Research on the Influence of Soundtrack on the Emotional Communication of TikTok Short Video News from the Perspective of Peripheral Route

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Abstract: Under the theoretical framework of peripheral route and emotional communication. This study, which is an exploratory questionnaire on short video news, takes the audio-visual process of short video news as the research object to investigate the influence of soundtrack rhythm on the emotional transmission of short video news. The study finds that soundtrack is a psychological switch to turn on the processing mode of peripheral route. The score can convey the news emotion. Particularly the fast-paced score can strengthen the flow of the news emotion, leading to affect the cognition and judgment of the audience to the news emotion, stimulate their sharing willingness to like. Meanwhile, the soundtrack of different rhythms have no significant impact on the audience's personal emotion, the willingness to forward and make comments, and the thinking emotions. This study conducts complementary and empirical research on the peripheral route, and finds that the audience who adopts the peripheral route to perceive news has the possibility to switch to the central route.

Key words: Short Video News, Soundtrack, Emotional Transmission, Peripheral Route

1 Introduction

Emotional communication in the network is dynamic, susceptible and present, and has an immediate and significant impact on the development of network public opinion. Therefore, emotional communication in the Internet field is even regarded as a "real social vane"[1]

In recent years, short video has developed rapidly with mobile terminals as the carrier and relying on social platforms. Short video, with its advantages of mobile, fragmented and social communication, has become one of the important media for netizens to obtain and deliver information, and plays an important role in promoting netizens' emotional expression and collision of views, etc.

For a limited time, short video news fleetly attracts user's attention through visual elements such as title and picture. However, in the process of transmitting news emotions, the role of soundtrack cannot be neglected. The news score used as an artistic tool conveys not a message, but an emotion. Therefore, will the soundtrack affect the audience's judgment of the news emotion? How to affect? Are different types of soundtrack related to user's sharing behaviors, such as thumb up, forwarding, comments?

2 Literature Review

2.1 The emotional transmission phenomenon of short videos

At present, the academic community has achieved multi-perspective research accomplishments on the phenomenon of emotional communication in short videos. From the perspective of emotion-induced influencing factors, foreign scholars Martin found that the successful rate of inducing the emotions of audiences through the soundtrack, film and other channels reached 75%. Whether it is a long video or a short one, the soundtrack and the simultaneous sound are both important factors to induce the audience's emotions[2] From the standpoint of the correlation between emotional communication and media channels, scholars Nelson-Field and others studied the relationship between emotional arousal and video forwarding on Facebook. They found that videos with higher emotional arousal were more likely to be shared[3] From the perspective of the relationship between emotional diffusion and communication power, scholars Pfitzner and others conducted an overall analysis of the relationship between the emotions carried by the news on Twitter and their retweets, and finally found that the viral transmission of the news was strengthened when the news carries negative emotions[4]

As of July 7, 2021, after a thematic search on CNKI with "emotional communication" and "news emotion", a total of 341 results were found under the

discipline of "News and media", mainly including the conceptual principle, content, process and effect of emotional communication. On the basis of teasing out the principles and concepts of emotional communication, domestic scholars Yunze Zhao and others reviewed the cognitive process of emotional communication from being "masked" to releasing in research of news communication. They believed that the emotion communication theory should become a new focus in news communication research[5] Scholars Chaoyang Wang and others started from the emotional preferences in short video news dissemination, and conducted empirical research on the social section of pear video. After that they found the emotional setting of videos can only cause people to think with emotions, but cannot affect what emotions people think with. There is a certain connection between the emotional differences in short video news and dissemination effectiveness[6] Weigang Tian has found that arousal, diffusion and resonance are the propagation mechanisms of negative emotions in short videos through quantitative research, which has the characteristics of resonance and circulation in the network discourse field[7] Based on the relationship between microblog emotion and communication power, Xuemei Tang and others conducted a simulated situation experiment of public opinion events on microblog, and found that emotion, as an information clue, strengthened the public's cognition of the seriousness of public opinion events, resulting in more actively forwarded and commented about the event[8]

To sum up, these studies explored the phenomenon on emotional communication of short video news from multiple perspectives and dimensions, including the concept of emotional transmission, influencing factors, transmission process and effect, as well as the relationship between emotional transmission and media channels, transmission effectiveness. However, the empirical research on influence of a single factor on the emotional dissemination of short video news are lack of depth. Meanwhile, there are few studies on the soundtrack of short video news in China currently. Most of them are normative studies based on empirical observations and generalizations, pointing out that the problems and solution strategies existing in the application of scores, which are lack of systematization and depth. Therefore, this study will conduct an empirical study of the influence of score on the emotional transmission of short video news, explore the emotional induction and transmission mechanism of soundtrack likewise.

2.2Peripheral route theory

In the 1980s, the American social psychologist Petty et al. proposed the "Elaboration Likelihood Mode" theory (ELM for short), from the perspective of cognitive psychology[9] The theory holds that the two paths by which information recipients process information, cognitive formation and attitude change are central route and peripheral route, respectively. The former refers to processing information carefully, while the latter refers to thinking the received information in a simple and rough way.

It holds that peripheral route influences the attitude of the audience through the marginal cues. Given that Petty et al. failed to define the edge cues precisely, many scholars can only judge the variables that can be used as edge prompts through empirical research, such as the source authority, the source attitude and the number of arguments[10] Mosler and others used computer simulation to modify and supplement the original model, and pointed out that edge factors are mainly affected by extrinsic factors[11] After sorting out the development and correction of ELM theory by different scholars. Domestic scholar Xiang Zhou indicated that this model does not consider the possibility that people who adopts the peripheral route to change their attitude will choose the central route instead[12]

At present, ELM, as a persuasion model, mainly used in the field of information communication, commercial advertising, e-commerce, website design and other research fields[13] Under the perspective of consumers receiving advertising information, MacInnis and other pointed out that the motivation, ability and opportunity of the audience to receive information are important factors that affect the approach they focus on processing advertising information[14] Based on ELM, the domestic scholars Zixi Liu and others took the microblog topic as an example to study information credibility, pointing out that the credibility of the information sources affects the user's cognition of the information credibility[15] But there is no research which has applied to this theory to take deep probe in the impact of soundtracks on the emotional communication of short video news.

Emotional soundtracks, pictures, titles and other perceptual information can trigger information receivers to process information by using peripheral route. In the TikTok platform, which started with creative soundtrack short videos, soundtrack is a psychological switch of the "peripheral route" processing mode particularly. Moreover, the emotional impact of the soundtrack on the audience's reception of news information

is even more significant. Therefore, this article will try to answer the following questions under the perspective of peripheral route theory:

As a vice language, how does the soundtrack of short video news affect user's cognitive judgment of news emotion, and whether it affect their expression tendency and behavior options such as thumb up, comments and forwarding? How dose the psychological mechanism work? What is the role of emotions?

3 Method

In this study, the soundtrack is reduced to soundtrack rhythm, which is divided into fast rhythm and slow rhythm. Meanwhile, the emotional communication of short video news is reduced to news emotional cognition, audience's individual emotions, willingness to like, forward and comment, and thinking emotion.

3.1 Hypothesis

H1: soundtrack can convey the news emotion, and the fast-paced one can more influence the audience's cognition and judgment of news emotion;

H2: soundtrack can affect the emotion of the audience;

H2a: Fast-paced soundtrack can affect the positive emotions;

H2b: Slow-paced soundtrack can affect the negative emotions;

H3: soundtrack will affect the behaviors of audiences` sharing;

H3a: Audience is more willing to like the short video news with fast-paced soundtrack;

H3b: Audience is more willing to forward the short video news with fast-paced soundtrack;

H3c: Audience is more willing to comment on short video news with fast-paced soundtrack;

H4: The fast-paced soundtrack makes audience think about news with positive emotions, and the slow-paced one makes audience think with negative emotions.

In order to prove the hypothesis, this study adopts the questionnaire survey method to sample the population and make a questionnaire.

3.2 Questionnaire Design

In this study, two short video news on TikTok with a duration of 11 seconds were showed to respondents successively, which contents are the same but the soundtrack rhythms are different, in order to compare the differences in the news emotional perception, personal emotional influence, video dissemination willingness and thinking emotion. All the statements were measured in the form of a five-level Likert scale. After watching the video, the respondents rated the relevant statements according to their subjective feelings, with options ranging from strongly disagree to strongly agree.

4 Results

4.1The sample group tends to be younger

A total of 334 samples were collected in this questionnaire, of which 28.4% were male, and the remaining 71.6% were female. The sample population aged 19-24 years accounted for the highest proportion, reaching 48.8%. In terms of age, the sample group tends to be younger.

4.2 The influence of soundtrack rhythm on emotional dissemination of short video news

Through the data analysis, it was found that the mean scores of the video-related sentences of the fast-paced soundtrack all exceeded 3 points, which indicated that the respondents had a relatively high recognition of the positive emotions conveyed by the fast-paced one. At the same time, more than half of the respondents agreed that it gave them positive emotions. Moreover, receivers' willingness to disseminate this video is relatively high, especially the willingness to thumb up. Finally, the respondents had the highest sense of identity with the statement that "this news makes me think about the news with positive emotions", manifesting that the short video news with fast-paced soundtrack has indeed affected the audience's cognition and value judgment of news events.

Table 1 The mean value of emotion perception and dissemination willingness in short video news with fast-paced soundtrack

Sentence	Average value
After reading the video, I think the news emotion is positive.	3.14
This news made me feel positive.	3.09
I'd like to like this news.	3.15
I'd like to forward this news.	3
I'd like to comment on the news.	3.01
This video made me think about the news with positive emotions.	3.25

Similarly, in the data analysis of the short video news with slow-paced soundtrack, the study found that the respondents still agreed that the news conveyed negative emotions, and asked them to think about the news itself with negative emotions. This demonstrates that videos with different soundtrack rhythms have a significant role in transmitting emotions. In terms of communication willingness, slow-paced video has lower communication significance compared with the fast-paced one. This also shows from the side that the soundtrack rhythm of short video news is closely related to the audience's willingness to spread.

Table 2 The mean value of emotion perception and dissemination willingness in short video news with slow-paced soundtrack

Sentence	Average value
After reading the video, I think the news emotion is negative.	3.4
This news made me feel negative.	3.13
I'd like to like this news.	2.96
I'd like to forward this news.	2.87
I'd like to comment on the news.	2.93
This video made me think about the news with negative emotions.	3.18

However, the above analysis is only based on basic descriptive statistics. In order to verify whether the above differences, a one-sample t-test should be adopted. By performing a one-sample t-test analysis of six statements above, the following result

was obtained. It can be seen from the table, only the significance level of news emotional cognition and liking willingness is less than 0.05, which means that, from a statistical point of view, fast-paced videos and slow-paced videos show significant differences in these two dimensions. Therefore, the study hypothesis H1 and H3a are supported.

Table 3 Single-sample t-test for short video news with fast-paced soundtrack and slow-paced one

Sentence	t	Sig.(Two tail)
I think the news emotion is negative.	4.247	0.000
This news made me feel negative.	0.546	0.585
I'd like to like this news.	-2.701	0.007
I'd like to forward this news.	-1.673	0.095
I'd like to comment on the news.	-1.148	0.252
This video made me think about the news with negative emotions.	-1.067	0.287

5 Discussion

According to the peripheral route theory and emotion communication theory, this study explores the influence of soundtrack on emotional transmission in short video news, and eventually draws the following conclusions.

First of all, with the dual route of information processing being simultaneously, the soundtrack in short video news becomes a psychological switch to open the peripheral route. The emotion-congruent effect/accessibility hypothesis holds that people do not separate the content and emotions when processing information. The higher frequency and intensity of emotional tendency in the leading information, the higher accessibility of this emotion in subsequent information processing, and the easier it is to become the most influential reference standard in subsequent information processing[16] Therefore, for a limited time, the soundtrack used as the leading information can take precedence over the vision, stimulate user's auditory experience, bringing about triggering the processing mode of peripheral route by evoking emotions.

Secondly, no matter what kind of soundtracks rhythm can convey the news

emotions. Among them, the fast-paced soundtrack does better in affecting the audience's cognitive judgment of news emotions. The underlying logic of emotion transmission by soundtrack is to guide the audience to process the information of short video news in peripheral route, which in turn affects the audience's subsequent cognition and value judgment of news events, and their willingness to share. The emotional priming effect believes that the leading positive information makes reader's perception of follow-up information more positive, and vice versa[17] This study found that fast-paced soundtrack can strengthen the flow of news emotions, "predict" the basic nature of news events, leading to affect the audience's cognitive judgment of news emotions. Meanwhile, the short video news with fast-paced soundtrack does well in stimulating their willingness to like.

Finally, different soundtrack rhythms have no significant impact on affecting the audience's personal emotion, the willingness to forward and comment, and the thinking emotion. In this study, audience have the most difference in the emotional impact, probably because the social issues have emotional complexity, and are also influenced by the video title, picture and so on. As a result, the influence of the soundtrack which is a single factor is limited. Besides, compared with the liking behavior, the effect of the soundtrack is not obvious on the audience to forward and comment on videos, probably on account of the sharing behavior of forwarding and commenting is time-consuming and has higher requirements on knowledge reserve.

Emotion setting theory holds that media communication may not determine what people think. To a considerable extent, however, it can affect what kind of emotions they think with[18] The study results show that different rhythm soundtracks can not cause audience to think with specific emotions, mainly for the emotion setting of short video news is multidimensional rather than single, and the soundtrack is just one of them. Influenced by other factors such as short video news headlines, pictures, subtitles and simultaneous sound, the peripheral route may turn to the processing mode of the central route. That is to say, the peripheral route triggered by the soundtrack fails to exert a sustained effect. The initiative of the emotion decoder, namely the audience, comes into effect, giving the audience more decoding power and space for the cognition and value judgment of short video news. This result complemented and made an empirical research on the peripheral route theory: People who take the peripheral route to perceive news events have the possibility to switch to the central route.

This study compensated the deficiency of the present research by empirical study

on the influence of the soundtrack on the emotional transmission of short video news. Moreover, it also complemented the development of the peripheral route theory, and makes a footnote to the research and application in the context of social media in China.

However, this study had some deficiencies due to professional reasons, considering only the rhythm type of the soundtrack. In addition, this study paid more attention to emotional transmission while ignored the process of emotion induction, which is the primary link of emotional transmission and diffusion. The following research needs to further refine on the emotion types of soundtrack, focus on the relationship between soundtrack of short video news and emotion induction, thus expanding the research and practice of soundtrack of short video news and emotion.

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