

What Generates the Emotional Resonance of Generation Z? -Affective Analysis of International Student Vlog Pop-Up Comments from the Perspective of Interactive Ritual Chains

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Received: 2 January 2024; Accepted: 31 January 2024; Published: 9 March 2024

Abstract:

With the development of multimedia technology, the use of short videos in China has become a trend. Also for Chinese Generation Z international students, short videos have become an important way for them to showcase their study abroad experiences and foreign cultures. Therefore, this article took the video-sharing website Bilibili as an example and selected vlogs made by international students as representative research subjects. The research focused on how Chinese students studying in different countries and language environments interact with Chinese audiences through short video media, and how these interactions generate emotional resonance and group solidarity. This study chose the United States, the United Kingdom South Korea as the representative research sample, collecting 20 short study abroad videos on the Bilibili video website selected from each country using a sampling interval of 50, resulting in a total of 60 videos. Python web scraping techniques and the Jieba library were used to collect the barrage data and to segment the text, remove the stop words. Afterward, a high-frequency word count was conducted. The SnowNLP library was utilized to calculate the sentiment scores of the selected vlog video barrages, with 0 representing the most negative sentiment and 1 representing the most positive sentiment. Regarding the barrage comments on study abroad vlog videos from the three countries, a generally optimistic sentiment was observed. Specifically, the proportion of positive comments is highest for UK study abroad vlogs, followed by the United States, while it is the lowest for South Korea. This study found that the generation's emotional resonance may be achieved through emotional connections, ritual construction, and real-time comments called bullet screen. Specifically, it is reflected in the consistency of emotions expressed through bullet screen: audiences of different genders, age groups, personality traits, and characteristics exhibit consistency in their emotional expressions through bullet screen.

Keywords:

Bullet Screen, Vlog, Emotional Resonance, Generation Z, Interactive Ritual Chains, Sentiment Analysis

1. Introduction

With the development of multimedia technology, Generation Z youth are accustomed to interacting and communicating in a constantly connected world [3]. Short videos have become an important way for Chinese international students to showcase their study abroad experiences and foreign cultures, and they hold significant meaning [4]. The term “digital journey” is used to describe international students’ experiences while living abroad, where they not only need to adapt to new digital environments in the host countries but also maintain their habits of using existing information sources from their home countries [33]. Digital media platforms are seen as “transnational social fields”, and scholars have found that the digital media experiences provided by students’ home countries and study abroad destinations contribute to their social and cultural adaptation, intercultural negotiations, and emotional well-being [21,22,40].

According to the 51st Statistical Report on Internet Development in China, as of December 2022, the number of short video users in China has reached 1.012 billion, accounting for 94.8% of the overall internet population, with a growth rate of 8.3% [42]. The use of short videos in China has become a trend, and the number of users is also on the rise. Short videos are becoming an important new media channel for accessing information. At the same time, the Bilibili video website is also very popular among Chinese youth. With a user base predominantly consisting of Generation Z, which accounts for nearly 80% of the population, the website claims to be an iconic brand representing contemporary youth culture in China [25]. The widespread use of mobile devices has also led to a “visual turn” in media production and the emergence of video blogging (vlogging) as a unique narrative form. Vlogs, which involve recording creators’ daily lives or utilizing special effects and editing to express personal opinions and emotions, have become a popular digital format on social media and video sharing platforms [19].

With the rise of short videos and their popularity among international students, vlogs created and produced by these students have gradually become a new way to understand foreign cultures and the experience of studying abroad. These vlogs also provide supplementary information for the construction of public media images of other countries. For individuals, this allows Chinese students planning to study abroad to have the opportunity to gain a more detailed understanding of the country they will be going to and better prepare themselves. In addition to helping Chinese people further understand other cultures, at a national level, it also promotes the effective dissemination of Chinese culture in other countries, thus promoting international cultural exchanges.

Therefore, this article takes the video-sharing website Bilibili as an example and selects vlogs made by international students as representative research samples. The research will focus on how Chinese students studying in different countries and language environments interact with Chinese audiences through short video media, and how these interactions generate emotional resonance and group solidarity.

2. Literature Review

2.1. Research on Vlog Short Videos

Currently, vlogs have become an important form for Chinese international students to record their lives studying abroad. Scholars have already found the advantages of

vlog videos and their wide applications, such as online education and learning, online gaming, product marketing, and news reporting [11].

At the same time, mass media, as a tool for large-scale symbolic production and dissemination, meets the individual's need to find non-personalized sources of information in a society no longer ruled by small kinship communities but by instrumental and division of labor systems [17]. Media can also create an “imagined community” [1]. For example, young video bloggers narrate their daily lives and gain collective identification in the communities of social media platforms [9,25,28].

2.2. Definition and Related Research on Bullet Screen in Short Video Platforms

Firstly, the bullet screen has real-time and dynamic participation characteristics. Bullet screen (or danmaku in Japanese) originated from the Japanese video website NicoNico in 2006 and later became popular in neighboring East Asian countries including China [41]. Unlike regular comments, bullet screen enables Bilibili to become a platform more conducive to creating “participatory scenes”, achieving scenes that are “multiauthor, multimodal, multimedia, inherently dialogic, dynamically expanding, and open-ended” [41]. Bullet screen is a form of dynamic commenting that allows users to participate during the viewing process, whereas traditional static comments occur after the viewing process [15]. Currently, bullet screen has been adopted by major online video platforms in China, such as iQiyi, Tencent Video, and Mango TV [15]. More and more platforms are adopting the commenting mode of bullet screen.

Meanwhile, the bullet screen on video sharing platforms has social significance in terms of sharing. For example, it allows viewers to comment on videos and participate in video-based scientific communication. The commenting mechanism also supports video creators by providing timely feedback, promoting video-centered discussions, and encouraging crowdsourced knowledge contributions [34]. Bullet screen allows viewers to generate scrolling subtitle-like comments on videos, which encourages anonymous viewer participation and joining specific communities [2].

Currently, research on bullet screen in short videos has been combined with various fields. Studies have conducted qualitative analyses of bullet screen and comment datasets from COVID-19-related videos, revealing the unique roles of bullet screen and comments in crisis communication [13]. Additionally, scholars have attempted to further explore sustained willingness in the environment of bullet screen video sharing platforms [36]. There have also been in-depth interviews on people's preferences for videos with bullet screen comments and their reasons, finding that the motivations for watching bullet screen videos mainly include acquiring information, entertainment, and establishing social connections [7]. Based on this, this study aims to explore the emotional tendencies expressed by users in bullet screen in short videos.

2.3. The Connection between Interactive Ritual Chains and Real-time Comment Bullet Screen

Due to its real-time feature, bullet screen can immediately display user-generated content on the screen at a specific time point, better conveying the senders' thoughts, emotions, and other information at that moment. The appearance of bullet screen enables viewers to communicate with more people and receive more responses [16].

Building upon Durkheim (1995) and Goffman (1967), Collins' Interaction Ritual (IR) model primarily focuses on four specific elements: bodily co-presence, barriers

to outsiders, shared mood, and mutual focus of attention. Collins believes that interactive rituals formed based on these four elements will result in four effects: group solidarity, emotional energy in individuals, symbols of social relationships, and standards of morality [8].

As bullet screen serves the function of expressing emotions, scholars have conducted empirical research to assess the media capabilities of evolving bullet screen systems and their impact on user perception of interaction and willingness to continue using bullet screen [7].

Interaction Ritual Chains

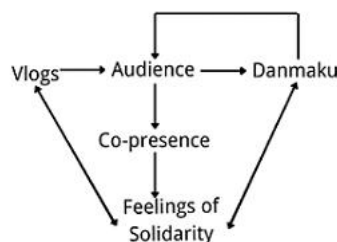


Figure 1. The Conceptual model of this study.

Due to the strong emotional appeal and infectiousness of short videos, emotional communication and interaction have gradually become important factors influencing communication between groups. At the same time, short video vlogs enable video creators and their audience to establish a *pseudo-social intimacy*. Through repeated exposure to the performance of media personalities, viewers may develop a sense of closeness and begin to establish a relationship with them (also known as parasocial relationships) [26].

After comparing the bullet screen interaction mechanism on video websites with Collins' interaction ritual chain model, it was found that there is a high degree of overlap between the two. Specifically, as Figure 1 shows the conceptual model of that, the four conditions in the interaction ritual chain theory are fully reflected in the bullet screen interaction mechanism on video websites. For example, Bilibili is influenced by external cultures and has formed a unique linguistic system. These Bilibili terms are not only user identification labels but also key factors in building group cohesion. On Bilibili, participants gather in a virtual coexisting space through their computers or mobile terminals to participate in interactive rituals together. Each participant's preferences or curiosity about the video becomes a factor that stimulates interaction. As the ritual begins, participants' attention gradually focuses on the lack of trust between each other. Frequent emotional communication and shifts in focus trigger emotional resonance. In an ideal state of interaction, participants gain emotional energy from the group and establish emotional resonance with other participants. For example, in thematic videos, consistent praise and occasional criticism can provoke inappropriate emotional responses and even lead to group attacks. When participants hold similar views, the bullet screen content and semantics are relatively consistent, and emotional resonance and transmission follow, resulting in a phenomenon of flooding, with emotions dominating cognition.

Sentiment analysis, also known as opinion mining, mainly involves the in-depth analysis of subjective texts to extract valuable information and apply it. Sentiment analysis (SA) is a continuous research field in the field of text mining. SA is the process of calculating and processing the opinions, sentiments, and subjectivity of

texts [18]. The methods of sentiment analysis can be divided into machine learning-based methods and sentiment lexicon-based methods based on different techniques. This paper will adopt the sentiment lexicon-based method for research. The sentiment lexicon-based method first constructs a sentiment lexicon, and then uses this sentiment lexicon and predefined rules to label the sentiment polarity and intensity of vocabulary and phrases.

Based on this, this paper selects study abroad student videos as the research object and combines the interaction ritual chain theory to analyze the emotional information in bullet screens. The aim is to better understand the impact of the interaction behavior of Bilibili website users on emotions and further explore the emotional attitudes of users towards vlog videos. It will also provide new ideas and theoretical foundations for cross-cultural communication and innovation. Therefore, this paper proposes the following research questions and hypotheses:

RQ1: What is the impact of bullet screens in study abroad vlog videos from the United States, the United Kingdom, and South Korea on the audience's emotions (positive or negative)?

Research Hypotheses:

H1: Bullet screen provides a “sense of presence” for the audience of vlog short videos, and the content of study abroad vlog short videos can influence the audience's cognition and emotions, as reflected in the bullet screen comments made by the audience.

H2: Bullet screen creates emotional connections among the audience of study abroad vlog short videos, forming a sense of collective unity, as demonstrated by the consistency of emotional content in bullet screen comments from different audience members.

Previous research has explained the ways in which bullet screen affects audience emotional experiences and decision-making styles, but there has been little research focused on vlogs produced and created by Generation Z international students, and specifically on the influence of bullet screen comments in study abroad student videos on audience emotions and the reasons for this influence. Therefore, based on the Interactive Ritual Chain Theory, this study aims to use Python to crawl bullet screen from relevant videos, conduct word segmentation and sentiment analysis, to explore the emotions generated by the audience when watching study abroad student vlog videos, and the reasons for these emotions, to investigate the role of bullet screen in connecting the audience with emotions in vlog short videos.

3. Methodology

This study chose the popular countries in the West where Generation Z Chinese students preferred to study: the United States and the United Kingdom; and the representative country in Asia where they accounted for a larger proportion of students: South Korea, as the samples of the study. Before the epidemic, the United States was the top destination for Chinese Gen Z international students, and now the path of choices has become more diverse. Currently, the UK has become a highly popular destination for Generation Z Chinese students. In the Asian region, South Korea, which has a significant proportion of Generation Z Chinese students, was chosen as the representative country before the pandemic.

The study conducted searches on the Bilibili video website for “Vlogs about studying in the US”, “Vlogs about studying in the UK”, and “Vlogs about studying in

the South Korea”, with the category set as “videos”. Due to the high homogeneity of vlogs, the study employed a stratified sampling method. To collect enough samples, the videos obtained from the searches were sorted by view count from high to low. From the top 1000 videos in terms of view count among the study abroad vlogs from the three countries, 20 short study abroad videos were selected from each country using a sampling interval of 50, resulting in a total of 60 videos. The CID numbers of the selected 60 study abroad vlog videos shown in the Table 1 were used to identify the videos. (Figure 2)

Python web scraping techniques were used to collect the barrage data in this study. The Jieba library was used for Chinese word segmentation and removing stop words. Invalid comments, such as numbers, meaningless English letters, simple repetitive phrases (e.g., “hahaha”), and punctuation marks, were filtered out. Afterward, a high-frequency word count was conducted. The SnowNLP library was utilized to calculate the sentiment scores of the selected vlog video barrages, with 0 representing the most negative sentiment and 1 representing the most positive sentiment.

Finally, the analysis results were presented through visualization methods. Natural Language Processing (NLP) combines computational linguistics (rule-based modeling of human language) with statistics, machine learning, and deep learning models. These technologies enable computers to process human language presented in text or speech data and “understand” its complete meaning, including the intentions and emotions of the speaker or author. SnowNLP is a library that can handle Chinese text content and combining it with Jieba word segmentation is a common approach for sentiment analysis of Chinese content.

In conclusion, this study obtained 66,875 characters of barrage data from “Vlogs about studying in the US”, 53,409 characters from “Vlogs about studying in the UK” and 103,830 characters from “Vlogs about studying in the South Korea”, which generally meet the research requirements of this paper.

Table 1. Bilibili CID Numbers of the Selected 60 Study Abroad Vlog Videos.

US		UK		South Korea	
1	89535352	1	574496757	1	460007104
2	181316420	2	421605688	2	807704047
3	1276961944	3	795905408	3	517551453
4	1249768962	4	252314037	4	65428760
5	110971226	5	110701970	5	415837041
6	1231217053	6	314852891	6	1305422781
7	178835855	7	894898465	7	453675946
8	93855950	8	1216084695	8	417097069
9	546639715	9	440651799	9	926400551
10	133094022	10	223179416	10	93920219
11	513572435	11	414027799	11	308499279
12	761829600	12	99179316	12	77768589
13	925764606	13	843386275	13	867993482
14	155589573	14	872052244	14	1230529293
15	32911330	15	500859053	15	959893153
16	184558975	16	123372509	16	344249181
17	1216586269	17	768576964	17	120419896
18	999470234	18	59327645	18	848992612
19	108851259	19	841540434	19	133390965
20	485285470	20	711305738	20	1243263669

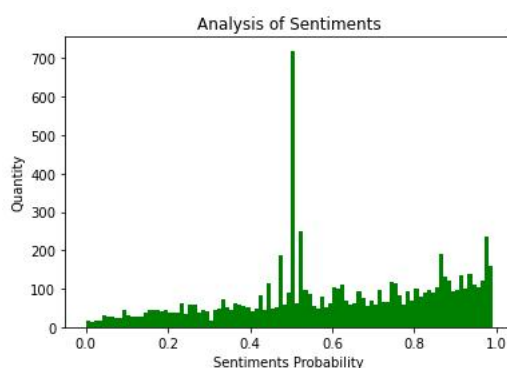


Figure 2. Sentiment Analysis Chart of US Study Abroad Vlogs.

The top 10 high-frequency words are as following Figure 3:

[('Good', 557), ('Beautiful', 222), (' America', 222), ('this', 206), ('too', 182), (' really', 181), ('say', 177), ('cute', 176), ('want', 174), ('people', 147)]

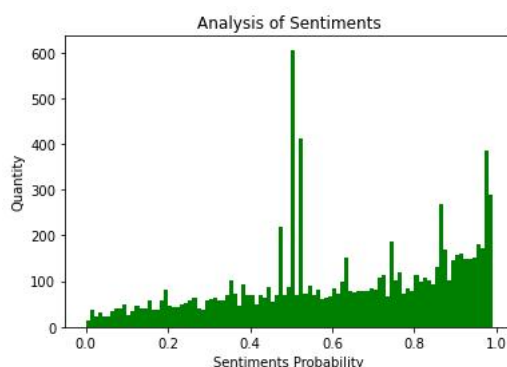


Figure 3. Sentiment Analysis Chart of UK Study Abroad Vlogs.

The top 10 high-frequency words are as following Figure 4:

[('good', 670), (' really', 208), ('like', 204), ('too', 193), ('beautiful', 176), ('come', 174), ('cute', 155), ('go', 128), ('want', 125), ('same style', 125)]

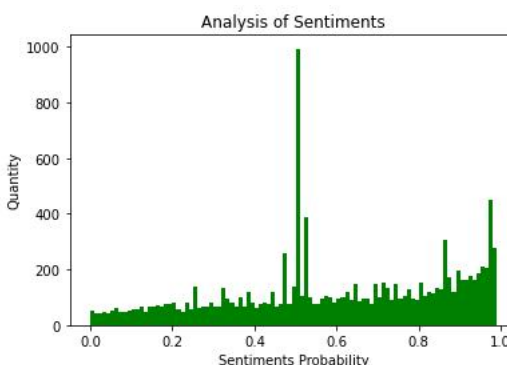


Figure 4. Sentiment Analysis Chart of South Korea Study Abroad Vlogs.

The top 10 high-frequency words are as following Table 2:

[('good', 1016), ('like', 548), ('cute', 423), ('really', 389), ('come', 343), ('Korea', 282), ('elder sister', 269), ('too', 255), ('beautiful', 252), ('delicious', 225)]

Table 2. *Top 10 High-Frequency Words from Barrage Comments of Vlogs in Three Countries.*

US	UK	South Korea
('good', 557)	('good', 670)	('good', 1016)
('beautiful', 222)	('really', 208)	('like', 548)
('America', 222)	('like', 204)	('adorable', 423)
('this', 206)	('too', 193)	('really', 389)
('too', 182)	('beautiful', 176)	('come', 343)
('really', 181)	('come', 174)	('Korea', 282)
('say', 177)	('adorable', 155)	('elder sister', 269)
('adorable', 176)	('go', 128)	('too', 255)
('want', 174)	('want', 125)	('beautiful', 252)
('people', 147)	('same style', 125)	('delicious', 225)

4. Discussion

Regarding the barrage comments on study abroad vlog videos from the three countries, a generally positive and optimistic sentiment is observed. Specifically, as shown in Figure 2, Figure 3 and Figure 4, the proportion of positive comments is highest for UK study abroad vlogs, followed by the United States, while it is the lowest for South Korea. From the Table 2 based on the high-frequency words from UK and US study abroad vlogs, we can observe frequent occurrences of words such as “good”, “like”, “adorable”, and “beautiful”. This indicates that users on the Bilibili video website express a predominantly positive emotional attitude towards UK and US study abroad vlogs and their video creators. Table 3, Table 4 and Table 5 shows the analysis of typical US, UK and South Korea study abroad vlog videos and some information of their uploaders.

However, in the case of South Korea study abroad vlogs, although Table 2 shows frequent occurrences of words like “adorable”, “good”, and “like”, the results of sentiment analysis reveal that compared to UK and US study abroad vlogs, the proportion of positive sentiment comments is relatively low. At the same time, the proportion of neutral comments (with sentiment scores around 0.5) is much higher in South Korea study abroad vlogs compared to the proportion of neutral comments in UK and US study abroad vlogs. This indicates that users on the Bilibili video website hold a relatively neutral emotional attitude towards South Korean study abroad vlogs and their video creators.

Generation Z, also known as the “Internet generation” or “Digital Natives” [29], is the first generation to grow up with the Internet and social media. They have little memory of a time without the Internet and are constantly connected to peer friends, family, and relatives online, sharing information [14]. In this study, when the vlogger goes to the library alone in the morning (Figure 5), comments such as “You work so hard, it motivates me too” and “People who are better than me work also harder” praise the vlogger and viewers also insert themselves into the situation and express that they are inspired as well. When the vlogger updates a video after a long time and shows that they have received an acceptance letter from the University of Oxford (Figure 6), viewers express their longing for the vlogger at the beginning of the video with comments like “Long time no see” and “I missed you”. Some viewers congratulate the vlogger with comments like “Congratulations”. Through these bullet screen comments, viewers experience emotional resonance with the vlogger while watching the study abroad vlog. When the vlogger is eating Chinese food (Figure 7), comments like “I love it too” and “It looks delicious” evaluate the food the vlogger is

tasting, and viewers relate their own feelings to it. It shows that viewers have the same feelings and emotional experiences while watching the same scene. When the vlogger gets up early in the morning to work at a convenience store (Figure 8), comments like “It’s a bit dangerous” and “Stay safe” show viewers’ concern for the vlogger walking alone on the streets of Korea at dawn.

Generation Z communicates, learns, shops, and even finds jobs on the Internet [5]. First, the prevalent paradigm of “sharing what’s on your mind” in social media can be examined from an emotional perspective, specifically the short-term emotional states displayed through shared data [27]. The bullet screen embeds viewers’ comments into video, making these comments part of it. This study focuses on the Chinese bullet screen website bilibili.com from the perspective of interpretive communities to understand its appeal to the audience.

Second, this study provides a starting point for cross-cultural communication through the study of vlogs by international students, enabling emotional resonance and emotional sharing among individuals with different cultural backgrounds through vloggers’ videos and the comments in the videos. Previous research has used Collins’ theory of interaction ritual to gain insights into global cultures [29]. This study, based on the theory of interaction ritual chains, explores the role of bullet screen in establishing emotional communication among audiences on the Bilibili video website. It expands on existing research based on the theory of interaction ritual chains.

However, this study still has certain limitations. In terms of the research sample, due to the need for a sufficient sample size for bullet screen -based research, it was only possible to select study abroad vlogs from countries such as the United States, the United Kingdom, and South Korea with high view counts and abundant bullet screen comments, which limits the generalizability of the findings. Additionally, because of the limited representativeness of the sample, it cannot be determined whether this study can be extended to a broader range of applications. In terms of research methods, previous studies have shown that live interaction mediates well-being, so after analyzing the emotional tendencies in bullet screen, it is necessary to conduct interviews or other methods to explore the subsequent emotions and subjective well-being of the audience. Furthermore, based on the research methods used in this study, it is not possible to accurately distinguish between the emotions generated by viewers while watching the vlog and the real-time bullet screen comments from other viewers in the same scene. With the advancement and development of technology, people no longer need to communicate face-to-face but can engage in communication through social media, thereby creating an experience of being present. In the future, by exploring other forms of real-time experiences and emotional resonance that can be brought about by bullet screen and other similar means, more effective approaches to international communication and dissemination can be explored.

Table 3. Analysis of Typical US Study Abroad Vlog Videos.

US-Uploader: Yuxi xixi (Uploader level: 6)			
Name	Studying in the United States Vlog I record frequently because life is worth living	My 2022! Living the dream study abroad life	Studying in the United States vlog You must go to watch an NBA game in person in your life
Url	https://www.bilibili.com/video/BV1dg411R7t6/?spm_id_from=333.337.search-	https://www.bilibili.com/video/BV1U8411P7zE/?spm_id_fr	https://www.bilibili.com/video/BV1nw411P7BD/?spm_id_from=333.999.0.0&vd_source=

	card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403	om=333.999.0.0&vd_source=acb9587a8c9b2d89c570541d15260403	acb9587a8c9b2d89c570541d15260403
Views	744,000	1,078,000	140,000
Danmu	601	1263	172
Favourite d	7,799	19,000	1,327
Coins	2,004	13,000	843
Shares	1883	7427	246
Likes	18,000	53,000	9,562
Original	yes	yes	yes

Table 4. Analysis of Typical UK Study Abroad Vlog Videos.

UK-Uploader: Fake food uploader (Uploader level: 6)			
Name	I went to a German restaurant alone to eat pork knuckle and spoke in German. The waiter looked confused.	Beef tendon stewed for 4 hours in the student dormitory is super fragrant and delicious. Paired with a bowl of rice, perfect life	Eating Hot Pot in the UK and Talking About My University Application
Url	https://www.bilibili.com/video/BV1p4411M7ng/?spm_id_from=333.337.search-card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403	https://www.bilibili.com/video/BV1yE411k7zi/?spm_id_from=333.337.search-card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403	https://www.bilibili.com/video/BV1W94y1b7he/?spm_id_from=333.337.search-card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403
Views	3,520,000	4,068,000	1,872,000
Danmu	3000	2000	2000
Favourite d	18,000	16,000	18,000
Coins	6,000	42,000	65,000
Shares	5541	6758	5201
Likes	123,000	120,000	130,000
Original	yes	yes	yes

Table 5. Analysis of Typical South Korea Study Abroad Vlog Videos.

Korea-Uploader: Songsong is coming (Uploader level: 6)			
Name	Real records of the stay-at-home life of international students/Self-cooking, take-out and studying/Celebrating birthday for a friend/Ordinary little happiness	Vlog of living in Seoul alone/Bloated belly recently/To the same taco store of <i>Transit Love</i> /Daily dance practice/Thinkings about living alone/Trivial daily life	Vlog of living in Seoul alone/Myeongdong is getting lively/I'm addicted to bread again/Meeting May J Lee/Daily life of learning dance/Daily food of living alone
Url	https://www.bilibili.com/video/BV13p4y1u7xq/?spm_id_from=333.337.search-card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403	https://www.bilibili.com/video/BV19P411T7NL/?spm_id_from=333.337.search-card.all.click&vd_source=acb9587a8c9b2d89c570541d15260403	https://www.bilibili.com/video/BV1N24y1X7qF/?spm_id_from=333.999.0.0&vd_source=acb9587a8c9b2d89c570541d15260403

Views	46,000	57,000	78,000
Danmu	576	761	982
Favourited	250	294	355
Coins	838	1463	1020
Shares	6	23	37
Likes	2031	2918	2591
Original	yes	yes	yes

Figure 5. Barrage Comment Screenshot from “Yuxi xixi” US Study Abroad Vlog Video In the Library at 6 AM | Faculty Gathering at 02:14.

Translation for subtitle: There is nobody around in the library.



Figure 6. Barrage Comment Screenshot from “Fake food uploader” UK Study Abroad Vlog Video Eating Hot Pot in the UK and Talking About My University Application at 00:26.



Figure 7. Barrage Comment Screenshot from “Songsong is coming” South Korea Study Abroad Vlog Video Vlog of living in Seoul alone/Myeongdong is getting lively/I’m addicted to bread again/Meeting May J Lee/Daily life of learning dance/Daily food of living alone at 10:27.

Translation for subtitle: You can give it a try Meiru, it's delicious!

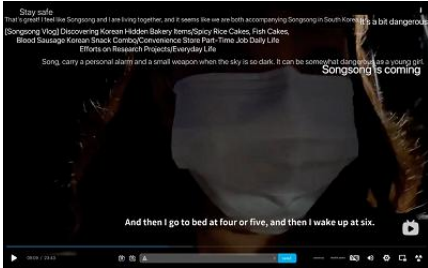


Figure 8. Barrage Comment Screenshot from “Songsong is coming” South Korea Study Abroad Vlog Video [Songsong Vlog] Discovering Korean Hidden Bakery Items/Spicy Rice Cakes, Fish Cakes, Blood Sausage Korean Snack Combo/Convenience Store Part-Time Job Daily Life/Efforts on Research Projects/Everyday Life at 9:09.

5. Conclusions

This study found that the generation’s emotional resonance may be achieved through emotional connections, ritual construction, and real-time comments called bullet screen. Specifically, it is reflected in the consistency of emotions expressed through bullet screen: audiences of different genders, age groups, personality traits,

and characteristics exhibit consistency in their emotional expressions through bullet screen. Different countries also show disparities in emotional tendencies: the emotional comments on British and American study abroad vlogs tend to be positive, while the emotional comments on Korean study abroad vlogs tend to be neutral.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

References

- [1] Anderson, B. (2020). Imagined communities: Reflections on the origin and spread of nationalism. In *The new social theory reader* (pp. 282–288). Routledge.
- [2] Bai, Q.; Hu, Q.V.; Ge, L.; He, L. Stories that big bullet screen data can tell as a new media. *IEEE Access*, 2019, 7, 53509-53519, DOI: <https://doi.org/10.1109/ACCESS.2019.2909054>.
- [3] Bers, M.U. Beyond computer literacy: Supporting youth's positive development through technology. *New Directions for Youth Development*, 2010, 128, 13-23, DOI: <https://doi.org/10.1002/yd.371>.
- [4] Chang, S.; Gomes, C. Digital journeys: A perspective on understanding the digital experiences of international students. *Journal of International Students*, 2017, 7(2), 347-466, DOI: <https://doi.org/10.32674/jis.v7i2.385>.
- [5] Chatzoglou, P.; Chatzoudes, D.; Ioakeimidou, D.; Tokoutsis, A. Generation Z: Factors affecting the use of social networking sites (SNSs). 2020 15th International Workshop on Semantic and Social Media Adaptation and Personalization (SMA), 2020, 1-6.
- [6] Chen, D. (2022). Chinese Otaku Culture and Alternative Public Spheres: A Study of Bullet Comments and Bilibili. In *Streaming and Screen Culture in Asia-Pacific* (pp. 181–196). Springer.
- [7] Chen, Y.; Gao, Q.; Rau, P.L.P. Watching a movie alone yet together: Understanding reasons for watching Bullet screen videos. *International Journal of Human-Computer Interaction*, 2017, 33(9), 731-743. DOI: <https://doi.org/10.1080/10447318.2017.1282187>.
- [8] Collins, R. (2004). *Interaction ritual chains*. Princeton university press.
- [9] Deklerck, S. (2019). Chinese LGBT+ activism—Playing, organizing, and playful resistance. In *China's youth cultures and collective spaces* (pp. 150–169). Routledge.
- [10] Fu, H.Y.; Li, Y.; Sun, X.C. Design and implementation of rapid information acquisition and analysis system. *2019 15th International Conference on Computational Intelligence and Security (CIS)*, 2019, 399-401.

- [11]Gao, W.; Tian, Y.; Huang, T.; Yang, Q. Vlogging: A survey of videoblogging technology on the web. *ACM Computing Surveys (CSUR)*, 2010, 42(4), 1-57, DOI: <https://doi.org/10.1145/1749603.1749606>.
- [12]Harley, D.; Fitzpatrick, G. Creating a conversational context through video blogging: A case study of Geriatric1927. *Computers in Human Behavior*, 2009, 25(3), 679-689, DOI: <https://doi.org/10.1016/j.chb.2008.08.011>.
- [13]He, C.; He, L.; Lu, T.; Li, B. Beyond Entertainment: Unpacking Bullet screen and Comments' Role of Information Sharing and Sentiment Expression in Online Crisis Videos. *Proceedings of the ACM on Human-Computer Interaction*, 2021, 5(CSCW2), 1-27.
- [14]Lanier, K. 5 Things HR professionals need to know about generation Z: thought leaders share their views on the HR profession and its direction for the future. *Strategic HR Review*, 2017, 16(6), 288-290, DOI: <https://doi.org/10.1108/SHR-08-2017-0051>
- [15]Li, Z.; Duan S.; Li, R. Dynamic advertising insertion strategy with moment-to-moment data using sentiment analysis: The case of bullet screen video. *Journal of Electronic Commerce Research*, 2022, 23(3), 160-176.
- [16]Li, Z.; Li, R.; Jin, G. Sentiment analysis of bullet screen videos based on naïve bayes and sentiment dictionary. *IEEE Access*, 2020, 8, 75073-75084, DOI: <https://doi.org/10.1109/ACCESS.2020.2986582>.
- [17]Liang, L. Consuming the Pastoral Desire: Li Ziqi, Food Vlogging and the structure of feeling in the era of microcelebrity. *Global Storytelling: Journal of Digital and Moving Images*, 2022, 1(2), DOI: <https://doi.org/10.3998/gs.1020>.
- [18]Medhat, W.; Hassan, A.; Korashy, H. Sentiment analysis algorithms and applications: A survey. *Ain Shams Engineering Journal*, 2014, 5(4), 1093-1113, DOI: <https://doi.org/10.1016/j.asej.2014.04.011>.
- [19]Meng, J.; Wang, H. Performing Transparency in vlog News: Self-disclosure of Chinese Journalists in vlog Reporting on COVID-19. *Journalism Practice*, 2023, 1-17.
- [20]Nuwer, R. Chinese students stay local as favour falls with study abroad. *Nature*, 2023, 620(7973), S11-S13, DOI: <https://doi.org/10.1038/d41586-023-02162-y>.
- [21]Park, N.; Noh, H. Effects of mobile instant messenger use on acculturative stress among international students in South Korea. *Computers in Human Behavior*, 2018, 82, 34-43, DOI: <https://doi.org/10.1016/j.chb.2017.12.033>.
- [22]Qiu, L.; Lin, H.; Leung, A.K.Y. Cultural differences and switching of in-group sharing behavior between an American (Facebook) and a Chinese (Renren) social networking site. *Journal of Cross-Cultural Psychology*, 2013, 44(1), 106-121, DOI: <https://doi.org/10.1177/0022022111434597>.
- [23]Rainie, H.; Wellman, B. (2012). Networked: The new social operating system (Vol. 10). Mit Press Cambridge, MA.
- [24]Rakushin, L.A.; Hak-Soo, Y. Trends and Challenges: Chinese Students Studying at South Korean Universities. *Asian Journal of University Education*, 2022, 18(1), 17-190, DOI: <https://doi.org/10.24191/ajue.v18i1.17185>.

- [25] Raun, T. Video blogging as a vehicle of transformation: Exploring the intersection between trans identity and information technology. *International Journal of Cultural Studies*, 2015, 18(3), 365-378, DOI: <https://doi.org/10.1177/1367877913513696>.
- [26] Rojek, C. (2015). Presumed intimacy: Parasocial interaction in media, society and celebrity culture. John Wiley & Sons.
- [27] Sanchez-Cortes, D.; Kumano, S.; Otsuka, K.; Gatica-Perez, D. In the mood for vlog: Multimodal inference in conversational social video. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 2015, 5(2), 1-24, DOI: <https://doi.org/10.1145/2641577>.
- [28] Taddeo, G.; Tirocchi, S. Transmedia teens: The creative transmedia skills of Italian students. *Information, Communication & Society*, 2021, 24(2), 241–257, DOI: <https://doi.org/10.1080/1369118X.2019.1645193>
- [29] Turner, A. Generation Z: Technology and social interest. *The Journal of Individual Psychology*, 2015, 71(2), 103-113, DOI: <https://doi.org/10.1353/jip.2015.0021>.
- [30] Wang, R. Community-building on Bilibili: The social impact of Danmu comments. *Media and Communication*, 2022, 10(2), 54-65.
- [31] Wang, S.; Chen, Y.; Ming, H.; Huang, H.; Mi, L.; Shi, Z. Improved Bullet screen emotion analysis and its application based on Bi-LSTM model. *IEEE Access*, 2020, 8, 114123-114134, DOI: <https://doi.org/10.1109/ACCESS.2020.3001046>.
- [32] What is natural language processing (NLP)? Available online: <https://www.ibm.com/topics/natural-language-processing> (accessed on 6 December 2023).
- [33] Wong, J. Digital environments and the aspirations of international students. *Digital Experiences of International Students: Challenging Assumptions and Rethinking Engagement*, 2020, 25-45.
- [34] Wu, Q.; Sang, Y.; Zhang, S.; Huang, Y. Bullet screen vs. Forum comments: Understanding user participation and knowledge sharing in online videos. *Proceedings of the 2018 ACM International Conference on Supporting Group Work*, 2018, 209-218, DOI: <https://doi.org/10.1145/3148330.3148344>.
- [35] Wu, X. (2020). “Seven Mouths Eight Tongues”: Interpretive Community and Ritual Practice in the Online Video Website Bilibili. The University of Iowa.
- [36] Xiang, Y.; Chae, S.W. Influence of perceived interactivity on continuous use intentions on the bullet screen video sharing platform: Belongingness perspective. *International Journal of Human–Computer Interaction*, 2022, 38(6), 573-593, DOI: <https://doi.org/10.1080/10447318.2021.1952803>.
- [37] Yang, T.; Yang, F.; Men, J. The impact of Danmu technological features on consumer loyalty intention toward recommendation vlogs: A perspective from social presence and immersion. *Information Technology & People*, 2022, 35(4), 1193-1218, DOI: <https://doi.org/10.1108/ITP-01-2021-0008>.
- [38] Yoon, J.; Kang, C.; Kim, S.; Han, J. D-vlog: Multimodal vlog dataset for depression detection. *Proceedings of the AAAI Conference on Artificial Intelligence*, 2022, 36(11), 12226-12234.

- [39]Zhao, X. Disconnective intimacies through social media: Practices of transnational family among overseas Chinese students in Australia. *Media International Australia*, 2019, 173(1), 36-52, DOI: <https://doi.org/10.1177/1329878X19837684>.
- [40]Zhao, X. Digital labour in transnational mobility: Chinese international students' online boundary work in daigou. *New Media & Society*, 2021, 23(9), 2554-2574, DOI: <https://doi.org/10.1177/1461444820934096>.
- [41]Zhou, F. Orality, multimodality and creativity in digital writing: Chinese users' experiences and practices with bullet comments on Bilibili. *Social Semiotics*, 2022, 1-27, DOI: <https://doi.org/10.1080/10350330.2022.2120387>.
- [42]51st Statistical Report on Internet Development in China - Internet Development Research. (n.d.). Available online: <https://www.cnnic.net.cn/n4/2023/0303/c88-10757.html> (accessed on 6 December 2023).



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