RESEARCH ARTICLE

The Use of Social Media "Hashtag" Function and Media Preference Based on the Behavioral Motive of College Students

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Abstract

In order to understand the influence of college students' motivation on the use of some social media functions of different social platforms, the commonly used social platforms of college students are analyzed, and the "Hashtag" function is interacted through artificial intelligence technology, so as to realize the relationship between college students' psychological behavior, the use of social media "Hashtag" function and media bias. The results show that Wechat, microblog and QQ are the most popular social platforms at present, and college students can get more information from the platform to further complete their communication tasks. Therefore, the research on the use of social media "Hashtag" function and media bias based on college students' psychological behavior motivation is of great significance to the study of college students' social psychology and media bias.

1. Introduction

With the continuous popularization of the Internet, the number of Internet users in China has also increased. According to the statistical report released in 2020, as of March 2020, the number of Internet users in China has reached 904 million, an increase of 75.08 million compared with that in 2018. Among them, the number of mobile Internet users reached 897 million, accounting for 99.3%. Especially during the outbreak, the opening of schools nationwide is delayed, and teaching activities are adjusted from offline to online, which also push the rapid growth of online education users. Moreover, Chinese government agencies have opened media platform accounts to enhance interaction with the public with the help of new media. According to relevant data, during the outbreak, the number of government's new Tiktok accounts is 17380, the number of new Toutiao accounts is 82937, and number of new microblog accounts is 139000[1].

Social media is a form of mass media. With the continuous development of society, social media has gradually penetrated into people's media life, which allows users to create and communicate. At present, people often use microblog, blog, community website, QQ, Wechat, etc., which are typical social media. People can realize the expression and exchange of views with the outside world, as well as the acquisition and dissemination of information by using them, which makes Internet users feel free and convenient, so it also attracts a large number of college students' netizens[2]. Social media can be divided into narrow sense and broad sense. In a broad sense, social media refers to channels that can promote communication and form interpersonal relationships, while in a narrow sense, it is a media platform developed based on Web 2.0. The "Hashtag" function is mainly used to initiate and discuss the main body of the line management. Especially in recent years, "Hashtag" function has become an important way of college students' social dialogue[3].

Therefore, considering the special significance of the "Hashtag" function of social media and college students as an important group of Internet users, it is of great significance to study their use of "Hashtag" and media bias in social media, so as to further obtain college students' preference for "Hashtag" and social media.

2. Literature Review

Social media is becoming more and more important in people's life. Whether it is communication or sharing, it has become an important part of people's daily activities. Swart et al. (2018) pointed out that social media plays the role of communication in the daily environment, and people's understanding of the frequency, content preference and network settings of some information on the communication media is more based on social experience, and there is a certain gap between whether news topics can promote dialogue. They investigated how people participate collectively in current events and related follow-up, sharing and discussion practices in different social forms. The results show that members of social groups have weak ties and tend to news centers. In addition, privacy needs to be considered, and norms and social boundaries should be clarified[4]. Zappavigna and Martin (2017) pointed out that social metadata is an important dimension of social media communication, which is closely related to the practice of planning, topic and search content. In social media, participants do not necessarily have direct contact, and they can make alliances and negotiations through social topics[5].

Hilpert and Marchand (2018) pointed out that the philosophical and theoretical sources of complex system research organized by complex, dynamic and emerging ontological features are useful and appropriate for psychology[6]. McCrudden and Marchand (2020) discussed and analyzed the application of M3, and analyzed the five purposes of mixed method research, and illustrated how M3 was used for mixed method research. Through the description of three key assumptions and examples, it shows how to shape a person, and shares some experiences and lessons[7].

Zawacki-Richter et al. (2019) pointed out that the application of artificial intelligence in the field of education is one of the emerging fields of current education technology, and artificial intelligence in education can be applied in the field of education services, but there are also certain risks. At the same time, due to the weak connection between artificial intelligence education and theoretical education perspective, it is necessary to further explore the ethics and

educational methods of the application of artificial intelligence education in higher education[8]. Edwards et al. (2019) used the social actor paradigm to expand the prediction of social identity theory to human-computer interaction in teaching and communication, and pointed out that older students give higher evaluation on the reliability and social existence of older artificial intelligence speech instructors, and reported that they have more learning motivation than students with lower age identity, and discussed the design features of computerized sound[9].

To sum up, in previous studies, the use of "Hashtag" function of social media is mostly focused on social media communication, while the research on college students' psychology is relatively single. Therefore, when the use of "Hashtag" function of social media is considered, college students' psychological behavior motivation and artificial intelligence technology are added to study the use of social media by college students.

3. Methods

3.1 Hashtag function in social media

Hashtag system can be classified into two categories in terms of functions: social function and media function. Certainly, there is no clear-cut boundary between these two functions[10-12]. The hashtag function of social media is reflected in the topic interaction functions, such as Share, Follow, Forward, Like, Reward, and Up. Users can interact about specific topics via hashtags. Meanwhile, the introduction of the "#" sign provide a strong function to aggregate same-topic posts. The hashtag function enables social media users to act actively. In other words, users are not only passive readers but also contributors in social media. Recently, the hashtag function has drawn increasing attention and has been widely use in practice[13].

The study consists of three phases. In the first phase (from 2013 to 2014), we surveyed and interviewed selected sample of college students about their use of social media. We find that the use of social media technologies results in various social problems. For example, some college students exhibit two drastically different personalities in the real life and in social media, indicating a social anxiety disorder phenomenon[14-16]. In the second phase (from 2015 to 2016), we distributed an online survey again to college students and further investigated part of items in the first survey. Moreover, the use of different social media is examined separately. In the third phase (2017-2018), we further included the investigation of new applications in social media such as short videos and fundraising. The entire study spans for six years and enables us to study the changes of hashtag use and platform selection preferences[17-20].

Respondents are mainly from Henan and Shanghai. Questionnaire were distributed in WeChat Moment with the snowballing approach and filled voluntarily. Each questionnaire collecting period lasted for one month. Invalid data are removed. The final sample consists of 1,342 responses[21,22]. The region distribution is shown in Figure 1.
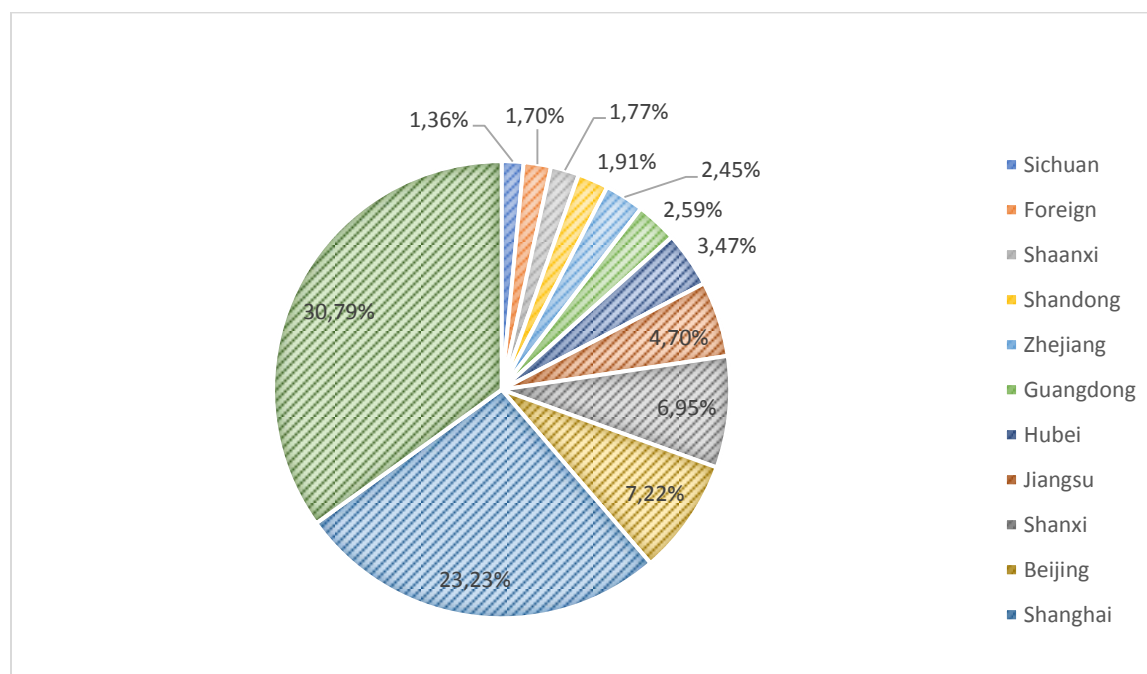
Figure 1: Region distribution of the sample

3.2 Major social media and the characteristics of the hashtag function

Based on the function characteristics, hashtag systems can be classified into open system, semi-open system, and closed system. The corresponding social media and key function of each system are summarized in Table 1[23-25].

Table 1: Major social media and the characteristics of the hashtag function

Hashtag system category			Major social media platforms in China	Major social media platforms in other countries	Major functions
Openness	Category				
Semi-open system	Forums		Tianya BBS, Mop BBS, Baiba Tieba	Yahoo(Message Boards)	Posting and Community
	Vertical community	Category based on Interests	Reading, movies: Douban, LOFTER Pictures: Duitang, Babidou, Bababian, Lofter Videos: Youku, Tudou, Ku6	Instagram pinterest Youtube	Professional comments on a certain field. Information search and sharing
		Categories based on users	Gagamatch, Badoo International socialization: Tingdong, Gagamatch, WeLiveInChina, Badoo Workplace socialization: 52rbl, Ushi, LinkedIn	Linkedin	Language and culture communication
	Collaborative	Q&A	Zhuhu, Tianya	Quora	Professional answers

	publication		Wenda, Baidu Knows, Fenda, Zaihang		(mainly about science and technologies)
		Encyclopedia	Hudong, Baidu, Baike	Wiki	User edit, collaborative publication
Open system	We Media	Long-post we media	Qzone, Sina Blog, 163Blog, WeChat	Blogging	Personal log and articles
		Short-post we media	Fanfou, SIna Weibo, Tecent Weibo, Sohu Weibo, Qzone	Twitter, Digg	Personal information posting and information sharing
Closed system	Instant message		QQ, Ali Trademanager, WeChat, Easychat, MiTalk, Momo, YY	WhatsApp 、 MSN、Skype	Online messaging, online chatting
	Social networking service		Renren, Kaixin001, Pengyou, Facebowl	Facebook	Social networking and sharing

College students are generally aware of the importance of social media, with 50.3% of students recognizing its importance, and 22.95% of students think that social media is very important. The time spent by college students on social media is statistically analyzed. Figure 2 shows the data result.
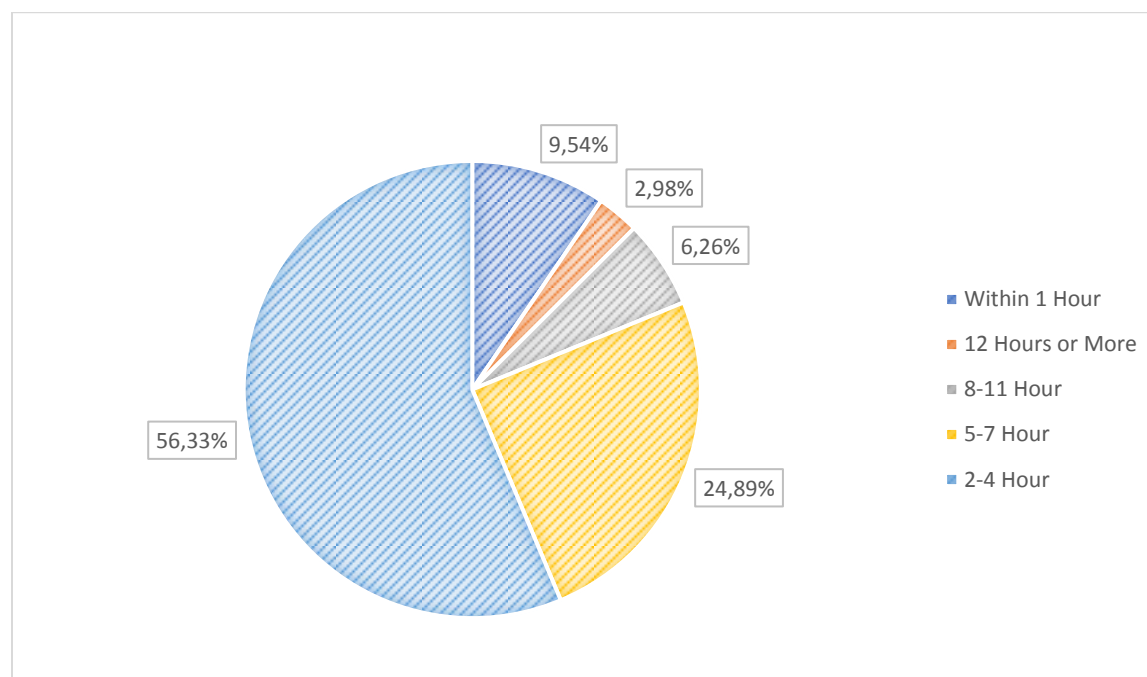

Figure 2: Time spent on social media

From the above survey results, it is found that 50.3% of students select "important" and 22.95% of students select "very important". Over 90% of respondents spend more than two hours on social media every day. Specifically, 53.33% of respondents select "2-4 hours", followed by "5-7 hours" (24.89%), "8-11 hours" 6.25%, and "more than 12 hours" (2.98%). In addition, college students have a strong social media dependency and the use of social media account for a large portion of their leisure time. Nearly half of the students use social media after 10 pm.

3.3 Social media preferences

College students mainly use social media on mobile devices. For all social media applications, mobile devices account for more than 84%. According to the statistics of social platforms used by college students, the results of Figure 3 are obtained.
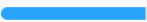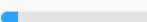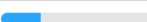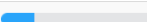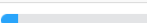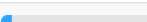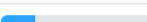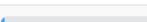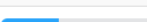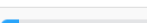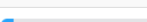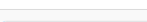
General Options	Subtotal	Percent
QQ	1266	94.34%
Wehchat	1269	94.56%
Weibo	1152	85.84%
Baidu Tieba	712	53.06%
Fetion	575	42.85%
Tianya BBS	153	11.4%
Zhihu	351	26.15%
YY	295	21.98%
Momo	160	11.92%
Twitter	101	7.53%
Douban	305	22.73%
Laiwang	31	2.31%
Renren	501	37.33%
Facebook	162	12.07%
Line	116	8.64%
Others	30	2.24%
Effective people	1342	

Figure 3 reports all social media platforms that have ever been used by sample students.

The above results show that WeChat, QQ, Weibo, Baidu Tieba are the most popular social media platforms used by college students: 94.34% of the students have used QQ, 94.56% of the students have used WeChat, and 85.84% of the students have used Weibo. After that, students are asked to select the three most commonly used social media platforms from the above contents, and then the results in Figure 4 are obtained.

General Options	Subtotal	Percent
QQ	1132	84.35%
Wehchat	1269	94.56%
Weibo	1038	77.35%
Baidu Tieba	128	9.54%
Fetion	27	2.01%
Tianya BBS	19	1.42%
Zhihu	72	5.37%
YY	26	1.94%
Momo	8	0.6%
Twitter	4	0.3%
Douban	26	1.94%
Laiwang	1	0.07%
Renren	13	0.97%
Facebook	16	1.19%
Line	2	0.15%
Others	10	0.75%
Effective people	1342	

Figure 4: Use frequency of social media platforms

Figures 3 and 4 show that in the first stage of the survey, Fetion and Renren are more popular among college students. This is because from 2009 to 2013, Fetion and Renren developed better, bringing more information and creating certain convenience for college students. 42.85% of student have used Fetion and 37.33% of students have used Renren. After that, with the continuous development of Wechat, the number of users of Fetion and Renren decreases gradually. By 2017, only 0.97% of the students often used Renren, but the number of people using Wechat reached 98.42%. The proportion of using QQ reached 87.31%, and the proportion of using microblog reached 84.45%. At present, Fetion, Renren and other social media platforms have almost disappeared, and their users have gradually migrated to Wechat and microblog. This is because users cannot manage multiple social media platforms at the same time, and the relevant data cannot be transferred to another platform. Therefore, the emergence of new competitors may cause users to migrate and other huge changes.

4. Results and Discussion

4.1 Multiple purposes of social media use: social and information needs

The problem of college students' preference to use social media is analyzed. It is found that college students have more preferences and different purposes of using social media, as shown in Figure 5.
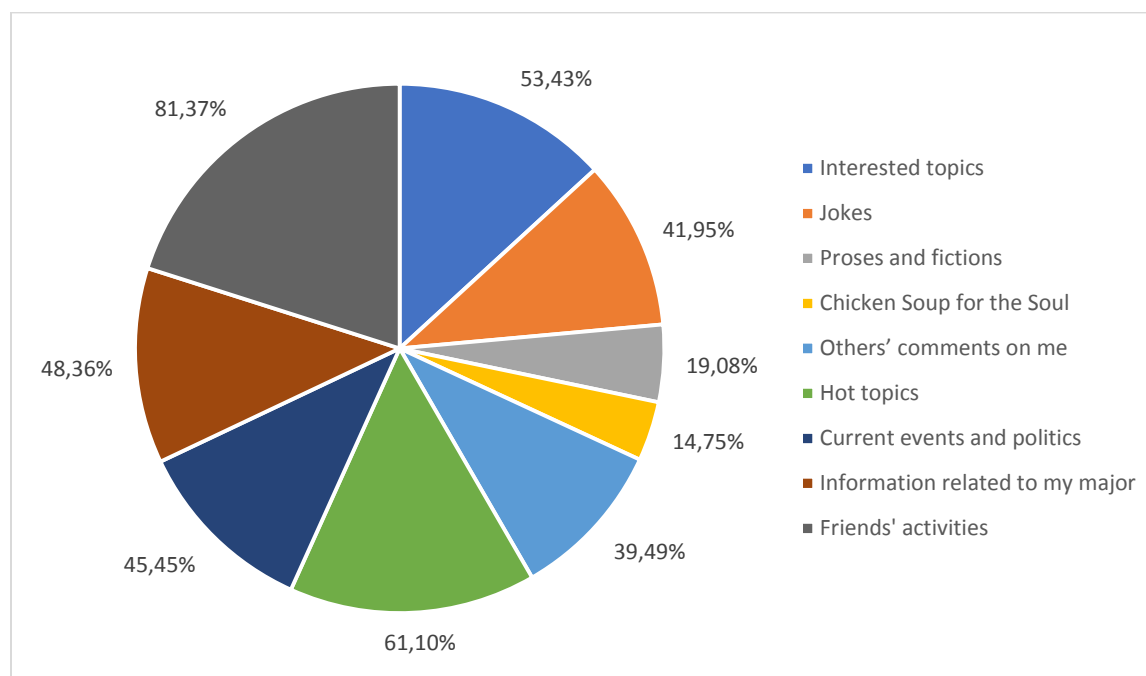
Figure 5: College students' purpose of social media use

Figure 5 shows that the purposes of college students' social media use are multiple. However, two main purposes are checking others' posts and hot topics. 81.37% of sample students select "others' posts" and 61.1% of students select "hot topics". Respondents who read "chicken soup for the soul" articles that are most widespread in social media only account for 14.75%. 53.43% of college students use social media to read contents they are interested in. Further interviews suggest that the categories of contents student are most interested in include comics and animations, videos games, and recruitment information.

4.2 Key determinant of forwarding posts: insightful

The problem of college students' preference for using social media is analyzed. It is found that college students have more preferences and different purposes of using social media, as shown in Figure 6:
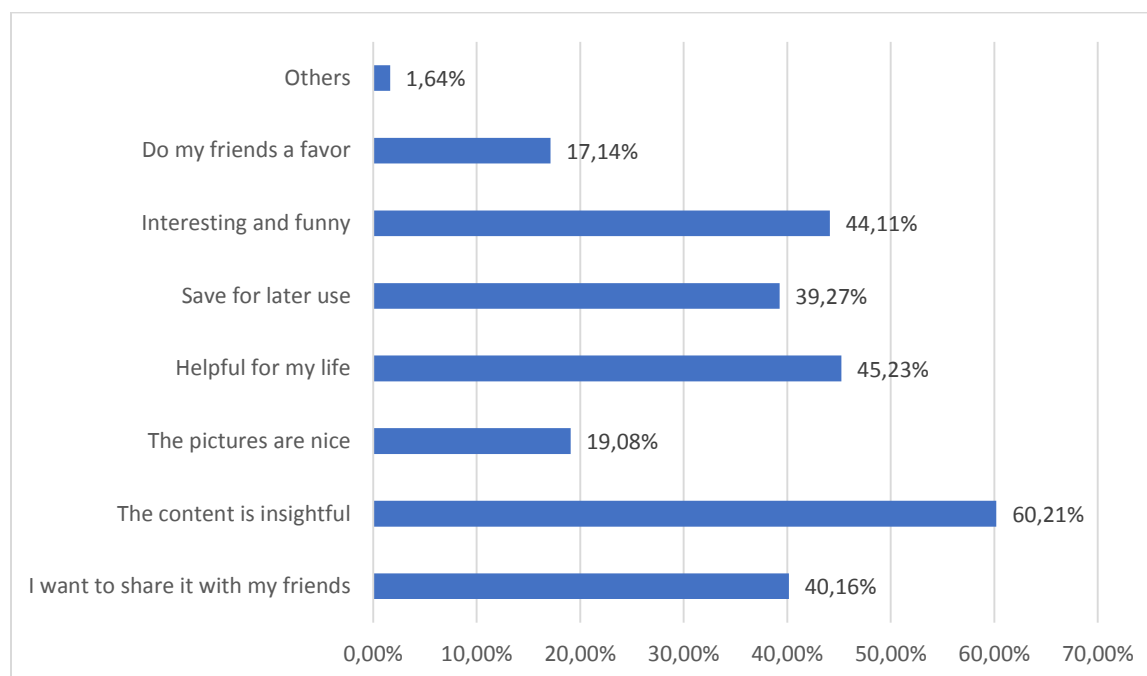
Figure 6: Determinant of forwarding for college students.

Figure 6 shows that the primary reason for college students to forward a post is: the content is insightful (60.21%). For college students, the quality of articles in social media is still the most important reason for students to forward contents and participate in a topic. The other two reasons for forwarding are "helpful for my life" (45.23%) and "interesting and funny" (44.11%). Therefore, whether the contents are of practical value and entertaining is also crucial determinants for forwarding and interactions.

4.3 The motives of function preference for social media platforms

When college students use social media, the use of "Hashtag" function is to deeply understand the content and discuss the important work. Especially in the use of microblog, "Hashtag" function is used more frequently. Figure 7 shows the reason for use.
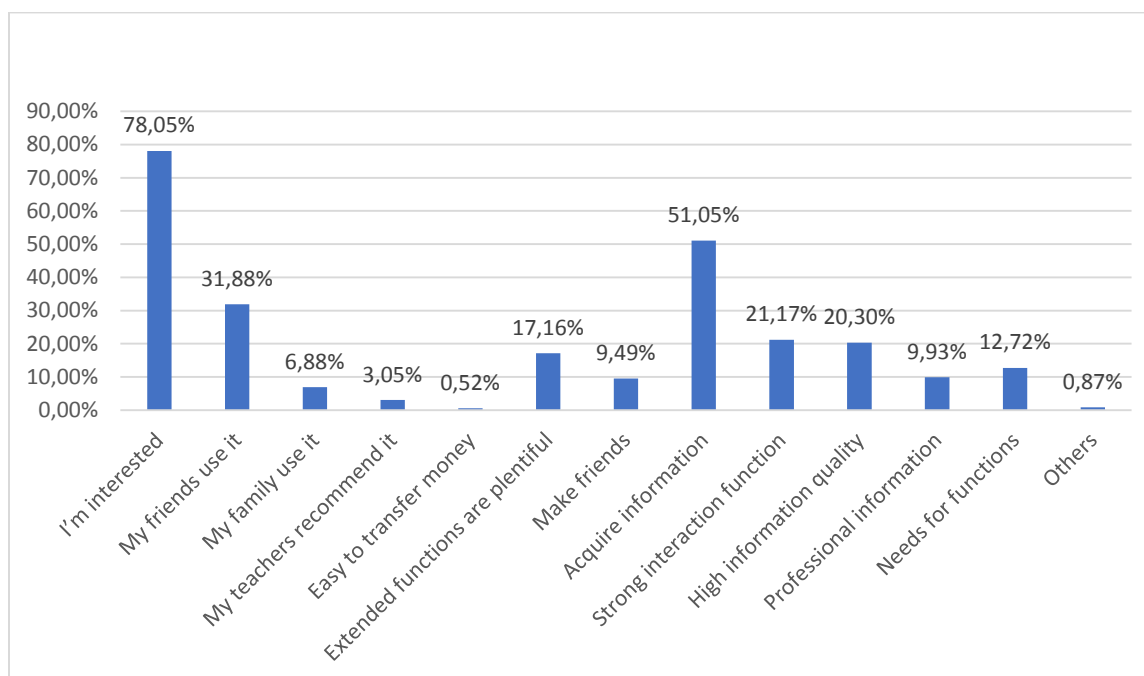
Figure 7: The reasons for college students to use Weibo

Figure 7 shows that the major reasons for college students to use Weibo include "I'm interested" (78.05%) and "acquire information" (51.05%). About 30% of respondents use Weibo because their friends use it (31.88%). The results in Figure 7 suggest that the social networking role of Weibo is more important than its informational role.

In addition, the use of "Hashtag" function by college students is also analyzed. Figure 8 shows the results.

Figure 8: Most used functions for Weibo

Figure 8 shows that the most used hashtag function of Weibo is information acquisition—a media function, accounting for 58.97%, followed by checking friends' posts (50.52%) —a social networking function and participation in top discussion (41.11%)—a mixed function.

On this basis, news topics are analyzed, that is, when there is a sudden news, the social platform that it appears first is investigated.
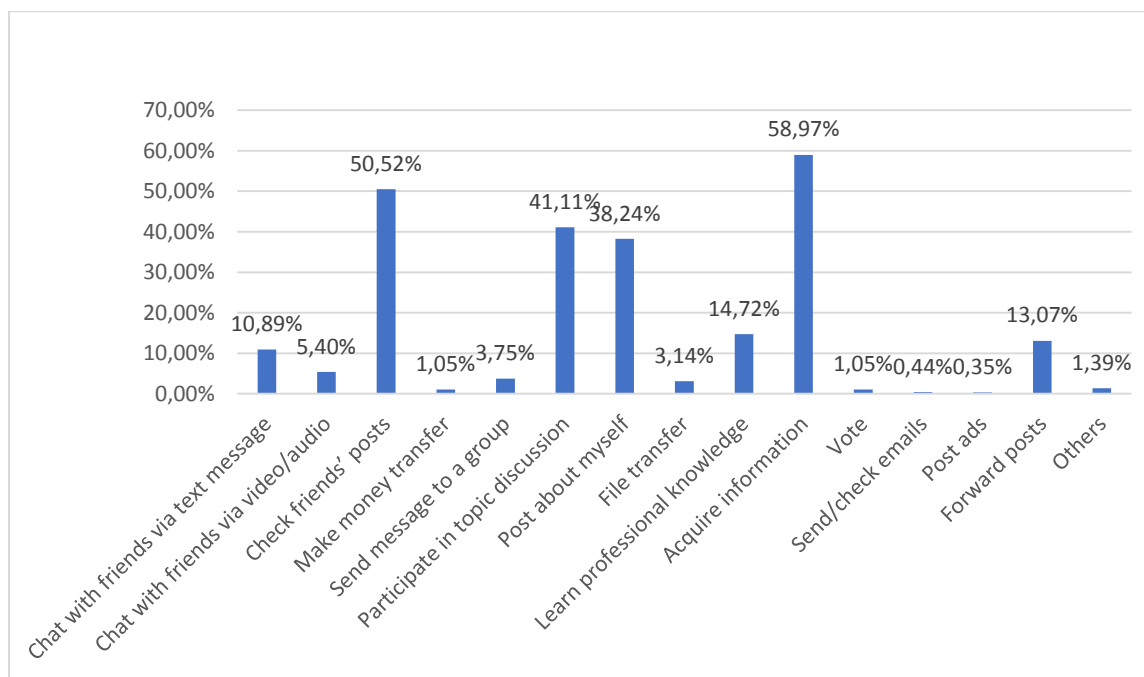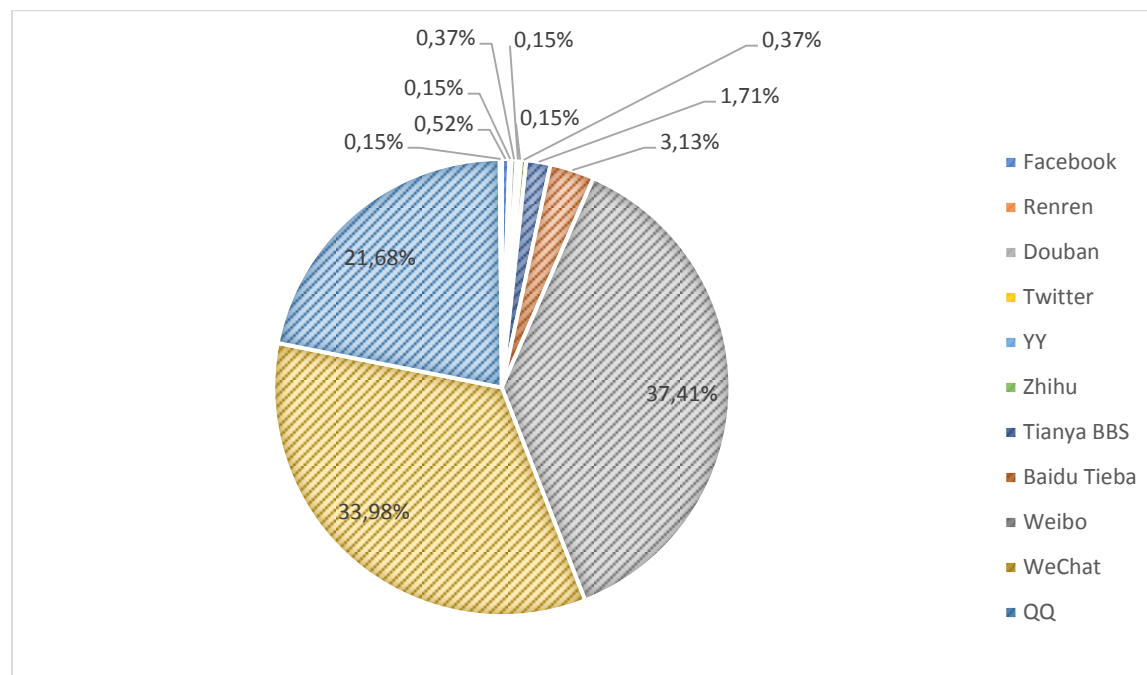

Figure 9: Distribution of preferred social media platform to reveal breaking news

Figure 9 shows that when there is a sudden news, 37.41% of them first publish on Weibo, 33.98% on Wechat and 21.68% on QQ.

4.4 Application of artificial intelligence in social media "Hashtag" tracking

When college students use social media, the human-computer interaction of artificial intelligence technology is applied to the "Hashtag" tracking of social media. When users input topic content into the human-computer interaction system, the system can match the input information with the background database, and then provide the topic content with high matching degree for users to watch and discuss [26-29].

More college students have a certain understanding of human-computer interaction. No matter what the scene, human-computer interaction can make students feel convenient through the screen, and it is also convenient for people's life. At the same time, on the basis of understanding the content of "Hashtag", college students can extend and expand to social skills through artificial technology, which will affect the interpersonal communication efficiency and content communication quality of college students, and also affect the bias of social media [30-32].

4.5 Social media preferences

When the usage of QQ, Wechat and Baidu Tieba is analyzed, the reason and function distribution are analyzed. Figures 10 and 11 show the corresponding results.
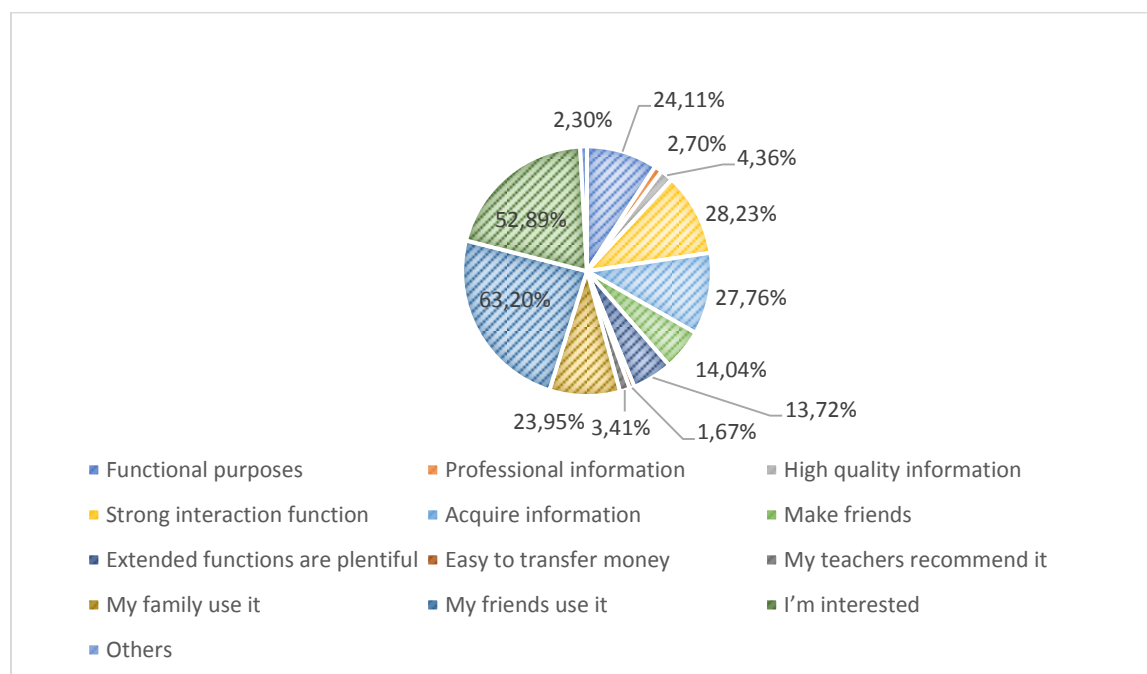
Figure 10: The distribution of the reasons to use QQ

Figure 10 shows that the reasons to use QQ reflects strong customer stickiness. The top reason is "my friends use it" (63.2%). "I'm interested" accounts for 52.89%. "my family use it" accounts for 23.95%. Only less than 30% of respondents use QQ because of information related reasons. At the same time, the function of QQ topic tag is analyzed. Figure 11 shows the usage distribution.

Figure 11: The distribution of QQ function use

Among the hashtag functions in QQ, text chatting is the most used (82.63%) function, followed by "check friends' posts" (71.61%). QQ video function accounts for 39.89%. Other frequently used functions include file transfer (18.95%) and "post a status" (17.45%). The social networking genes of Tencent has made QQ the most easy-to-use social networking tool. The 2017 survey results indicate that 73.21% of college students use QQ as their workplace social media tool. Recently, there is a growing trend toward the workplace use of QQ.

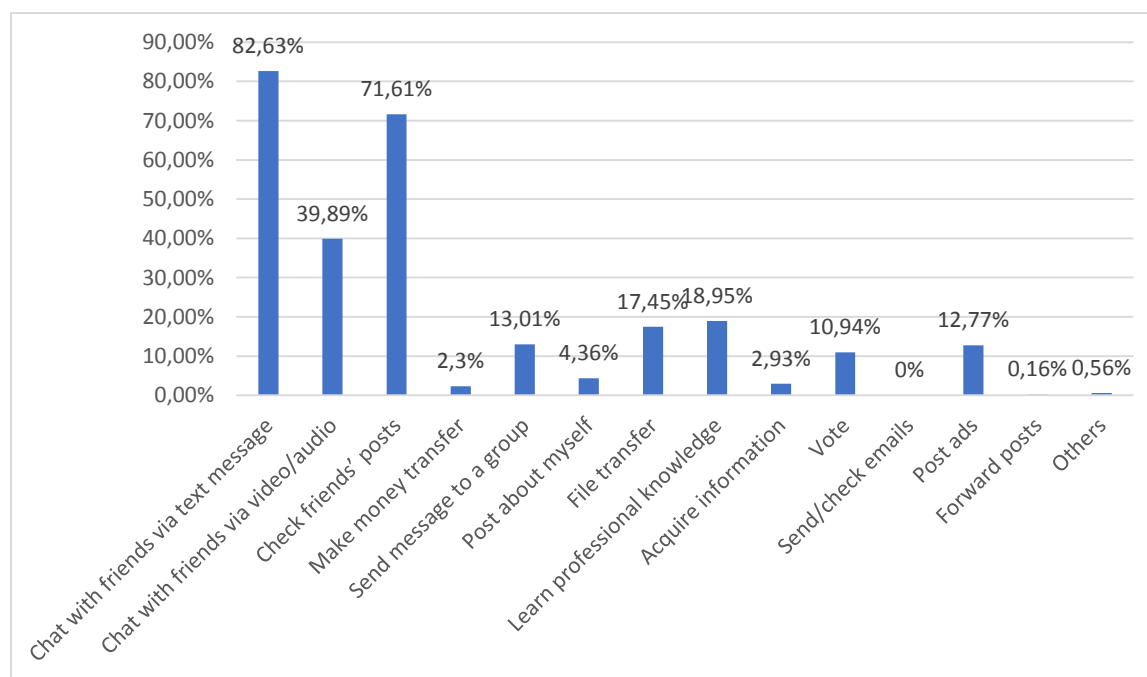When the function distribution of Wechat is analyzed, it is found that the use of Wechat topic function mainly focuses on social network and financial transaction function, as shown in Figure 12.
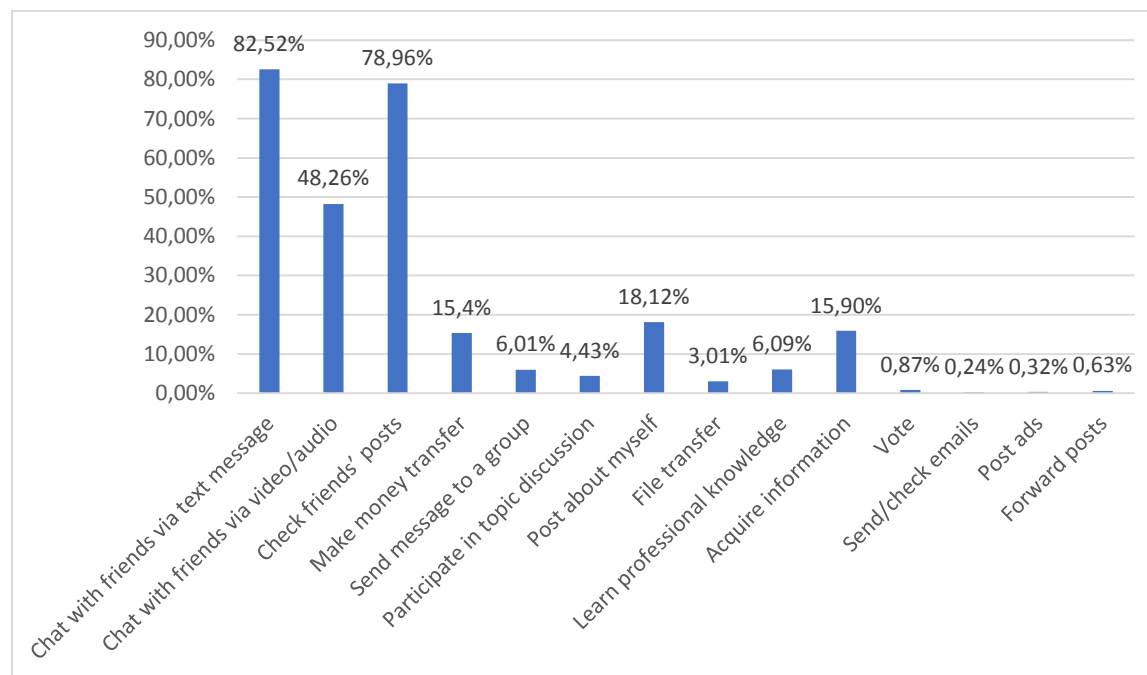
Figure 12: The distribution of WeChat function use

Figure 12 shows that the most used WeChat functions include "chat with friends" (82.52%), "check friends' posts" (78.96%), and "chat with friends via video" (48.26%). Other functions include "post a status" (18.12%), "acquire information" (15.9%), and money transfer (15.35%). The results suggest that the transfer function is recognized by users and the financial activities are increasingly active, entailing higher requirements of transaction security for platforms and regulation authorities.

There are many reasons for using Wechat, but it is similar to QQ. Figure 13 shows the cause distribution.
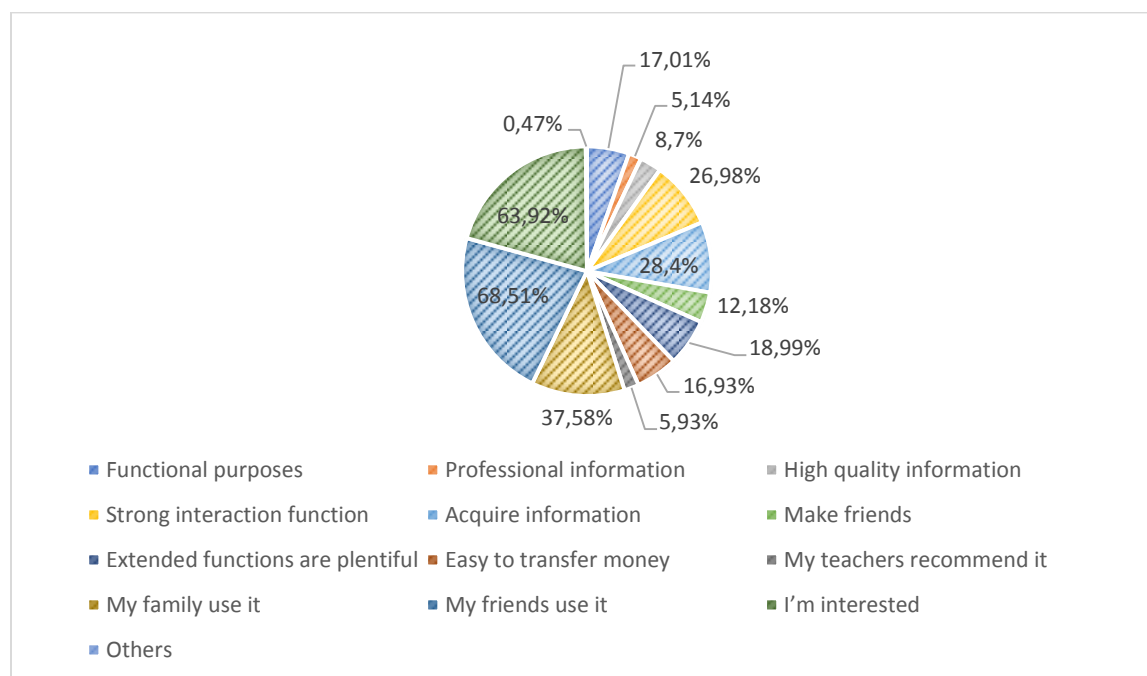
Figure 13: The distribution of the reasons to use WeChat

The reasons to use WeChat are similar to those for **QQ** and the social networking functions are dominant. Top 3 functions are "my friends use it" (68.51%), "I'm interested" (63.92%), and "my family use it" (37.58%). Users aiming at acquiring information only account for less than 30% (28.45%). However, nearly 30% of the respondents point out that the primary reason for them to use WeChat is its strong interactive function (26.98%).

The most used function of Baidu Tieba is acquiring information (58.59%) and participating in topic discussion (53.66%). Our investigation reveals that over 90% of respondents use Baidu Tiedu anonymously and consider the comments in Tieba emotional. Acquiring information and topic discussion are functions that are more frequently used than other.
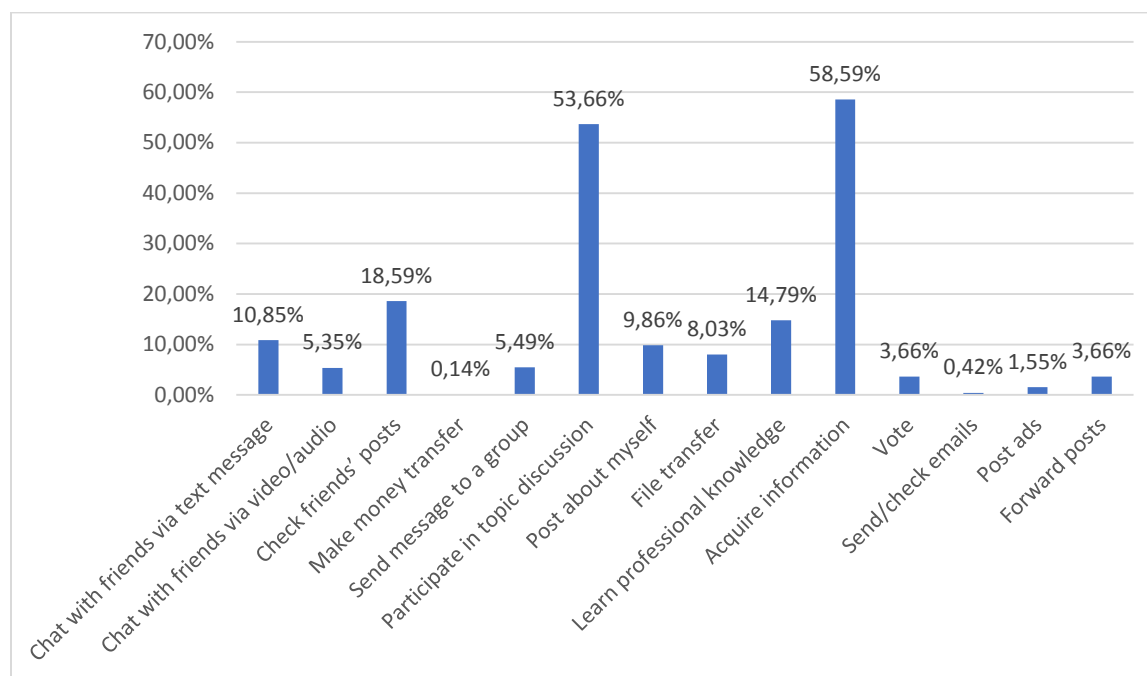
Figure 14: The distribution of WeChat function use

The major reason for college students to use Tieba is information distribution. Among the reasons to use Tieba, personal interests and information acquisition account for 60.7% and 41.69%, respectively. About one quarter of the students explicitly mention that they use Tieba to acquire information.
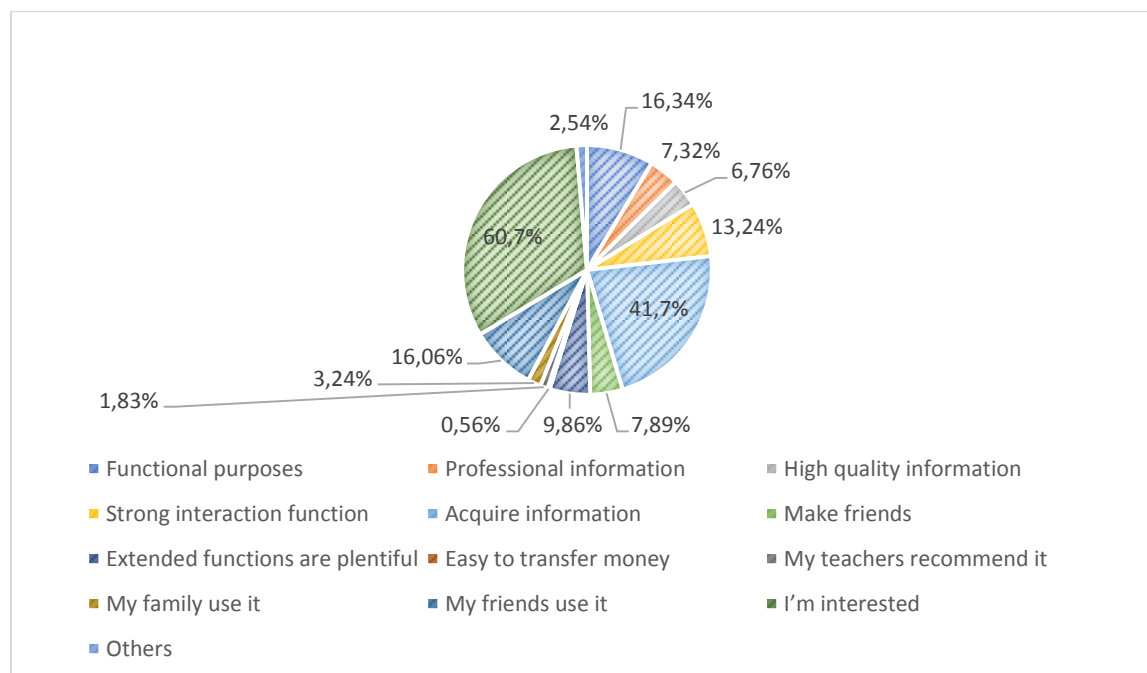
Figure 15: The distribution of the reasons to use BaideTieba

To sum up, due to the different social roles, different "groups" are formed in social media for college students. Different groups are connected with each other, and but are also separated by invisible barriers. The information

shared in different groups vary dramatically. Only hot topics can spread through the barriers to other groups[33-35]. "Within-group social interactions" is very popular in social media for college students. The leadership power and influence of these groups are growing. We investigated one Weibo account "PITD Asian PhD Torturing Group" which is established and operated by PhDs from East China Normal University, Durham University, KyungHee University, and University of Science and Technology of China, respectively. As of May 13th, 2018, this account has 130 thousand followers and 5,980 posts. Its followers are mainly Chinese graduate students, post-docs, young faculty, and professors around the world[34-36]. As a self-organization in social media, the PITD Asian PhD Torturing Group established its WeChat account that posts interesting and useful information daily. This group has significant influence among graduate students due to its interesting style and excellent operation. On the contrary, numerous groups serving college students are lack of professional operations. These groups are in the blind spot of regulation of colleges and universities. A large number of negative events such as the spreading of rumors originate from these groups.

Regarding these self-organized groups, schools are expected to guide their students in case of the "group polarization". One solution is to establish online social group at the class level—E-class. E-class is a culture building project for all universities in Shanghai and promoted by the Shanghai Education and Health Party Committee and Shanghai Education Committee with the support of the Center of Internet Culture Development. E-class is virtual community for college students and faculty, and integrates BBS, SNS, blog, microblog, mobile apps, etc. It includes campus apps such as news and address book, and also social apps such as blog, microblog, and forums. College counselors, faculty, and students can communicate online, share resources, and write blog articles. However, the percentage of students who use the app in some schools needs to be improved. Promotion and community maintenance also need further optimization.

The use of human-computer interaction in artificial intelligence technology can help students track "Hashtag" and then discuss and analyze the topic, which is also to enable them to find more similar people with common topics in their social interaction. The related functions of social media are also to realize the association between more users. The social media bias of college students is related to their communication styles. It can be seen that with the deepening of group stratification in social media and the particularity of social media connecting people, groups have become the communication places of rumors and other topics. Therefore, more attention should be paid to the guidance and management of information. Even though the recommendation function is realized by using human-computer interaction technology, the key point of the research is to effectively help students reduce their dependence on social media.

5. Conclusion

In conclusion, the use of hashtag function of college students in social media exhibit the characteristics of both social networking and media. Some social media platforms develop powerful information recommendation function based on their powerful computing capacity. Because the recommended information is generated based on the information viewed in the past, the acquisition of information will exhibit the "information cocoon" phenomenon—only likable but not useful information is recommended. The phenomenon will limit the dissemination of quality news and should cause close attention of all relevant parties. In the research process, the research on different college students is insufficient. In the following research, the social network situation will be studied from college students themselves. In the future research and development, the research of social media and college students' preferences will become an important research direction, and it is of great significance for the study of college students' psychology.

Reference

[1]   Zhao Yunze, Zhang Jingwen, Xie Wenjing, Yu Jusheng. Social Media or Social Media? Translation and Analysis of a Group of Crucial Concepts. Journalism Review, 2015, (6): 63.

[2]   Wei Shaohua. The "Topic" Function of Social Media and the Diversified Propagation of Mass Sports. Journal of Zhengzhou University, 2018, (2):148-153.

[3]   Wei Shaohua. Research on the "Topic" Function of Chinese Social Media from the Perspective of Dialogue Theory, East China Normal University, 2017.

[4] Swart J, Peters C, Broersma M. Sharing and Discussing News in Private Social Media Groups: The social function of news and current affairs in location-based, work-oriented and leisure-focused communities[J]. Digital Journalism, 2019, 7(2): 187-205.

[5] Zappavigna M, Martin J R. # Communing affiliation: Social tagging as a resource for aligning around values in social media. Discourse, Context & Media, 2018, 22: 4-12.

[6] Hilpert J C, Marchand G C. Complex systems research in educational psychology: Aligning theory and method. Educational Psychologist, 2018, 53(3): 185-202.

[7] McCrudden M T, Marchand G. Multilevel mixed methods research and educational psychology. Educational Psychologist, 2020: 1-11.

[8] Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. Systematic review of research on artificial intelligence applications in higher education–where are the educators?. International Journal of Educational Technology in Higher Education , 2019,16 (1), 39.

[9] Edwards, C., Edwards, A., Stoll, B., Lin, X., & Massey, N. Evaluations of an artificial intelligence instructor's voice: Social Identity Theory in human-robot interactions. Computers in Human Behavior , 2019, 90 , 357-362.

[10] Chen Peibo, Zhao Yanli, Zhao Mei. Analysis of the Impact of Career Panning on Soft Addiction Behavior of College Students. Chinese Higher Medical Education. 2016, (4): 55.

[11] Shen, C.-w., Ho, J.-t., Ly, P. T. M., & Kuo, T.-c. Behavioural intentions of using virtual reality in learning: perspectives of acceptance of information technology and learning style. Virtual Reality. 2019,23(3), 313-324.

[12] Blayney, J. A., Lewis, M. A., Kaysen, D., & Read, J. P. Examining the influence of gender and sexual motivation in college hookups. Journal of American College Health . 2018, 66 (8), 739-746.

[13] Shen, C.-w., Luong, T.-h., Ho, J.-t., & Djailani, I. Social media marketing of IT service companies: Analysis using a concept-linking mining approach. Industrial Marketing Management. 2019.

[14] Shen, C.-w., Min, C., & Wang, C.-c. Analyzing the trend of O2O commerce by bilingual text mining on social media. Computers in Human Behavior. 2019, 101, 474-483.

[15] Jeong B, Yoon J, Lee J M. Social media mining for product planning: A product opportunity mining approach based on topic modeling and sentiment analysis. International Journal of Information Management, 2019, 48: 280-290.

[16] Peng J, Zhou Y, Sun X, et al. Social media based topic modeling for smart campus: a deep topical correlation analysis method. IEEE Access, 2018, 7: 7555-7564.

[17] Blair, S. J., Bi, Y., & Mulvenna, M. D. Aggregated topic models for increasing social media topic coherence. Applied Intelligence .2020, 50 (1), 138-156.

[18] Bail C A, Argyle L P, Brown T W, et al. Exposure to opposing views on social media can increase political polarization. Proceedings of the National Academy of Sciences, 2018, 115(37): 9216-9221.

[19] Lund N F, Cohen S A, Scarles C. The power of social media storytelling in destination branding[J]. Journal of Destination Marketing & Management, 2018, 8: 271-280.

[20] Resch, B., Usländer, F., & Havas, C. Combining machine-learning topic models and spatiotemporal analysis of social media data for disaster footprint and damage assessment. Cartography and Geographic Information Science , 2018, 45 (4), 362-376.

[21] Oeldorf-Hirsch A. The role of engagement in learning from active and incidental news exposure on social media[J]. Mass communication and society, 2018, 21(2): 225-247.

[22] Dong W, Liao S, Zhang Z. Leveraging financial social media data for corporate fraud detection[J]. Journal of Management Information Systems, 2018, 35(2): 461-487.

[23] Müller, J. M., Pommeranz, B., Weisser, J., & Voigt, K. I. Digital, Social Media, and Mobile Marketing in industrial buying: Still in need of customer segmentation? Empirical evidence from Poland and Germany. Industrial Marketing Management .2018 73 , 70-83.

[24] Wu, Y.J.; Liu, W.-J.; Yuan, C.-H. A mobile-based Barrier-free Service Transportation Platform for People with Disabilities. Comput. Hum. Behav. 2020, 107, 105776.

[25] Yuan, C.-H, Wu, Y.J., Mobile instant messaging or face-to-face? Group interactions in cooperative simulations. Comput. Hum. Behav. 2020,113, 106508,

[26] Qian, J., Song, B., Jin, Z., Wang, B., & Chen, H. Linking Empowering Leadership to Task Performance, Taking Charge, and Voice: The Mediating Role of Feedback-Seeking. Frontiers in psychology, 9, 2025.

[27]   Zhang, C., Fan, C., Yao, W., Hu, X., & Mostafavi, A. (2019). Social media for intelligent public information and warning in disasters: An interdisciplinary review. International Journal of Information Management. 2019, 49, 190-207.

[28]   Chen M. The Impact of Expatriates' Cross-Cultural Adjustment on Work Stress and Job Involvement in the High-Tech Industry. Front. Psychol. 2019, 10:2228.

[29]   Rogoza, R., Żemojtel-Piotrowska, M., Kwiatkowska, M. M., & Kwiatkowska, K.. The bright, the dark, and the blue face of narcissism: The Spectrum of Narcissism in its relations to the metatraits of personality, self-esteem, and the nomological network of shyness, loneliness, and empathy. Frontiers in psychology.9,2020. 343.

[30]   DeBate, R. D., Gatto, A., & Rafal, G. The effects of stigma on determinants of mental health help-seeking behaviors among male college students: an application of the information-motivation-behavioral skills model. American journal of men's health .2018,12 (5), 1286-1296.

[31]   Mahony, R., Blake, C., Matthews, J., Oâ€™Donnoghue, G., & Cunningham, C. Physical activity levels and self-determined motivation among future healthcare professionals: Utility of the Behavioral Regulation in Exercise Questionnaire (BREQ-2). Physiotherapy theory and practice .2018.

[32]   Newman, B. N., Strickler, J. G., O'Brien, C., Lui, T., & Lynch, M. Deconstructing perfectionism in college students: Patterns of behavior, emotion, and cognition. Personality and Individual Differences , 2019, 145 , 106-111.

[33]   Tiraieyari, N., & Krauss, S. E. Predicting youth participation in urban agriculture in Malaysia: insights from the theory of planned behavior and the functional approach to volunteer motivation. Agriculture and Human Values.2018, 35 (3), 637-650.

[34]   Villarosa, M. C., Messer, M. A., Madson, M. B., & Zeigler-Hill, V. Depressive symptoms and drinking outcomes: The mediating role of drinking motives and protective behavioral strategies among college students. Substance Use & Misuse, 2018, 53 (1), 143-153.

[35]   Marino, E. N., & Fromme, K. Alcohol-induced blackouts, subjective intoxication, and motivation to decrease drinking: Prospective examination of the transition out of college. Addictive behaviors. 2018, 80, 89-94.

[36]   Sogari, G., Velez-Argumedo, C., Gómez, M. I., & Mora, C. College students and eating habits: A study using an ecological model for healthy behavior. Nutrients, 2018, 10 (12), 1823.