

## Research on Influencing Factors of User Danmaku Commenting Behavior on Danmaku Video Websites: A Case Study of Bilibili Postprint

**Authors:** Feng Yuru, Deng Xiaozhao

**Date:** 2023-04-01T16:02:55+00:00

### Abstract

[Purpose/Significance] Taking users of Bilibili danmaku video website as the research object, this study explores the influencing factors of users' danmaku commenting behavior, providing reference for creating a favorable information interaction environment on danmaku video websites, thereby improving the information interaction experience of users on such platforms. [Method/Process] Based on the triadic reciprocal determinism of social cognitive theory, self-efficacy and outcome expectations were selected as individual factors; considering the particularity of danmaku video websites, trust and social presence theories were introduced as environmental factors to construct an initial model of influencing factors for users' danmaku commenting behavior. Data were collected through questionnaire surveys, and SPSS 25.0 and SPSSAU were used to empirically test the model and establish regression equations. [Results/Conclusion] Through empirical analysis, it is found that self-efficacy and trust have significant positive effects on users' danmaku commenting behavior.

### Full Text

### Preamble

**Volume 65, Issue 17, September 2021**

**Research on Influencing Factors of User Danmaku Commenting Behavior on Danmaku Video Websites—Taking Bilibili as an Example**

**Feng Yuru, Deng Xiaozhao**

School of Computer and Information Science, Southwest University, Chongqing 400715

**Abstract:**

**[Purpose/Significance]** This study examines Bilibili danmaku video website users to explore the influencing factors of user danmaku commenting behavior, providing references for creating a favorable information interaction environment on danmaku video platforms and thereby improving user information interaction experiences. **[Method/Process]** Based on the triadic reciprocal determinism of social cognitive theory, self-efficacy and outcome expectations were selected as individual factors. Considering the particularity of danmaku video websites, trust and social presence theories were introduced as environmental factors to construct an initial model of influencing factors for user danmaku commenting behavior. Data were collected through questionnaires, and SPSS 25.0 and SPSSAU were used for empirical testing of the model and establishment of regression equations. **[Result/Conclusion]** Empirical analysis reveals that self-efficacy and trust have significant positive effects on user danmaku commenting behavior.

**Keywords:** danmaku video website; Bilibili; danmaku commenting behavior; influencing factors; social cognitive theory

**Classification Number:** G252

**DOI:** 10.13266/j.issn.0252-3116.2021.17.011

---

## Introduction

The term “danmaku” (literally “barrage”) originated from military terminology, referring to intensive artillery fire directed at a target so dense that it resembles a curtain [1]. In the context of danmaku video websites, however, “danmaku” refers to comments that appear as subtitles on the screen during video playback [2]. Wang Jiaqi argues that any video website equipped with danmaku functionality qualifies as a danmaku video website [3]. Around 2014, the introduction of danmaku to movies, television shows, and other video formats expanded danmaku beyond niche cultural circles, and platforms such as Bilibili began developing in a more diversified direction [2]. According to Bilibili’s Q2 2020 financial report, the platform’s monthly active users reached 172 million, with daily video views totaling 1.2 billion, and over 1.4 billion danmaku messages sent throughout 2019 [4]. These figures demonstrate that Bilibili has accumulated a substantial user base, with considerable volumes of danmaku messages being sent. This act of sending danmaku constitutes danmaku commenting behavior, which specifically refers to viewers instantly sending their opinions and viewpoints onto the screen, creating an interactive activity resembling a bullet curtain. This approach offers distinct advantages in enhancing user engagement and extending user activity cycles [5].

In addition to the danmaku area above the video, danmaku video websites feature another commenting method located in the comment section below the video [6]. Depending on the social media context, comment section locations

may vary—for instance, Weibo and official account comments appear below posts, while e-commerce platform comments are embedded within product detail pages—but all fall under the category of comment section-based commenting. Comparative studies of these two commenting methods have identified multiple differences between them [5, 7], indicating that while both behaviors are related (as they both constitute commenting), they also exhibit distinct characteristics. Chen Jun et al. consider commenting from a macro perspective as a form of information sharing behavior [8]. This paper adopts this viewpoint, positing that the essence of danmaku commenting behavior is interactive information sharing, similar to information sharing behaviors in that both involve sharing one’s perspectives and viewpoints.

On danmaku video platforms, users can engage in real-time danmaku commenting while watching videos or other danmaku messages, sharing information with other users and thereby creating a favorable information interaction experience. What factors influence users’ danmaku commenting behavior on these platforms, and to what extent do these factors affect such behavior? These questions warrant further investigation.

---

## Literature Review

Danmaku video websites originated in Japan before gaining popularity in China. To date, danmaku platforms remain prevalent primarily in a few Asian countries, with limited attention from Western researchers [9]. Chen Yi et al. suggest that the “spectatorship” and “cacophony” atmosphere characteristic of danmaku websites conflicts with Anglo-American culture but aligns well with Chinese behavioral habits, explaining its popularity in China [10]. Correspondingly, our literature review found that domestic researchers have shown greater interest in danmaku-related behaviors than their international counterparts.

Existing research on danmaku commenting behavior has predominantly adopted macro-level perspectives, often examining danmaku commenting as part of broader concepts such as danmaku website usage behavior [11-14] or user participation behavior [15]. Only a few studies have conducted empirical investigations of specific danmaku commenting behaviors. For instance, regarding behavioral characteristics, M. He et al. analyzed unique distribution patterns of danmaku comments through comparison with traditional comments [7]; Zhang Lu and Wang Ruoqia examined similarities and differences between user danmaku commenting behavior and traditional commenting behavior from three dimensions: video characteristics, user characteristics, and comment content features [5]; and Chen Yijin et al. analyzed general patterns of danmaku posting by users of educational videos and differences among various user groups [16]. Regarding behavioral motivations, Tong Chong and Zhao Yuxiang analyzed user motivations for danmaku commenting based on comment content [17], while Wang Zhizhi et al. explored driving factors behind

herd danmaku commenting behavior [18]. Concerning influencing factors of behavioral intention, Long Jie found that attitude toward behavior, subjective norms, and perceived behavioral control significantly influence college students' danmaku interaction intentions, with behavioral attitude mediating the effects of subjective norms and perceived behavioral control [19]; L. Liu et al. discovered that five media capabilities of danmaku systems positively affect users' perceived interactivity, which in turn significantly influences their instant danmaku sharing intentions [20]. Regarding behavioral influencing factors, Yu Xin and Xu Zhengliang found that danmaku information interactivity, visibility, entertainment, and usefulness positively stimulate information interaction behaviors among live streaming platform users through immersion [21]; "entertainment pursuit" significantly affects danmaku "uploading," with higher proportions of "simultaneous viewing" leading to more active danmaku "uploading" [22].

In terms of theoretical frameworks for danmaku-related behaviors, most studies draw from communication theories such as media synchronicity theory [20], uses and gratifications theory [23], and salience-interpretation theory [24], with additional applications of interaction ritual chain theory [25] and planned behavior theory [19]. However, theories from cognitive science and social psychology have been less frequently applied.

Against this backdrop, this study takes Bilibili as an example and employs a quantitative approach based on social cognitive theory's triadic reciprocal determinism to investigate user danmaku commenting behavior and analyze its influencing factors.

---

## Research Model and Hypotheses

This paper explores influencing factors of user danmaku commenting behavior from individual and environmental perspectives, constructing a model of influencing factors for user danmaku commenting behavior.

### 3.1 Theoretical Basis and Model Construction

Social cognitive theory, developed from the work of social psychologist A. Bandura, encompasses triadic reciprocal determinism, which emphasizes the mutual influence among personal factors, behavior, and environment [26]. Personal factors primarily include self-efficacy and outcome expectations [27]. Self-efficacy refers to an individual's self-assessment of their ability to organize and execute courses of action to achieve desired goals, while outcome expectations refer to an individual's judgment of the likely consequences of their behavior [26]. In information user research, Zhang Beijia, from a social cognitive theory perspective, found that individual motivational factors (self-efficacy and outcome expectations) directly drive consumers' online review posting behavior in e-commerce contexts [28]; J. Kim et al. discovered that individual factors such as self-efficacy

and outcome expectations significantly influence information sharing behavior among college students on social networking sites [29]; Li Zhihong et al. investigated factors influencing knowledge sharing behavior among organizational members based on social cognitive theory, finding that self-efficacy and outcome expectations directly and significantly affect knowledge sharing behavior [30]; and Zhou Tao et al. found that innovative self-efficacy and outcome expectations significantly and positively affect knowledge sharing behavior among users of open innovation communities [31]. Drawing on these studies, this research selects self-efficacy and outcome expectations as personal factors to examine their influence on user danmaku commenting behavior, proposing the following hypotheses:

**Hypothesis 1 (H1):** Self-efficacy positively influences user danmaku commenting behavior on danmaku video websites.

**Hypothesis 2 (H2):** Outcome expectations positively influence user danmaku commenting behavior on danmaku video websites.

To foster a favorable danmaku commenting atmosphere, danmaku video websites such as Bilibili have established a series of “Danmaku Etiquette” guidelines [32] specifying recommended and prohibited content. For users, danmaku etiquette also encompasses universal moral and behavioral norms [33]. These regulations constrain user danmaku commenting behavior and are closely linked to trust. Zhai Xuewei argues that constraining mechanisms (moral, customary, regulatory, or legal) can ensure the establishment of trust relationships [34]. L. Zucker considers regulations, laws, and legislation as mechanisms that generate trust [35]. D. Rousseau et al. define trust from a psychological perspective as a psychological state involving positive expectations of others’ intentions or behaviors and willingness to accept risk [36]. M. Hsu et al. suggest that trust can create a necessary atmosphere for more open interaction while excluding undesirable opportunistic behavior, thus treating trust as an environmental factor influencing user behavior [37]. M. Lin holds a similar view [38]. Previous studies have found that trust significantly influences commenting behavior; for instance, Li Zhaofei found that trust in the platform positively correlates with consumers’ review posting frequency [39], and Cheng Junhui demonstrated that trust positively affects user commenting behavior in Weibo public opinion dissemination [40]. Additionally, research has shown that trust significantly impacts information sharing behavior, as Zhu Lin’s study indicated that trust has the greatest influence on online sharing of marketing information [41], and He Dajiang found that trust significantly affects information sharing behavior on WeChat public platforms [42]. Based on these studies, this research selects trust as an environmental factor to examine its influence on user danmaku commenting behavior, proposing the following hypothesis:

**Hypothesis 3 (H3):** Trust positively influences user danmaku commenting behavior on danmaku video websites.

A key characteristic of danmaku commenting is its real-time feedback mecha-

nism, which breaks traditional sender-receiver relationships [9]. This feature is closely linked to social presence in media. S. Han et al. found that immediacy features (such as real-time feedback) on social networking sites affect social presence [43]. J. Short et al. define social presence as the degree to which a person is perceived as a “real person” and the sense of connection with others during media-mediated communication; social presence is considered an inherent characteristic of media that can influence behavior [44]. Based on this understanding, social presence can be treated as an environmental factor affecting behavior. S. Miranda’s research further revealed that higher social presence in media environments leads to greater breadth of information sharing (the number of discussions initiated by members) [45]. Mao Chunlei and Yuan Qinjian’s review of social presence theory literature suggests that social presence can reduce psychological distance among participants in online information interaction, thereby enriching online interaction processes and mitigating conflicts during interaction [46]. This paper considers danmaku commenting behavior as essentially interactive information sharing behavior; therefore, social presence is selected as an environmental factor to examine its influence on user danmaku commenting behavior, proposing the following hypothesis:

**Hypothesis 4 (H4):** Social presence positively influences user danmaku commenting behavior on danmaku video websites.

Based on these hypotheses, an initial model of influencing factors for user danmaku commenting behavior is proposed, as shown in Figure 1 [Figure 1: see original paper].

### 3.2 Questionnaire Design

Based on the above hypotheses and initial model, a questionnaire was developed referencing relevant literature. The questionnaire consists of three parts: The first part collects basic personal information and includes screening questions to identify valid samples of Bilibili danmaku video website users. The second part measures influencing factors of danmaku commenting behavior. The third part measures danmaku commenting behavior itself. Both the second and third parts employ a five-point Likert scale (1-5 representing strongly disagree, disagree, neutral, agree, and strongly agree) to measure respondents’ attitudes toward each item. The measurement items for the second and third parts are shown in Table 1 .

**Table 1. Measurement Items for User Danmaku Commenting Behavior and Its Influencing Factors**

Construct	Item	Measurement Statement	Source
Self-efficacy	Q1	I am confident that I can provide valuable information to other users through danmaku comments	M. Hsu et al. [37]
	Q2	I have the skills and experience needed to provide valuable information to other users	
	Q3	I am confident in clearly expressing my ideas through danmaku comments	
Outcome expectations	Q4	Through danmaku comments on Bilibili, I can gain more respect and recognition	M. Hsu et al. [37]
	Q5	Through danmaku comments on Bilibili, I can build closer relationships with others	
Trust	Q6	I believe many users on Bilibili are trustworthy	C. Ridings et al. [47]
	Q7	I believe other users on Bilibili will not engage in inappropriate behavior toward my danmaku comments	
	Q8	I believe most users on Bilibili are well-intentioned	
Social presence	Q9	When commenting via danmaku, I feel like I am communicating with many people	Hong Xuejiao [48]
	Q10	When commenting via danmaku, I feel I can influence others' emotions	
	Q11	When commenting via danmaku, I feel others can understand my opinions or claims	
Danmaku commenting behavior	Q12	I frequently post danmaku comments on Bilibili	C. Chiu et al. [49]; Tang Yin et al. [50]
	Q13	On topics of interest, I often post danmaku comments two or more times	
	Q14	I frequently comment on various types of topics, not just specific ones	

---

## Data Analysis and Results

### 4.1 Basic Demographics

From June 12 to 15, 2020, 153 online questionnaires were collected via Wenjuanxing. After excluding invalid responses, 129 valid questionnaires remained, yielding an effective rate of 84.3%. Basic demographic information of the user sample is presented in Table 2 .

**Table 2. Demographic Statistics of User Sample**

Demographic Variable	Category	Frequency	Percentage (%)
Age	Under 18	14	10.85
	18-30	89	68.99
	31-40	19	14.73
	Over 41	7	5.43
Education	Junior high school	13	10.08
	Senior high school/vocational education	23	17.83
	College diploma	15	11.63
	Bachelor's degree	63	48.84
	Graduate education	15	11.63
Duration of Bilibili use	(0, 3 months]	24	18.60
	(3 months, 6 months]	19	14.73
	(6 months, 1 year]	23	17.83
	(1 year, 2 years]	27	20.93
	(2, 3 years]	23	17.83
	Over 3 years	13	10.08
Frequency of Bilibili use	3-5 times per week	37	28.68
	1-2 times per week	31	24.03
	1-2 times per month	24	18.60
	Only when needed	37	28.68

According to official Bilibili data [4], users aged 18-35 account for 78% of the total user base, and users are characterized by high education levels. The data in Table 2 generally align with this description, indicating that the research sample is reasonably representative.

### 4.2 Reliability and Validity Tests

Validity and reliability testing of questionnaire variables forms the foundation for valid research results. Preliminary analysis revealed that outcome expectations...

The analysis results are shown in Table 3 .

**Table 3. Reliability and Convergent Validity Test Results**

Construct	Item	Cronbach's $\alpha$	KMO	AVE	CR	Standardized Loading
Self-efficacy	Q1	0.864	0.725	0.680	0.864	0.838
	Q2					0.828
	Q3					0.807
Outcome expectations	Q4	0.764	0.500	0.623	0.767	0.736
	Q5					0.842
Trust	Q6	0.848	0.653	0.712	0.883	0.851
	Q7					0.841
	Q8					0.839
Social presence	Q9	0.804	0.711	0.579	0.805	0.784
	Q10					0.733
	Q11					0.766
Danmaku commenting behavior	Q12	0.894	0.751	0.739	0.894	0.852
	Q13					0.865
	Q14					0.861

**(1) Reliability Test.** Reliability refers to the consistency or dependability of measurement results. In social sciences, Cronbach's  $\alpha$  coefficient is the most widely used and recognized method for estimating reliability of Likert-type scales [51]. This study employed internal consistency coefficients for reliability testing. The overall Cronbach's  $\alpha$  for the scale was 0.912, and as shown in Table 3, all constructs exhibited Cronbach's  $\alpha$  values greater than 0.7, indicating good reliability.

**(2) Validity Test.** Validity assesses the accuracy, effectiveness, and correctness of measurement scales. Convergent validity and discriminant validity are used to evaluate validity. This study employed confirmatory factor analysis to test convergent and discriminant validity [52]. The analysis yielded an overall KMO value of 0.883. As shown in Table 3, all variables except outcome expectations had KMO values greater than 0.5, and Bartlett's test of sphericity was significant ( $p < 0.05$ ), indicating the data were suitable for factor analysis. Table 3 shows that all constructs had AVE values greater than 0.5 and CR values greater than 0.7, demonstrating high convergent validity. Table 4 presents discriminant validity analysis, showing that the square root of AVE for each variable exceeded the absolute value of its correlation with other variables, indicating good discriminant validity.

**Table 4. Discriminant Validity: Pearson Correlations and AVE Square Roots**

Construct	Self-efficacy	Outcome expectations	Trust	Social presence	Danmaku commenting behavior
Self-efficacy	0.825				
Outcome expectations	0.685	0.789			
Trust	0.581	0.446	0.808		
Social presence	0.538	0.453	0.685	0.761	
Danmaku commenting behavior	0.457	0.277	0.473	0.387	0.860

Note: Diagonal elements are the square roots of AVE; off-diagonal elements are correlation coefficients.

### 4.3 Correlation Analysis

To determine whether relationships exist among variables, this study employed Pearson correlation analysis to examine relationships between danmaku commenting behavior and its influencing factors. Table 5 shows that self-efficacy, outcome expectations, trust, and social presence all exhibit significant positive correlations with danmaku commenting behavior.

**Table 5. Correlation Analysis Between Danmaku Commenting Behavior Influencing Factors and Danmaku Commenting Behavior**

	Self-efficacy	Outcome expectations	Trust	Social presence
Danmaku commenting behavior	Pearson correlation: 0.457** Sig. (2-tailed)	0.277**	0.473**	0.387**

\*\*Correlation is significant at the 0.01 level (2-tailed)

#### 4.4 Regression Analysis

Regression analysis was conducted to further examine influencing factors and their effects on user danmaku commenting behavior, revealing the primary factors affecting this behavior.

As shown in Table 6, a three-step backward selection strategy was employed to complete the regression model. The F-test was significant ( $F = 23.823$ ,  $p = 0.000 < 0.05$ ), indicating Model 3 is valid. Collinearity analysis revealed no multicollinearity issues among variables. Model 3 represents the regression analysis results for influencing factors of danmaku commenting behavior, with an  $R^2$  value of 0.274, meaning self-efficacy and trust can partially explain variations in danmaku commenting behavior.

**Table 6. Multiple Regression Analysis of Danmaku Commenting Behavior Influencing Factors**

Model	Variable	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics
	B		Std. Error	Beta		Tolerance
1	(Constant)	0.949	0.311		3.050	0.003
	Self-efficacy	0.311	0.091	0.311	3.430	0.001
	Trust	0.358	0.098	0.358	3.667	0.000

*Dependent variable: Danmaku commenting behavior*

Data analysis supports Hypotheses 1 and 3, while Hypotheses 2 and 4 are not supported. Based on these results, the initial model was revised as shown in Figure 2 [Figure 2: see original paper].

## Conclusions and Discussion

The regression equation reveals that self-efficacy and trust are the key factors influencing danmaku commenting behavior, while outcome expectations and social presence show no significant effects. Each finding is discussed below.

### (1) Self-efficacy positively influences danmaku commenting behavior.

This finding aligns with research on commenting behavior [28, 53] and information sharing behavior [29-30], indicating that higher user self-assessment of their ability to achieve desired goals through danmaku commenting increases the likelihood of engaging in such behavior. Accordingly, we recommend that danmaku video website operators implement measures to enhance user self-efficacy, such as providing proactive, systematic guidance on danmaku commenting techniques and simplifying the danmaku commenting interface.

**(2) Trust positively influences danmaku commenting behavior.** This conclusion is consistent with findings on commenting behavior [39-40] and information sharing behavior [41-42], suggesting that a better trust atmosphere on danmaku video websites and higher user trust in the platform environment increase the likelihood of danmaku commenting behavior. We suggest that operators foster trust through enriched online and offline user interaction activities that promote friendly relationships among users, and by establishing fair, effective reward and punishment systems (e.g., awarding points to users who actively comply with guidelines and restricting privileges for those who maliciously violate them).

**(3) Outcome expectations do not significantly influence danmaku commenting behavior.** This finding contradicts research on commenting behavior [28] and information sharing behavior [29-30]. The discrepancy may be attributed to weak interpersonal relationships and low emotional intimacy among danmaku video website users, leading them to disregard or not expect beneficial outcomes (such as praise, recognition, or respect from other users) when commenting via danmaku.

**(4) Social presence does not significantly influence danmaku commenting behavior.** This finding contradicts research on information sharing behavior [45]. The reason may be that when commenting via danmaku, users are simply sharing information and focusing on subjective participation, paying little attention to connections with others. Therefore, they do not expect other users to understand their viewpoints or generate emotional resonance.

This study extends the applicability of social cognitive theory to user danmaku commenting behavior in the context of danmaku video websites, contributing theoretically to the literature. Practically, it offers recommendations for improving user interaction experiences on danmaku video platforms and indirectly promoting the development of danmaku culture.

This study has several limitations. First, it does not examine other potential individual factors that may influence danmaku commenting behavior, such as personality traits; future research could explore this angle. Second, this study does not consider interaction effects between individual and environmental factors; future research could investigate how such interactions indirectly influence danmaku commenting behavior.

---

## References

- [1] Zhuge Dawei. Analysis of danmaku movies in the Internet era—Based on the perspective of interaction ritual chains [J]. *Journalism 界*, 2015(3): 2-6, 30.
- [2] Huang Xujun. Research on the development strategy of danmaku video websites from a communication perspective [D]. Guangzhou: Jinan University, 2016.

- [3] Wang Jiaqi. Research on danmaku culture based on danmaku video websites [D]. Jinan: Shandong Normal University, 2015.
- [4] Bilibili. About Us [EB/OL]. [2021-01-01]. <https://www.bilibili.com/blackboard/aboutUs.html>.
- [5] Zhang Lu, Wang Ruoqia. Comparative study of user commenting behavior in online educational videos—Taking Bilibili video comments as an example [J]. *Modern Intelligence*, 2020, 40(2): 62-71.
- [6] Chen Yijin, Zhuo Linkai, Zhao Yiming. Research on interactive behavior of danmaku users in educational videos [J/OL]. *Library Forum*: 1-8. [2021-01-20]. <http://kns.cnki.net/kcms/detail/44.1306.g2.20201123.1350.002.html>.
- [7] He M, Ge Y, Chen E, et al. Exploring the emerging type of comment for online videos: DanMu [J]. *ACM Transactions on the Web*, 2018, 12(1): 1-33.
- [8] Chen Jun, Qian Chen, He Mengting. Research on location-based virtual community online review information sharing behavior [J]. *Information Science*, 2018, 36(11): 150-157.
- [9] Chen Wei. Research on danmaku video websites and their users [D]. Nanchang: Nanchang University, 2015.
- [10] Chen Yi, Cao Shengqi, Wang Tong. Perspective on danmaku websites and danmaku communities: A youth subculture viewpoint [J]. *Youth Exploration*, 2013(6): 19-24.
- [11] Li Li. Research on danmaku websites based on user behavior [D]. Shenyang: Liaoning University, 2015.
- [12] Zhang Shuai, Wang Wentao, Zhou Huaren, et al. Research on driving factors of user behavior on danmaku video websites based on grounded theory [J]. *Information Studies: Theory & Application*, 2018, 41(7): 117-122.
- [13] He Yaling. Research on the relationship between college students' danmaku usage behavior and sense of immersion and loneliness [D]. Wuhan: Huazhong University of Science and Technology, 2017.
- [14] Yang Qin. Research on influencing factors of danmaku video audience usage behavior [D]. Chengdu: Southwest Jiaotong University, 2016.
- [15] Guo Ranhao. Empirical analysis of user participation on danmaku websites [D]. Chongqing: Chongqing University, 2017.
- [16] Chen Yijin, Zhuo Linkai, Zhao Yiming. Research on interactive behavior of danmaku users in educational videos [J/OL]. *Library Forum*: 1-8. [2021-01-20]. <http://kns.cnki.net/kcms/detail/44.1306.g2.20201123.1350.002.html>.
- [17] Tong Chong, Zhao Yuxiang. Research on user motivations and behaviors on danmaku video websites based on content analysis [J]. *Library Forum*, 2019, 39(6): 80-89.

- [18] Wang Zhizhi, Wang Xue, Zha Xianjin. Exploration of driving factors behind herd information commenting behavior of danmaku video website users [J]. *Journal of Information Resources Management*, 2020, 10(4): 60-69.
- [19] Long Jie. Research on influencing factors of college students' danmaku interaction participation behavioral intention [D]. Wuhan: Huazhong University of Science and Technology, 2017.
- [20] Liu L, Suh A, Wagner C. Watching online videos interactively: The impact of media capabilities in Chinese danmaku video sites [J]. *Chinese Journal of Communication*, 2017, 9(3): 1-21.
- [21] Yu Xin, Xu Zhengliang. Research on information participation behavior of danmaku users in live streaming platforms—From the perspective of immersion theory [J]. *Information Science*, 2017, 35(10): 147-151.
- [22] Chen Yijin, Zhuo Linkai, Zhao Yiming. Research on interactive behavior of danmaku users in educational videos [J/OL]. *Library Forum*: 1-8. [2021-01-20]. <http://kns.cnki.net/kcms/detail/44.1306.g2.20201123.1350.002.html>.
- [23] Wen Lei. Research on uses and gratifications theory of Bilibili danmaku video website [D]. Chengdu: Southwest Jiaotong University, 2016.
- [24] Fan Si. Research on user experience and interactive behavior on participatory websites [D]. Wuhan: Huazhong University of Science and Technology, 2018.
- [25] Sun Weijie. Research on interaction ritual chain models and emotional energy models in danmaku videos [D]. Xiamen: Xiamen University, 2018.
- [26] Bandura A. *Social Foundations of Thought and Action* [M]. Englewood Cliffs, NJ: Prentice Hall, 1986.
- [27] Bandura A. Self-efficacy: Toward a unifying theory of behavioral change [J]. *Psychological Review*, 1977, 84(2): 191-215.
- [28] Zhang Beijia. Research on the dynamic mechanism of consumers posting online reviews in online shopping environments—From the perspective of social cognitive theory [J]. *Journal of Jilin Business and Technology College*, 2016, 32(5): 41-44.
- [29] Kim J, Lee C, Elias T. Factors affecting information sharing in social networking sites among university students: Application of the knowledge-sharing model to social networking sites [J]. *Online Information Review*, 2015, 39(3): 290-309.
- [30] Li Zhihong, Zhu Tao, Luo Fang. Research on the influence path of organizational climate on knowledge sharing behavior—Empirical research and implications based on IT enterprises in South China [J]. *Science Research Management*, 2010, 28(6): 894-901.

- [31] Zhou Tao, He Lianzi, Deng Shengli. Research on influencing factors of user knowledge sharing in open innovation communities [J]. *Modern Intelligence*, 2020, 40(3): 58-64.
- [32] Bilibili. Danmaku Etiquette [EB/OL]. [2020-06-20]. <https://www.bilibili.com/blackboard/help.html#%E5>
- [33] Wang Jiahua. Analysis of “danmaku culture” and “danmaku etiquette” in the new media context [J]. *Journal of News Research*, 2019, 10(18): 41-42.
- [34] Zhai Xuewei. The nature of trust and its culture [J]. *Society*, 2014, 34(1): 1-26.
- [35] Zucker L. Production of trust: Institutional sources of economic structure, 1840-1920 [J]. *Research in Organizational Behavior*, 1986, 8(2): 53-111.
- [36] Rousseau D, Sitkin S, Burt R, et al. Not so different after all: A cross-discipline view of trust [J]. *Academy of Management Review*, 1998, 23(3): 393-404.
- [37] Hsu M, Ju T, Yen C, et al. Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations [J]. *International Journal of Human-Computer Studies*, 2007, 65(2): 153-169.
- [38] Lin M, Hung S, Chen C. Fostering the determinants of knowledge sharing in professional virtual communities [J]. *Computers in Human Behavior*, 2009, 25(4): 929-939.
- [39] Li Zhaofei. Research on motivations for online consumer product review posting [D]. Harbin: Harbin Institute of Technology, 2011.
- [40] Cheng Junhui. Research on user participation behavior in Weibo public opinion dissemination [D]. Harbin: Harbin Engineering University, 2015.
- [41] Zhu Lin. Research on influencing factors of social media marketing information sharing [D]. Hangzhou: Zhejiang University, 2015.
- [42] He Dajiang. Research on influencing factors of information sharing behavior on WeChat public platforms [D]. Baoding: Hebei University, 2017.
- [43] Han S, Min J, Lee H. Antecedents of social presence and gratification of social connection needs in SNS [J]. *International Journal of Information Management*, 2015, 35(4): 459-471.
- [44] Short J, Williams E, Christie B. *The Social Psychology of Telecommunications* [M]. London: Wiley, 1976.
- [45] Miranda S, Saunders C. The social construction of meaning: An alternative perspective on information sharing [J]. *Information Systems Research*, 2003, 14(1): 87-106.
- [46] Mao Chunlei, Yuan Qinjian. Social presence theory and its application and prospects in information systems [J]. *Journal of Intelligence*, 2018, 37(08): 186-194.

- [47] Ridings C, Gefen D, Arinze B. Some antecedents and effects of trust in virtual communities [J]. *Strategic Information Systems*, 2002, 11(3/4): 271-295.
- [48] Hong Xuejiao. Research on the relationship between social presence and user-generated content behavior in social media [D]. Xiamen: Huaqiao University, 2017.
- [49] Chiu C, Hsu M, Wang E. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories [J]. *Decision Support Systems*, 2006, 42(3): 1872-1888.
- [50] Tang Yin, Xu Yonghuan, Zhang Xuan. Research on social media users' forwarding behavior based on social cognitive theory [J]. *Library Work and Study*, 2016(6): 68-76.
- [51] Wu Minglong. *Questionnaire Statistical Analysis Practice* [M]. Chongqing: Chongqing University Press, 2010.
- [52] Xia Jiabei, Deng Chaohua, Wu Tailai. Research on influencing factors of occupational women's online health information seeking behavior and the moderating effect of social support [J]. *Library and Information Service*, 2020, 64(23): 53-62.
- [53] Chen Xinhua. Research on influencing factors of tourist online review writing behavior [J]. *Enterprise Economy*, 2016(4): 161-164.

**Author Contributions:**

Feng Yuru: Topic selection, research design, data collection and analysis, paper writing.

Deng Xiaozhao: Topic guidance, paper revision and review.

*Note: Figure translations are in progress. See original paper for figures.*

*Source: ChinaXiv — Machine translation. Verify with original.*