Distinguishing Personality Recognition and Quantification of Emotional Features Based on Users' Information Behavior in Social Media

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ABSTRACT

The purpose of this paper is to explore the emotional composition, psychological characteristics, and the consistency between information behavior and attitude of social media users, and to provide reference for online public opinion monitoring, topic detection, and emotional situation evaluation. Based on big-five personality theory and self-difference theory, this paper takes 12,151 Twitter texts during Hurricane Maria as the analysis objects, extracts the personality characteristics of the texts based on convolution neural network, and analyzes the subjectivity and emotional polarity of the texts by Python. Based on the experimental results, this paper analyzes the psychological characteristics and information needs reflected by social media users' information behavior in disaster environment and further verifies and expounds the reasons for the inconsistent information behavior and attitude of social media users in disaster environments.

KEYWORDS

Emotion Classification, Feature Extraction, Online Comment, Personality Traits, Self-Difference

INTRODUCTION

With the popularity of mobile networks, social media has developed rapidly, people are becoming frequently interested in expressing themselves on social media (Zhou and Jing, 2020),and the academic research on users' psychology has extended to social media. At present, the research on social media users mainly starts from the perspectives of cognition, emotion, personality, behavior, etc. (Gan Chunmei and Liang Xubin, etc., 2018), and the characteristics of social media users have gradually attracted the attention of the academic community. Network events expand their influence through social media platforms, and as social media users, they have strong sociality (Zhang Baosheng and Zhang Qingpu, 2018). Therefore, under the influence of social media platforms, social media users' emotions are stimulated and participate in the dissemination and discussion of public opinion, and

social media users' emotions and network events overlap each other to jointly drive the emergence and development of network public opinion. In the process of network public opinion dissemination, because the basic reasons of human emotion awakening include expectation, rewards and punishments (Liu Luchuan and Li Xu, etc., 2018), social media users place certain emotional expectations on network events, and while network events are disseminated through social media, their emotional needs are also met (Sharla Cheung and Meng Die et al., 2019). The academic research on emotional communication in social media environment shows that social media users are emotional in the process of discussing and spreading network events, and are easily influenced by their cultural background. Anger, frustration, joy and disgust are more likely to attract the attention of social media users in the process of spreading network events (TenHouten, 2016).

When a disaster occurs, what are the attitudes of bystanders and victims towards the disaster? From the perspective of the characteristics of the public domain, many scholars have found that the public domain is becoming more and more emotional through the study of public culture and media. The specific manifestations are as follows: the frequency of using emotional discourse in the public domain increases, the rise of new media and its strong emotional changes and the public's acceptance of emotional expression increase, so disasters will bring strong emotional atmosphere to ordinary people and victims(Brand and Chisholm et al., 2018); From the perspective of social psychology, researchers have shown that disasters will produce negative emotional reactions (Boyle, 2004; Cohn and Mehl et al., 2004). For example, After the earthquake in Erdoga in 2016, teenagers in the affected areas showed strong depression and anxiety (Gerstner and Lara-Lara et al., 2020); In the survey, Lim, JR, Liu, BF found that tornadoes can cause anxiety and fear (Lim and Liu et al., 2019); During COVID-19, people will have more anxiety and stress emotions (Ocal and CVetkovic et al., 2020); In a survey, McKinzie pointed out that residents in Tuscaloosa and Joplin areas will suffer from pain, sadness and anxiety after suffering from tornadoes (McKinzie, 2018); From the perspective of biological and cultural evolution, Shoemaker thinks that because negative news will increase people's chances of adapting and facing future uncertainty, human beings will naturally pay attention to negative news, and negative emotions such as fear, anger and sadness will trigger human monitoring function (Shoemaker, 1996), so people will pay more attention to information with negative emotions.

Then, when a disaster occurs, do bystanders and victims have the same emotional intensity for the disaster? Elizabeth W. Dunn and Claire Ashton-James pointed out in their research that the death toll related to disasters may have a greater impact on emotional prediction than emotional experience. After a disaster, with the increase of the death toll and the expansion of the influence scope, the victims showed relatively calm emotional performance, while the bystanders showed great emotional fluctuations, which showed that the sad mood increased with the increase of the death toll,the expansion of the disaster scope and the visualization of abstract information (Dunn and Biesanz et al., 2007).

At present, most of the research starts with the cognition of the respondents. After the disaster, the researchers explore the emotional attitude and information needs of the respondents during the disaster through questionnaires, interviews and other methods. But is the cognition of the respondents after the disaster the same as that reflected by the behavior at the time of the disaster? From the perspective of users' information behavior, taking Hurricane Maria as an example, this paper analyzes the information behavior of social media users during the disaster, and explores the psychological characteristics and information needs reflected by social media users' information behavior under the disaster environment. This paper raises the following questions:

RQ1: Under the disaster environment, what kind of psychological characteristics do social media users' information behaviors reflect?

RQ2: What are the characteristics of information needs of social media users in disaster environment?

RQ3: Are social media users' information behaviors consistent with their attitudes in disaster environment?

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