratings indicate greater emotional satisfaction with the documentary. Based on this, this paper selects the movie section of Douban as the search platform for documentary cases, using "documentary" and "moving" as keywords for searches. Five documentaries were found with over 40,000 reviews and ratings above 9: *The Cove(USA)*, *Searching for Sugar Man*, *Twenty-Two(CHINA)*, *Visages villages*, and *My Love, Don't Cross That River*.

Second, from the perspective of narrative dynamics, The Cove and Twenty-Two are emotionally driven by anger; the former criticizes dolphin slaughter, while the latter denounces the atrocities of war. In contrast, the three documentaries My Love, Don't Cross That River, Visages villages, and Searching for Sugar Man exhibit a distinct sense of nostalgia. My Love, Don't Cross That River uses the daily lives of elderly couples as a vehicle, capturing their deep affection through delicate cinematography, evoking resonance with traditional intimate relationships among viewers; Visages villages captures fleeting moments of ordinary peoples lives in a random manner, showcasing the diversity of contemporary society while subtly expressing nostalgia for traditional lifestyles; Searching for Sugar Man reconstructs musical cultural memories from the 1960s and 1970s through the journey of rediscovering forgotten musicians, reinforcing nostalgic sentiments in the process of searching and pursuing dreams. Although these three works employ different narrative techniques, they all evoke viewers reminiscence and reflection on past times, pure emotions, and ideal values through specific and subtle humanistic care.

The method of encoding emotions is manifested through the narration of language. Therefore, emotional tendencies can be analyzed through language to understand the rules of emotional encoding (Tan, 2022). Rafael Baroni (Raphael Baroni,2015) believes that in the study of emotions, there are two equally important issues: one is the internal structure of linguistic texts, and the other is the interaction between the creators and interpreters of these texts. Even the most personal emotional experiences are shaped by the emotional vocabulary in their language and the behaviors derived from these words(Rosaldo R.,1980). Thus, this paper takes the linguistic texts of these three documentaries as objects, setting them as targets for emotional computation. The linguistic texts include dialogue, narration, music, subtitles, and all other textual forms in the documentaries.

## 3.The calculation and analysis of nostalgic emotions

This paper leverages sentiment computing technology, the python program, and the LTP Sentiment Computing Platform developed by Harbin Institute of Technology to extract, identify, analyze, and calculate the emotional values of language texts from three documentaries. Based on these emotional values, the emotional tendencies of the documentary's language text are determined. Within the framework of sentiment analysis, emotional values are defined within a standardized range of 0 to 1, with specific scores within this range used to finely categorize the emotional tendency of the text. Specifically, when the emotional value reaches or exceeds the threshold of 0.7, the system intelligently automatically identifies and classifies the text as positive; conversely, if the emotional value drops to 0.3 or below, the system determines that the text is negative. For texts with emotional values precisely between 0.3 and 0.7, the system conservatively classifies them as neutral, reflecting the subtle layers and complexity of emotional expression. This classification mechanism ensures the accuracy and comprehensiveness of sentiment analysis.

### 3.1 Analysis of holistic emotional tendency

According to the classification criteria of emotional tendency, documentaries are categorized into three types: positive, negative, and neutral. Based on this, the proportion of each type of emotion was calculated. In the calculation of proportions, the principle of rounding was followed. The overall distribution of emotional tendencies in the three documentaries is shown in (Table 1):

*Table 1 Overall emotional tendency of documentaries*

| Sequence | Documentary Title | Language text (No. of total) | negative (Number/percentage) | neutral (Number/percentage) | positive (Number/percentage) |
|---|---|---|---|---|---|
| 1 | Visages villages | 1363 | 259(19%) | 793(58.2%) | 311(22.8%) |
| 2 | Searching for Sugar Man | 1378 | 286(20.8%) | 777(56.4%) | 315(22.9%) |
| 3 | Dear, Do Not Cross That River | 586 | 134(22.9%) | 287(49%) | 165(28.2%) |

From the quantitative data in the table above, it is clear that neutral language texts significantly dominate in the three documentaries. This statistical result profoundly reveals the high degree of objectivity reflected in documentary language at an overall level. However, even though objectivity is a core characteristic of documentary language construction, it cannot be overlooked that the language texts of Visages villages, Searching for Sugar Man, and Dear, Do Not Cross That River also prominently incorporate biased features. Further analysis shows that in these documentaries, positive language texts significantly outnumber negative ones, thus presenting an overall positive emotional orientation. This finding also challenges the traditional notion of emphasizing the objectivity of documentaries.

To further investigate whether the emotional tendencies in documentaries directly influence the audiences emotional attitudes, the Octopus Data Collection System was used to extract 600 relevant comments from three documentaries on Douban. After manual cleaning[1], the effective comment data from the audience were subjected to sentiment analysis, with the specific distribution of emotions shown in (Table 2).

*Table 2 Distribution of emotional tendencies in effective comments on documentaries*

| Sequence | Documentary Title | Effective comments (No. of total) | negative (Number/percentage) | neutrality (Number/percentage) | positive (Number/percentage) |
|---|---|---|---|---|---|
| 1 | Visages villages | 564 | 50(8.9%) | 98(17.4%) | 416(73.8%) |
| 2 | Searching for Sugar Man | 524 | 49(9.4%) | 84(16%) | 391(74.6%) |
| 3 | Dear, Do Not Cross That River | 551 | 63(11.4%) | 67(12.2%) | 421(76.4%) |

In descending order, the emotional tendencies of the language text and comment text of the two tables are ranked. The results of the ranking are shown in the table below.

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[1] Due to the randomness of information release in the internet context, comment information is prone to the following issues. For example, non-standard formats, incorrect or irrelevant information, and blank entries. Therefore, it is necessary to manually clean the data captured by computer programs. The specific content of data cleaning includes: (1) manually removing blank and invalid comments. (2) manually deleting marketing advertisements, spam, and other content unrelated to documentaries. (3) manually filling in all missing data. For instance, completing abbreviations. (4) using WPS's translation and traditional-to-simplified Chinese conversion functions to convert English and traditional Chinese comments into simplified Chinese. Through document proofreading, correcting typos, punctuation errors, and other misinformation. (5) manually removing special symbols that cannot be identified. After data cleaning, effective comment data is ultimately obtained.

*Table 3 ranks the emotional tendencies of documentary language texts and commentaries*

| Sentimental tendencies | Sorting of emotional tendencies in language texts | Sorting of sentiment tendencies in the comment text | Compare results |
|---|---|---|---|
| negative | 3>2>1 | 3>2>1 | unanimous |
| positive | 3>2>1 | 3>2>1 | unanimous |
| neutrality | 1>2>3 | 1>2>3 | unanimous |

This study found through comparative analysis of emotional tendencies that the audiences emotional responses to three documentaries (My Love, Don't Cross That River, Visages villages,Searching for Sugar Man) show a significant positive correlation with the emotional tendencies embedded in their language texts. This result supports the significant impact of documentary language texts on audience emotional reactions, confirms the effectiveness of documentaries as media for emotional transmission, and highlights the central role of language in the emotional expression of documentaries.

It is worth noting that the research findings do not support the assumption that documentaries must align with audience emotional expectations. Taking My Love, Don't Cross That River as an example, the birthday argument segment (44:08-47:45) in the documentary elicited strong emotional responses from viewers (average emotional value = 0.2458), with significantly more comments (16 times) compared to other segments. This phenomenon aligns with the predictions of Affect Control Theory(Averett C P,Heise D R.,1987), when there is a significant discrepancy between basic sentiments (fundamental sentiments, such as "children should be filial to their parents") and temporary impressions (transient impressions, such as "children argue on their mothers birthday"), it triggers intense emotional arousal(MacKinnon N J.,1994). Data analysis shows that the degree of affective discrepancy is significantly negatively correlated with arousal intensity.

Based on empirical findings, this study validates the dual-emotion mechanism model: (1) emotional tendency is positively correlated with expectation consistency; (2) the intensity of emotional arousal is negatively correlated with expectation consistency. This model reveals the dynamic interaction between basic sentiments and temporary impressions during the process of emotional arousal, as well as the psychological regulatory mechanisms by which individuals maintain consistency in their sentiments.

## 2.2 Emotional flow analysis

To systematically examine the dynamic characteristics of emotional flow in documentaries, this study employs quantitative analysis methods. It calculates the moving average of emotional values on a per-minute basis and plots the curve of emotional value changes. At the same time, it counts the number of emotionally charged statements per minute to generate an emotional tendency distribution chart. The horizontal axis (X-axis) represents the time series, while the vertical axis (Y-axis) indicates the emotional intensity values and the frequency of emotionally charged statements, respectively. Through dual-dimensional visualization analysis, one can simultaneously observe the overall trend of emotional intensity (change chart) and the spatiotemporal distribution characteristics of emotional energy (distribution chart).
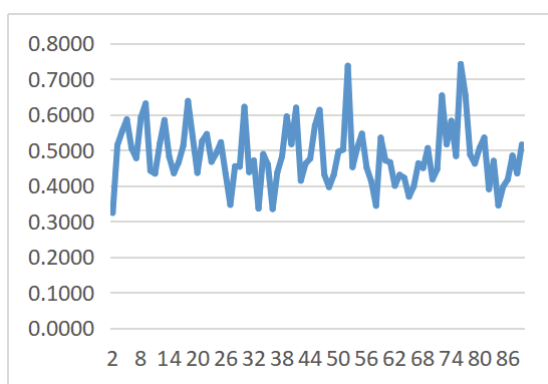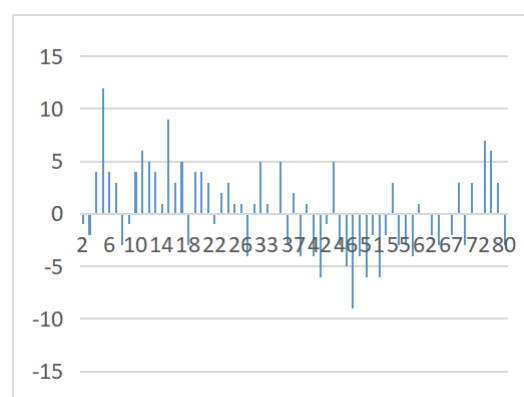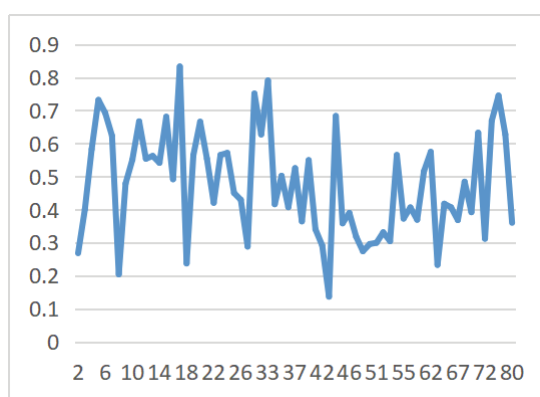


*The emotional value change chart of Visages villages*
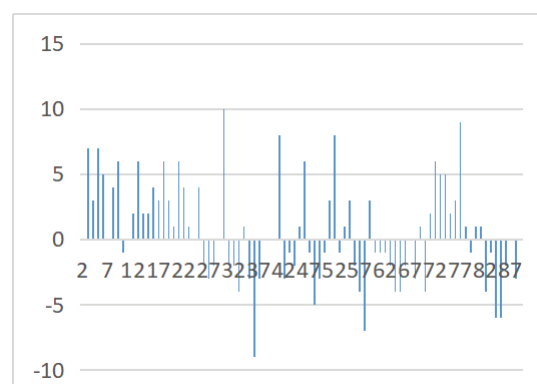


*The distribution of emotional tendencies in Visages villages*
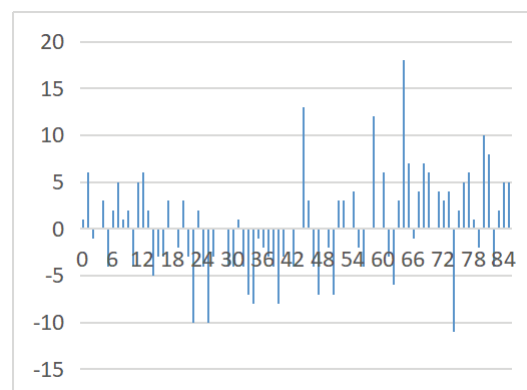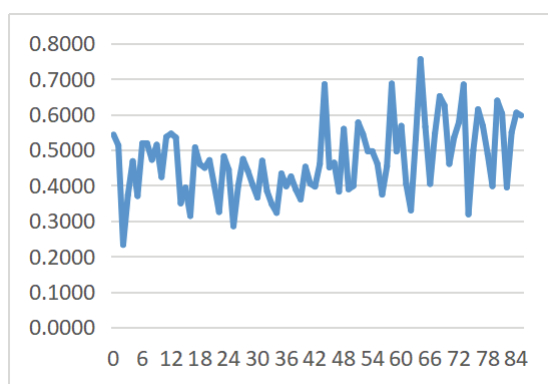
*The emotional value change chart of Searching for Sugar Man*



*The distribution of emotional tendencies in Searching for Sugar Man*

From a narratological perspective, both Visages villages and Searching for Sugar Man adopt the classic "quest-fulfillment" (seeking and obtaining) narrative paradigm. The narrative structure of Visages villages embodies the "reflective nostalgia" (reflective nostalgia) characteristic defined by Boym (2001). The documentary employs a random sampling approach to encounters, constructing a non-linear "memory puzzle" narrative framework. In this framework, faces serve as material carriers of spatiotemporal relationships, not only evoking memories of simple lifestyles in pre-industrial times (Davis, 1979) but also re-coding collective memory at the semiotic level, thereby reinforcing the increasingly weakened sense of community in modern society (Abakoumkin & Green, 2021). Searching for Sugar Man, as a typical text of compensatory nostalgia (compensatory nostalgia), empirically verifies Wildschut et al. s (2006) threefold model of nostalgic psychology through the narrative of musician Rodriguezs search: reconstructing self-continuity at the individual level, fostering weak ties at the social level, and rediscovering the meaning of life at the ontological level.

Quantitative analysis reveals that the emotional curve exhibits a clear monotonically increasing trend: initial emotional confusion gradually transforms into positive emotions by the final stage of the narrative. This mechanism of emotional transition aligns closely with McAdamss (2001) "Redemption Sequence" (redemption sequence) theory. Notably, this shift from negative to positive emotions is not a simple linear process but rather a nonlinear leap achieved through dialectical movements within symbolic systems (such as the interaction between spatial symbols in Visages villages and musical symbols in Searching for Sugar Man). This finding not only confirms the dominant role of positive emotional transformation in nostalgic narratives but also highlights how media texts regulate collective emotional structures through symbolic manipulation.



*The emotional value change chart of My Love, Don't Cross That River*



*My Love, Don't Cross That River emotional tendency distribution map*

From the quantitative analysis results, the emotional value changes in My Love, Don't Cross That River exhibit significant fluctuation characteristics, showing a clear difference from the unidirectional emotional development pattern of traditional

redemption sequences (redemption sequence). Specifically, the film reaches a critical emotional turning point at the 33-minute mark. The director employs the artistic technique of cumulative montage (accumulative montage) to organically integrate highly emotionally charged scenes such as the old man recalling his deceased son, preparing funeral clothes, and the death of his pet, forming an emotional sequence (emotional sequence) centered on grief.

It is worth noting that the directors emotional handling strategy is not a simple presentation of sorrow but achieves a dialectical development of emotion through meticulous symbolic juxtaposition (symbolic juxtaposition). Specifically, this is manifested in the artistic juxtaposition of the aforementioned scenes of sorrow with secular symbols symbolizing lifes continuity, such as the birthday celebration (43 15 ") and the birth of a new dog (58 22"). Particularly, at the end, the use of psychological montage (psychological montage) technique, through a scene where "the deceased grandfather" speaks across time and space amidst a cluster of flowers, achieves a reconfiguration of existential meaning. This narrative strategy constructs a unique "sorrow-hope" dialectical emotional structure (dialectical emotional structure). This emotional narrative structure effectively alleviates the audiences existential anxiety about death and demonstrates the nostalgic function of emotional regulation.

From the perspective of affective dynamics (affective dynamics), this "roller coaster" -style emotional flow pattern with large-amplitude fluctuations has dual theoretical significance: Firstly, it breaks through the unidirectional paradigm of traditional pollution sequence (contamination sequence) in emotional development. By regularly alternating between positive and negative emotions, it avoids both the audiences emotional fatigue (emotional fatigue) caused by prolonged negative emotions and the potential emotional flattening (emotional flattening) resulting from excessive positivity; Secondly, through precise emotional rhythm control (emotional rhythm modulation), it effectively maintains the audiences emotional engagement (emotional engagement). This finding provides empirical support for the application of the "hook theory" (hook theory) in documentary emotional management, suggesting that sustained excitement points can maintain the audiences continuous viewing interest and enthusiasm(Ren,2008).

# 4.Conclusion

This study systematically examines the theoretical lineage and empirical manifestations of nostalgia to reveal the mechanisms of nostalgia construction in documentaries. The research finds that, against the backdrop of rapid social change, nostalgia serves as an important psychological defense mechanism, with its construction process following specific emotional rules: (1) often triggered by negative situations such as fear and disconnection; (2) achieving emotional balance through a sequence of redemptive narratives; (3) capable of reconstructing cognitive schemas and guiding behavioral tendencies. These findings deepen our understanding of the social functions of nostalgia and provide a theoretical basis for the nostalgic narratives in cultural products.

In terms of methodology, this study innovatively integrates affective computing theory with qualitative analysis methods, leveraging the Affective Computing Platform at Harbin Institute of Technology to conduct multidimensional analyses of the linguistic texts and audience reviews from three documentaries: Visages villages, Searching for Sugar Man, and My Love, Don't Cross That River. Quantitative research results show: 1) There is a significant positive correlation between the emotional tendencies in documentary language texts and audience reviews, confirming the effectiveness of documentaries as emotional media; 2) The intensity of emotional arousal is negatively correlated with expectation consistency, supporting the core perspective of affect control theory on the dynamic interaction between basic sentiments and temporary impressions. These findings not only expand the theoretical framework for media emotional communication but also provide empirical evidence for documentary production.

Through the visualization analysis of emotion value change graphs and tendency distribution charts, this study further reveals the narrative patterns of emotional flow in documentaries: Visages villages and Searching for Sugar Man exhibit typical redemption sequences (redemption sequence), with emotional curves showing a monotonically ascending trend; whereas "Dear, Do Not Cross That River" demonstrates complex emotional dynamics, with significantly higher emotional amplitude than the first two works. It achieves an artistic balance of emotional tension through a dialectical structure of "sadness-hope" ($12 \pm 3$-minute emotional rhythm). This nonlinear narrative strategy not only avoids the emotional indulgence of

contamination sequences but also maintains high levels of audience emotional engagement through mechanisms such as symbolic juxtaposition (sacred/secular), suspense setting, and emotional compensation.

This study also has several limitations: 1) the sample size is limited, and future research could expand to more types of documentaries; 2) sentiment analysis primarily relies on textual language, which can be complemented by multimodal data such as facial expressions and physiological indicators; 3) cultural differences need further control. Future research should focus on these aspects to more comprehensively reveal the complex facets of documentary emotional expression. Overall, the theoretical value of this study lies in establishing an interdisciplinary framework for analyzing nostalgic emotions, while its practical significance is reflected in providing operational methodological guidance for the emotional design and effectiveness evaluation of documentaries.

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## Conflict of Interests

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