

Research on Emotional Diffusion in Network Collective Behavior among College Students

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ABSTRACT

From the perspective of emotional diffusion, this study explores the emotional characteristics, evolution cycles, and diffusion effects of online collective behavior among college students. Based on an analysis of microblog data from six campus-related online incidents, the findings indicate that disgust is the dominant emotion in such behavior. Emotional evolution is significantly influenced by incident type and university response strategies, often shifting from specific events to criticism of management systems. Emotional intensity notably affects diffusion outcomes, with high-intensity content more likely to resonate. The study suggests that campus public opinion governance should shift from control to trust management, guiding emotions through information transparency and institutional dialogue to build resilience within the campus community.

KEYWORDS

Campus public opinion; Network collective behavior; Emotional diffusion

1 Introduction

"Network collective behavior," also referred to as online mass incidents, denotes the aggregation of a certain number of unorganized internet users around a specific real-world theme, triggered by certain inducing factors. This not only leads to the intensification and convergence of opinions but also often exerts a strong impact on reality. Social media has strengthened the interaction and integration between online and offline spheres, resulting in more triggers for such behavior as well as greater diffusivity and influence. According to the Statistical Report on China's Internet Development, students constitute 21% of Chinese netizens, the highest proportion among all professions. As "digital natives," contemporary college students, on one hand, are keen to share and discuss their real-world lives and demands online, making them a significant force in online public opinion. On the other hand, due to motivations such as the collective unconscious, group pressure, and conformity psychology, college students are more prone to engage in collective behavior online. Irrational online collective behavior not only affects the healthy development of college students but also impacts cyberspace order, campus harmony, and social stability^[1].

The Elaboration Likelihood Model posits that different levels of psychological involvement and the ability to process relevant information affect cognition and behavior. College students often exhibit high involvement regarding the inducing factors of their collective behavior, possessing strong psychological motivation. However, due to their relatively immature information processing capabilities, their attitudes and behaviors are typically influenced by peripheral routes such as emotions. Simultaneously, they are highly likely to delineate group boundaries based on the identities of the parties involved in an incident, generating "quasi-issues," "quasi-emotions," and "quasi-demands" relevant to themselves. Therefore, this study adopts the perspective of emotional diffusion to focus on the typological characteristics, evolution cycles, and contagious effects of emotional sharing within college students' network collective behavior.

2 Research Questions

2.1 Typology of Shared Emotions

Following a public incident, individuals not only experience personal emotions but also share emotions or emotionalized information expressions with others, leading to the social sharing of emotion. In today's era of highly developed internet, the public often express and share their emotions through social media^[2]. When individual emotional experiences diffuse through networks into the crowd and coalesce on a large scale with the emotions of other social members, it may homogenize the emotions of the social members towards a single category. The first research question this paper explores is: In college students' network collective behavior, what types of emotions are college students more inclined to share?

2.2 Evolution Cycle: The Temporal Changes of Emotions

In the era of social media, emotions are more susceptible to evolution over time and event development, being expressed and diffused. In campus public incidents, college students are constantly stimulated by incremental information such as event progress, statements from involved parties, university responses, and media reports, generating new emotions. Drawing upon the Situational Crisis Communication Theory from crisis communication, this paper divides the cycle of college students' network collective behavior into latent, outbreak, diffusion, and resolution periods. Using this framework, the second research question is proposed: Within such behavior, what is the dynamic pattern of emotional evolution on social media?

2.3 Emotional Contagion: How Emotions Affect Diffusion Effects

On social media, sharing behavior is considered a key link in emotional contagion and diffusion, and a core element enabling online public incidents to trigger social emotional resonance^[3]. Within the current design of social media dissemination mechanisms, besides “reposting,” “liking” and “commenting” also constitute “activity” visible to Weibo friends and followers, becoming ways for users to present and share their own emotions. Based on the potential influence of both emotional arousal and emotional type on others' sharing behavior, this paper poses the third research question: In college students' network collective behavior, what types of emotions and what intensity of emotional content are college students more inclined to disseminate (repost, like, and comment)?

3 Research Methodology

3.1 Case Selection

Existing research typically categorizes hot topics in campus public opinion into three types: campus management, teacher ethics and conduct, and student behavior^[4]. Following this standard, this study selected two typical cases from each category that triggered widespread emotional resonance on social media. The school information has been anonymized.

Table 1 Case Selection

Case ID	Incident Description	Category
A	Sexual Harassment Incident in SC University	Teacher Ethics & Conduct
B	Teacher's Inappropriate Remarks Incident in ZD University	Teacher Ethics & Conduct
C	Canteen Using Expired Ingredients Incident in GZ University	Campus Management
D	Campus Vehicle Accident Killing a Kitten in JN University	Campus Management
E	Campus Bullying Incident in SV University	Student Behavior
F	Male Student Sexual Harassment Incident in ZC University	Student Behavior

Incidents A and B both involve misconduct by teachers, a core campus role, making them typical triggers for strong moral judgment and identity resonance among college students. Incident A involves gender issues under power asymmetry, which is highly likely to arouse emotions within the student group and connect with broader social issues. Incident B involves controversies over values and political stance, where its emotional diffusion is more likely to exhibit characteristics of pre-existing bias and group polarization. Together, they can comprehensively reflect the differentiated emotional spectra triggered by different types of misconduct within teacher ethics incidents. Incidents C and D are directly related to students' vital interests and daily life experiences, possessing high universality and a strong sense of real-world impact. Incidents E and F focus on conflicts among students, reflecting another aspect of campus ecology, helpful for exploring how emotions are mobilized and organized in conflicts where students are the main subjects.

3.2 Data Crawling and Processing

This study used Sina Weibo as the data collection platform and determined the public opinion lifecycle of the six cases via the online social hotspot aggregation platform “Zhiweishijian” (<https://ef.zhiweidata.com/library>). A web data crawling program was written using Python 3.7.0 and its automated web application testing library Selenium 3.6.0 to crawl Weibo texts and their associated repost count, like count, and comment count under the relevant incident's Weibo topics/hashtags, totaling 137,625 entries. To ensure analytical quality, data was further cleaned and processed. First, duplicate or non-substantive data were removed. Second, data from users aged below 17 or above 27 were excluded. Finally, the obtained Weibo texts contained many non-standard special characters such as spaces, line breaks, and emojis. Since spaces and line breaks have little effect on overall text semantics and emotional expression, they were cleaned and removed. Emojis, as textual cues for users to express emotions, were converted to Chinese text using an open-source emoji conversion Python toolkit. This resulted in 108,201 valid entries for analysis.

3.3 Analytical Methods

3.3.1 Sentiment Lexicon Analysis

The “Sentiment Vocabulary Ontology” from Dalian University of Technology was chosen as the base lexicon. This sentiment lexicon contains 27,466 sentiment keywords, categorized into 7 major types (Joy, Good, Anger, Sorrow, Fear, Disgust, Surprise) and 21 sub-types. To better fit the campus public opinion context and contemporary college students' expression habits, the lexicon was targeted for expansion and revision. First, high-frequency words were extracted from the cleaned corpus. After manual judgment by the researchers, campus-specific vocabulary with clear emotional connotations was incorporated. For example, “exploit,” “shift blame,” “campus apologist” were added to the “disparagement” sub-category, while “strongly support,” “hug you” were added to the “blessing” sub-category. Second, the emotional classification of some words was adjusted according to the online context. For instance, “hehe” was classified under “Joy” in the base lexicon, but in current netizen usage, it often expresses sarcasm or helplessness, so it was reclassified under the “hatred/disgust” sub-category. “Involution”, often connoting “anxiety” and “helplessness” nowadays, was incorporated into the “annoyance” sub-category.

3.3.2 Inclination and Intensity Calculation Based on Bayesian Model

This study used a machine learning method based on Naïve Bayes. It first learns the joint probability distribution of features and labels from training data, then calculates the posterior probability distribution, and predicts labels for given features based on the principle of minimizing expected risk. Specific operations were as follows:

Based on the sentiment lexicon analysis, approximately 4% of the total research data were randomly selected. Subsequently, three trained personnel manually annotated the emotional polarity and intensity of the sample corpus to serve as the training set. For emotional polarity, positive emotion was labeled as 1, negative as 0; emotional intensity was labeled from 0-3 representing strong, medium, weak, and none respectively. To ensure reliability, the study used Krippendorff's Alpha coefficient. Results showed the reliability for polarity judgment was 0.972, and for intensity judgment was 0.846. After discussion, a total of 1,676 Weibo texts were labeled as positive emotion, and 2,524 as negative emotion.

After training, vectorized segmented Weibo texts were used as input features, and the model predicted the emotional inclination value (0-1, where closer to 1 indicates more positive emotion). Based on these values, the study used the sum of reposts, likes, and comments as an indicator for diffusion effect, employing statistical testing methods to compare differences among texts with different emotional inclinations.

4 Research Findings

4.1 Static Structure of Emotion Types

Analysis of the six cases indicates that college students' network collective behavior is overall dominated by negative emotions, with “Disgust” accounting for about 40%. However, the emotional structure of different types of incidents also exhibits certain variations. Findings show that emotions within such behavior are not homogenous but deeply bound to specific contexts and issue attributes.

The emotional spectrum of teacher ethics/conduct incidents is the most sharp, with the “Disgust” and “Anger” major categories being absolutely core. In Incident A, the “hatred/disgust” and “anger” sub-categories were particularly prominent, interwoven with “sorrow,” reflecting intense moral judgment against power asymmetry. Incident B exhibited higher frequencies of “disparagement” and “doubt/suspicion,” with the emotional target rapidly expanding from the individual teacher to questioning teacher professional ethics and the university's review mechanism. In both types of incidents, emotions from the “Good” major category became crucial counter-voices within the emotional field, though their proportion was not high.

Emotions in campus management incidents were mainly of the “Disgust” major category, exhibiting strong homogeneity. The “hatred/disgust,” “disparagement,” and “annoyance” sub-categories all accounted for relatively high proportions. Incident D incorporated a certain proportion of “disappointment,” presenting a more diffuse emotional mixture. This emotion is no longer disgust targeted at a single event but a cumulative expression of long-term sense of powerlessness and alienation towards the management system^[5].

In incidents involving student behavior, “Sorrow” became a significant emotional marker distinguishing them from other categories, highlighting the empathy mechanism. In Incident E, “Sorrow” for the victim and “Anger” towards the perpetrator were equally weighted, with emotions oscillating between sympathy and condemnation. Incident F triggered complex emotions based on a gender perspective, with “Sorrow,” “Fear” (towards the safety environment), and “Disgust” (towards the harassment behavior) closely intertwined. In such incidents, emotions are more easily

transformed into “disappointment” and “doubt” regarding the overall lack of campus support systems, demonstrating a shift from individual tragedy to institutional accountability.

4.2 Dynamic Trajectory of Emotional Evolution

Phased analysis of the six incidents based on crisis cycle theory revealed that emotional evolution does not develop linearly but exhibits a stepwise evolution under the impact of key information nodes, with a widely existing phenomenon of “institutional shift in emotional targeting.” Consequently, the university’s response strategy is the most core variable shaping the emotional trajectory.

The initial exposure phase (outbreak period) features extremely high uniformity and peak emotional intensity. Regardless of incident type, based on “moral shock” or perceived interest damage, student emotions rapidly converge, dominated by high-intensity initial negative emotions (anger, shock, disgust), forming powerful homogenized public opinion pressure, with demands clearly directed at the directly responsible parties.

In the diffusion period, emotions gradually differentiate and undergo “institutional shift.” The university’s initial response becomes a watershed for emotional evolution. If the response is perceived as candid, prompt, and responsible, the emotional inclination value rises slightly, and the proportion of neutral discussion increases. However, a more common pattern is that when the response is perceived as evasive, perfunctory, or focused on stability-maintenance, it triggers severe emotional differentiation and targeting shift: the emotional focus rapidly shifts from condemnation of specific individuals to “disappointment” and “distrust” towards the university’s management system, crisis handling capability, and even deeper administrative logic. In teacher ethics incidents and student behavior incidents involving perceived injustice, this shift is particularly acute, with emotions potentially further elevating to discussion of broader social structural issues. This aligns with the value-added theory, where structural strain, catalyzed by information, facilitates the formation of “generalized beliefs” attributing specific grievances to the system^[6].

Upon entering the resolution period marked by the official release of a final notice, emotions diverge towards settling, polarization, or “cynicalization.” If the outcome is perceived as fair and transparent, overall emotional intensity rapidly attenuates, and the emotional field is dominated by neutral or slightly “trusting” or “expectant” emotions. If the outcome triggers widespread controversy (e.g., perceived lenient punishment, ambiguous procedures), it leads to the solidification and polarization of “anger” and “disgust” emotions. Some emotions may settle into a cynical attitude towards the system.

4.3 Comparison of Dissemination Effects

Emotional intensity is the primary variable driving emotional dissemination. Texts with high-intensity emotions (whether positive or negative) have significantly higher average repost and comment counts than those with medium or low intensity. Within the highly homogenous campus social circles characterized by intertwined strong and weak ties, emotional expressions are more likely to trigger immediate resonance and action imitation, facilitating emotional contagion.

From the perspective of emotion type, both positive and negative emotions exhibit relatively strong diffusion power, whereas neutral emotions are easily marginalized. However, those texts carrying “constructive criticism” or demonstrating “a combination of deep empathy and rational analysis,” although may not necessarily have the highest repost, like, and comment counts, tend to gain more lasting recognition and secondary diffusion, serving as a bridging role for cross-circle communication and emotional guidance.

5 Discussion

This study finds that emotional diffusion within college students’ network collective behavior forms a unique landscape under the combined effects of the cognitive psychological basis of “high involvement but low processing capability” and the highly compartmentalized and relational social media ecology. Its salient manifestations are two characteristics: “cold confrontation of emotions” and “institutional shift in emotional targeting.”

First, unlike existing studies on social media emotions in public incidents, which generally hold that anger is the dominant emotion^[7], this study finds that disgust becomes the dominant emotion in college students’ network collective behavior. Compared to anger, which typically stems from direct threats and triggers active confrontation, disgust often originates from objects one wishes to avoid, involving lower involvement and behavioral tendencies that are more passive and conservative. This shift from “anger” to “disgust” is closely related to the trend of social media compartmentalization. This formation causes individuals to focus more on internal identity rather than cross-strata resistance. Faced with public incidents, although different circles may hold varying views, individuals often exhibit low involvement due to perceiving no immediate threat, mostly adopting an avoidant posture, merely revealing disgust. This low-involvement, weak-expression, high-avoidance behavioral pattern essentially constitutes a form of “cold confrontation of emotions”—it does not seek intense confrontation but rather draws boundaries through detachment,

indifference, and passive resistance, becoming a signature emotional expression form in the era of social compartmentalization.

Second, the institutional shift in emotional targeting is a prominent phenomenon within the Chinese university context. Regardless of the original nature of the incident, the emotional spearhead ultimately often points towards the university's management system and administrative authority. This stems both from students' implicit expectations of the "all-encompassing school" and reflects deep-seated issues such as insufficient responsiveness and transparency in university management. This shift enables any specific incident to potentially rapidly escalate into a crisis of trust regarding the university's overall legitimacy.

Based on the above findings, the governance of campus online public opinion needs to undergo a paradigm shift.

First, from "controlling public opinion" to "managing trust." The core objective of governance should not merely be quelling the public opinion storm of a single incident but maintaining and repairing students' long-term trust in the university's management system. The fundamental reason the emotional spearhead ultimately points towards the system lies in students' extremely high expectations and an implicit trust contract with the "all-encompassing" university. Therefore, each of the university's responses affects institutional credibility.

Second, understand and accept the communicative nature of "cold confrontation," shifting from "confronting emotions" to "guiding emotions." Facing "cold confrontation" characterized by "disgust" and "detachment," traditional forceful rumor refutation or moral preaching are often ineffective and may even intensify opposition. Effective guidance lies in proactively providing information increments rather than repeating conclusions. After an incident occurs, promptly providing verifiable facts, a clear investigation timeline, and clearly defined responsible entities, using continuous information disclosure to counteract the suspicion and conjecture bred by an information vacuum.

6 Conclusion

Through a comparative analysis of six categorized campus online collective behavior incidents, this study reveals the core characteristics of emotional diffusion among college students: "cold confrontation of emotions" and "institutional shift in emotional targeting." This essentially constitutes a form of political participation and trust expression by youth groups under specific media and social structures. This suggests to university administrators that understanding college students' network collective behavior should not stop at criticizing its surface "irrationality." Instead, it should delve into the underlying emotional logic and structural dilemmas, achieving the modernization of campus public opinion governance by centering on trust construction as the core, institutional dialogue as the path, and community resilience as the goal.

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