

A Review of Social Networking User Behavior Research from the Uses and Gratifications Perspective: A Content Analysis of 54 Foreign Empirical Studies (Postprint)

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Abstract

[Purpose/Significance] Based on the uses and gratifications perspective, this study systematically reviews and analyzes foreign literature related to social network user behavior, aiming to provide references for domestic research. [Method/Process] Employing content analysis method and following Webster and Watson's two-stage review approach, a total of 54 empirical studies on social network user behavior research were obtained; each paper was read and analyzed, with primary focus on the research themes, theoretical foundations, dependent variables, independent variables, and empirical results applied in each study. [Results/Conclusions] The study reveals that existing research typically integrates multiple theories to construct empirical models; factors related to cognitive needs, personal integration needs, and social integration needs have received the most scholarly attention; meanwhile, factors associated with affective needs and tension-release needs are gradually gaining attention. Future research needs to focus on emerging important issues such as the differential impacts of need satisfaction at different levels on social network user behavior, social network usage behaviors across different generational user groups, and social network addiction behaviors.

Full Text

Preamble

Understanding User Behavior of Social Networking Service from the Perspective of Uses and Gratifications: A Content Analysis of 54 Empirical Studies

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Abstract: [Purpose/Significance] Based on the uses and gratifications perspective, this study systematically reviews and analyzes foreign literature related to social networking user behavior to provide references for domestic research. [Method/Process] Employing content analysis and following Webster and Watson's two-stage review method, we identified 54 empirical studies on social networking user behavior. Each article was read and analyzed, focusing on research topics, theoretical foundations, dependent variables, independent variables, and empirical results. [Result/Conclusion] Findings reveal that existing studies typically integrate multiple theories to construct empirical models. Factors related to cognitive needs, personal integrative needs, and social integrative needs receive the most scholarly attention, while factors related to affective needs and tension-release needs are gradually gaining attention. Future research should examine the differential impacts of various need satisfactions on social networking user behavior, behaviors of different generational user groups, and the emerging important issue of social networking addiction.

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In recent years, social networking services have experienced rapid development and sustained attention from both academia and industry. Social networks enable users to conveniently disseminate, exchange, and share information. Practice demonstrates that social networks have permeated various industries and influenced all aspects of users' lives [1]. Faced with increasingly competitive markets, how to attract and retain users to promote the sustainable development of social networks has become a key issue for service providers [2]. Understanding social networking user behavior to propose targeted strategies for service improvement has attracted widespread scholarly attention. A review of existing literature reveals that most studies focus on empirical research of social networking user behavior, while lacking systematic review analyses. Uses and gratifications theory proposes that social network usage satisfies users' specific needs, such as content gratification, process gratification, social gratification, and utilitarian gratification [3-6]. Based on this, our study systematically reviews foreign literature using the uses and gratifications framework, employing content analysis to deeply explore and explain social networking user behavior, aiming to provide references for domestic research.

This study follows the two-stage review method proposed by J. Webster and D. Tranfield et al. to search for and identify literature related to social networking user behavior research, thereby reducing data collection bias [7-8]. The first stage involves retrieving literature focusing on social networking user behavior.

We conducted systematic searches using major online databases including Web of Science, Emerald, Springer, EBSCO Academic Search Premier, Elsevier ScienceDirect, ProQuest, and Google Scholar. Search keywords primarily included “uses and gratification” + “social networking service/*social networking site*” + “user behavior/adopt/*accept/continu**”. We performed subject searches with no time limit, with the search date being September 6, 2016. After removing duplicate records across databases, this process initially yielded 80 relevant articles, forming the initial literature set. The second stage applied inclusion and exclusion criteria to further screen the initial set, ensuring identified literature was relevant to social networking user behavior and suitable for analysis. Inclusion criteria were: literature based on uses and gratifications theory and literature focusing on social networking user behavior as the core research topic. Exclusion criteria were: non-academic literature, non-empirical studies, and literature not applying uses and gratifications theory. This process produced 52 relevant articles. Additionally, we conducted backward searches of references in the retrieved articles. Ultimately, we obtained 54 articles related to social networking user behavior research.

We then read and analyzed these 54 articles, focusing on extracting research topics, theoretical foundations, dependent variables, independent variables, and empirical results. Specifically, we merged variables with identical or similar meanings across the literature.

2 Research Design

The first stage of our literature search identified 80 articles, which was refined to 52 after applying inclusion and exclusion criteria. Backward reference searches yielded 2 additional articles, resulting in a final sample of 54 empirical studies. Each article was systematically analyzed to extract key research elements and identify patterns across studies.

3 Findings Part 1: Theoretical Application

3.1 Theoretical Foundations

Existing studies employ various theories to explain social networking user behavior, with the most frequently used being uses and gratifications theory, social influence theory, social presence theory, and theory of reasoned action. Uses and gratifications theory, a major theory in mass communication research, posits that users actively use various media based on specific motivations and derive gratifications from this usage [9]. This theory helps explain users’ media contact motivations and behaviors from the user perspective [10] and is currently widely used to explain social media user behaviors such as adoption [11], continuance [12], and specific feature usage [13].

Social influence theory proposes that social influence determines changes in user behavior and attitudes [14]. Social influence comprises three levels: compliance,

internalization, and identification. In terms of influencing factors, these correspond to subjective norms, group goals, and social identity respectively [14-15]. Social influence theory primarily focuses on the influence of others and society on user behavior. Social presence refers to the salience of others in communication and the salience of relationships in interpersonal interaction. Social presence theory argues that social presence significantly influences user behavior [16]. In online communication environments, rich interpersonal interaction functions make users perceive the medium as more popular [17]. Theory of reasoned action posits that users' intention to perform specific behaviors is influenced by personal factors (such as attitudes) and social factors (such as subjective norms), and that user intention affects user behavior [18].

Additionally, other theories have been adopted in existing research, including personality theory, innovation diffusion theory, and social exchange theory. The application of different theories provides a solid theoretical foundation for deeply explaining social networking user behavior. presents the theoretical foundations of the relevant literature.

3.2 Forms of Theoretical Application

Based on classifications proposed by Yang Yafen and Li Guangjian, and Lu Xiaobin and Wang Jianya, this study categorizes theoretical applications in social networking user behavior research into four forms: single theory, theory extension, theory combination, and theory integration [34-35]. summarizes the specific theoretical applications in existing literature.

As shown in the table, 10 articles used a single theory. For example, V. Apaolaza et al. employed uses and gratifications theory to study factors influencing positive emotions in Qzone usage [36]; A. D. Smock et al. used uses and gratifications theory to explain factors influencing Facebook feature usage [13]; W. K. Cheung et al. combined uses and gratifications theory, social influence theory, and social presence theory to explore factors influencing Facebook usage intention [15]; E. E. Hollenbaugh and A. L. Ferris combined uses and gratifications theory and the Big Five personality theory to study factors influencing self-disclosure among different personality types of Facebook users [26]; M. Ng combined uses and gratifications theory, social influence theory, and social exchange theory to examine factors influencing Facebook users' online commercial activity adoption [21].

Meanwhile, 15 articles used theory extension. For instance, I. Cho et al. introduced environmental factors based on uses and gratifications theory to explore motivations affecting Facebook location feature usage [38]; M. H. Hsu et al. added perceived interaction to uses and gratifications theory to study factors influencing Facebook continuance intention [39]; D. G. Taylor et al. added privacy concern variables to uses and gratifications theory to explore factors influencing social network advertising adoption [40].

Additionally, 13 articles used theory combination. For example, C. M. K. Che-

ung et al. combined uses and gratifications theory, social influence theory, and social presence theory to explore Facebook usage intention factors [15]; E. E. Hollenbaugh and A. L. Ferris combined uses and gratifications theory and the Big Five personality theory to study factors influencing self-disclosure among different personality types of Facebook users [26]; M. Ng combined uses and gratifications theory, social influence theory, and social exchange theory to examine factors influencing Facebook users' online commercial activity adoption [21].

Two articles used theory integration. For example, H. S. Chiang integrated uses and gratifications theory, theory of reasoned action, and innovation diffusion theory to study factors influencing Facebook continuance intention and revealed relationships between motivations and innovation elements [24]; S. Y. Lee et al. built upon uses and gratifications theory, theory of reasoned action, and the Big Five personality theory to explore factors influencing Facebook users' liking behavior [22].

4 Findings Part 2: Influencing Factors Framework

Uses and gratifications theory effectively explains why users actively select specific media to satisfy their different needs [3]. The theory posits that users' social and psychological needs drive them to choose particular media, resulting in cognitive, affective, and behavioral outcomes [3]. Uses and gratifications theory identifies users' motivations for media usage behavior from a user-centered perspective [44]. Based on the framework proposed by E. Katz et al., this study categorizes factors influencing social networking user behavior into five types of needs: 1) cognitive needs, 2) affective needs, 3) personal integrative needs, 4) social integrative needs, and 5) tension-release needs. [Figure 1: see original paper] illustrates the influencing factors framework for social networking user behavior developed in this study.

4.1 Cognitive Needs

Cognitive needs reflect social media users' desire to acquire and share useful information through social media to improve themselves and solve problems [9]. As a convenient information source, social media provides diverse information that attracts users [24]. Information acquisition and sharing are considered primary motivations for social media usage [39]. In existing literature, cognitive need-related factors mainly include information seeking and information sharing. Information seeking refers to users' desire to find useful and helpful information through social media [45]. Through social media, users can track events, trends, music, and other users' information [36]. V. Apaolaza et al. found that information seeking motivation significantly influences adolescents' positive attitudes toward Qzone usage [36]. E. Dermenzi et al. argued that information seeking motivation significantly influences academics' attitudes toward academic engagement through social media [32]. Information sharing

refers to sharing one's thoughts, feelings, interests, and environment with others [32]. Social media facilitates simple and effective information sharing among users. A. D. Smock et al. proposed that information sharing motivation is the primary driver of one-to-many behaviors among social media users [13]. S. Alhabash et al. argued that information sharing motivation significantly influences Facebook usage intensity [28]. K. Baek et al. noted that information sharing motivation drives Facebook users' link sharing behavior [41]. Additionally, scholars have proposed motivations related to cognitive needs such as self-documentation and surveillance/observation [46-47]. For example, P. Sheldon and K. Bryant found that self-documentation motivation is a primary motivation for college students' Instagram usage [47]. M. Mantymaki et al. demonstrated that surveillance/observation motivation significantly influences social media usage behavior [46].

shows cognitive need-related factors. The table reveals that existing research has focused more on information seeking as a cognitive need influencing social networking user behavior, followed by information sharing. Considering the expanding functionality of social networking platforms, cognitive factors such as surveillance/observation, social monitoring, and curiosity will gain increasing attention.

4.2 Affective Needs

Affective needs reflect users' desire to obtain emotional support and experience pleasure and positive feelings through social media [9]. Through diverse features such as instant voice calls, group chats, and likes, users can satisfy their affective needs [57]. Affective needs significantly influence social media user behavior [51, 58]. Existing literature has proposed factors such as entertainment needs and emotional needs. Entertainment needs refer to users' desire to feel relaxed, amused, and enjoy their participation in social networking activities [32]. Social media exposes users to diverse sensory stimuli such as multimedia content, interesting images, novel viewpoints, and discussions, making it a tool for entertainment and communication among adolescent users [21]. N. Park and S. Lee found that entertainment motivation significantly influences college students' Facebook usage intensity [43]. P. Ifinedo argued that entertainment motivation significantly influences social media users' behavioral intentions [20]. Emotional needs refer to users' desire to receive and give appreciation, encouragement, care, and support [59]. C. Xu et al. noted that emotional needs significantly influence social media usage [23]. C. Ogan and K. Cagiltay found that emotional needs significantly influence usage frequency and comment volume among Itiraf.com users [60]. Additionally, scholars have proposed factors such as fashion/trend needs and companionship [13, 47]. For example, P. Sheldon and K. Bryant found that fashion/trend motivation significantly influences Instagram users' usage time and editing behavior [47]. A. D. Smock et al. argued that companionship motivation significantly influences Facebook users' commenting behavior [13].

describes affective need-related factors. The table shows that entertainment needs have attracted considerable scholarly attention. However, as negative consequences of social networking usage emerge (such as user fatigue), factors like emotional needs and companionship will gradually become important elements influencing user behavior.

4.3 Personal Integrative Needs

Personal integrative needs involve users' pursuit of self-image, meaning users' motivation to present themselves better and gain respect and recognition through social media [9]. Users can shape their personal image by modifying information disclosed on social media and interacting with others, thereby influencing how others perceive them [38]. Personal integrative needs are considered primary motivations influencing social media behavior [50]. Existing research shows that personal integrative need-related factors mainly include self-expression and status seeking. Self-expression motivation refers to users' desire to shape their personal image through social media and influence how others view and treat them [38]. Social media users generally obtain status and recognition or hope to make impressions on others through self-expression [39]. By creating an attractive self, users can achieve psychological comfort and accomplish specific relationship goals [43]. Social media provides features such as sharing, group chats, and commenting that help satisfy users' personal integrative needs [57]. S. Alhabash et al. found that self-expression motivation significantly influences Facebook usage intensity among risk-takers [28]. E. E. Hollenbaugh and A. L. Ferris proposed that self-expression motivation significantly influences the amount of self-disclosure among Facebook users [26]. M. H. Hsu et al. noted that self-expression significantly influences Facebook users' continuance intention [12]. Status seeking refers to users' desire to promote their social status by sharing influential information [45]. Users can enhance their popularity and respect by commenting, discussing, and posting valuable information. E. Basak and F. Calisir argued that status seeking satisfaction significantly influences social media user satisfaction [45]. N. Park et al. proposed that status seeking motivation significantly influences Facebook users' political participation intention [53]. Additionally, control and self-enhancement motivations also reflect social networking users' personal integrative needs. K. Baek et al. noted that control motivation significantly influences social media users' entertainment content link sharing behavior [41]. C. M. K. Cheung et al. argued that self-enhancement motivation significantly influences Facebook users' usage intention [15].

shows personal integrative need-related factors. The table indicates that self-expression as a personal integrative need has received considerable attention. As social networks permeate various aspects of users' lives (such as extensive workplace usage), needs such as gaining recognition, self-enhancement, over-performance, and creativity will become new factors influencing social networking user behavior.

4.4 Social Integrative Needs

Social integrative needs reflect users' desire to conduct social activities through social media [9]. Through social activities, users can obtain support from others and gain a sense of belonging [38]. Social integrative needs are primary motivations influencing social media user behavior [61]. Existing literature reveals how factors such as social needs, relationship maintenance, and new relationship establishment influence user behavior. Through features like group chats, sharing, and private messaging, users can meet like-minded friends and maintain relationships with them. I. Cho et al. argued that social needs motivation significantly influences Facebook users' location sharing behavior [38]. R. Curras-Perez et al. proposed that social needs significantly influence social media usage attitudes, which in turn significantly influence continuance intention [42]. C. M. K. Cheung et al. found that maintaining existing relationships motivation significantly influences Facebook users' usage intention [15]. E. Dermenzi et al. noted that scholars use social media for maintaining old relationships and establishing new ones [32]. Additionally, social bridging and helping others motivations also significantly influence social media user behavior [48, 56]. For example, E. H. Jung et al. found that social bridging motivation significantly influences elderly Facebook users' posting, chatting, and photo sharing behaviors [56]. J. E. Chuang argued that helping others motivation significantly influences online support group users' discussion and friendship behaviors [48].

describes social integrative need-related factors. The table shows that existing research has primarily focused on social needs, relationship maintenance, and finding/establishing new relationships as social integrative needs. As social networks increasingly influence group activities, needs such as social bridging, coordination, and helping others will also play important roles in influencing social networking user behavior.

4.5 Tension-Release Needs

Tension-release needs reflect users' desire to pass time, relax, and escape through social media [9]. As social media develops and becomes popular, it has become an important part of users' lives. For example, users access social media to relax during study and work breaks and to pass time when bored [11]. Tension-release needs significantly influence social media user behavior [13], such as relaxation needs and passing time. Relaxation needs refer to users' desire to relax and relieve stress and boredom through social media [23]. J. E. Chuang proposed that relaxation motivation significantly influences online support group members' blog usage behavior [48]. M. N. Pornpaksitvanich et al. found that relaxation motivation significantly influences Thai Facebook users' engagement time [25]. Passing time refers to users' primary motivation for using social media to alleviate boredom and fill time [11]. M. N. Giannakos et al. argued that passing time is a primary motivation for Facebook usage [11]. S. Y. Lee et al. proposed that passing time significantly influences Facebook users' liking behavior [22]. Additionally, escapism motivation also reflects users' tension-release needs. Es-

capism refers to users' desire to temporarily leave current pressures through social media [23]. P. K. Masur et al. noted that escapism motivation significantly influences Facebook users' addictive behavior [52].

shows tension-release need-related factors. The table indicates that compared to other needs, only some literature mentions tension-release needs. A possible reason is that users have many channels for releasing tension, and social networks may not be the best option. However, as users overuse social networks (such as addiction), tension-release factors like escapism will become important factors influencing user behavior.

Conclusion

Social networking user behavior research aims to reveal factors influencing social networking service usage, identify key elements and their relationships, and provide theoretical guidance for service providers to improve and refine their services for sustainable development. Through systematic review of social networking user behavior research, this study finds that scholars typically use multiple theories as theoretical foundations to construct empirical models, such as uses and gratifications theory, social influence theory, and social presence theory. Among the studied influencing factors, factors related to cognitive needs, personal integrative needs, and social integrative needs receive the most attention. As social network functions continue to expand, emotional motivations and tension-release motivations are also emerging and becoming important factors influencing user behavior.

Theoretically, this study systematically reviews literature on social networking user behavior from the uses and gratifications perspective, analyzes theoretical applications in existing literature (which theories are used and their interrelationships), and further develops an influencing factors framework for social networking user behavior (which influencing factors are examined and their current research status). This theoretical analysis and framework can provide theoretical foundations and references for subsequent research. Practically, this study highlights the impact of different need satisfactions on social networking user behavior, particularly emerging need satisfactions that are receiving increasing attention. How service providers leverage these emerging user needs becomes key to their sustainable development.

Future research on social networking user behavior could further explore three aspects: 1) Elucidate the differential impacts of various levels of need satisfaction on social networking user behavior. Social networking user behavior is typically influenced by multi-dimensional factors; conversely, social network usage can satisfy users' different level needs. Therefore, integrating multiple theories to construct empirical models can uncover how different factors influence social networking user behavior and how these factors interact, leading to better understanding of user behavior. 2) Examine social networking usage behaviors of different generational user groups. The "Internet and Social Networking Em-

powerment Report” released in December 2016 shows that more elderly people are beginning to use social networks, which empower them with capabilities [63]. Existing research primarily explores young users’ social networking behaviors while lacking attention to specific groups such as the elderly. Revealing how different user groups use social networking services and the differential impacts can help better leverage the positive effects of social networking services. 3) Social networking addiction behavior will become an important research topic. The prevalence of social networks has begun causing excessive usage and negative consequences, representing the “dark side of information technology” [64]. Therefore, examining the antecedents and consequences of social networking addiction behavior is necessary and meaningful.

References

- [1] China Industry Research Network. 2016 Edition China Social Networking Industry In-depth Research and Development Trend Analysis Report [EB/OL]. [2016-12-29]. http://www.cir.cn/R_{JiXieDianZi}/12/SheJiaoWangLuoWeiLaiFaZhanQuShiYuCe.html.
- [2] CNNIC. The 38th China Statistical Report on Internet Development [EB/OL]. [2016-09-13]. http://www.cnnic.net.cn/hlwfzyj/hlwzxbg/hlwtjbg/201608/t20160803_{54392}.htm.
- [3] Katz E, Blumler JG, Gurevitch M. The uses of mass communications: current perspectives on gratifications research [M]. Beverly Hills: Sage publications, 1974.
- [4] Stafford MR, Stafford TF. Mechanical commercial avoidance: a uses and gratifications perspective [J]. *Journal of current issues & research in advertising*, 1996, 18(2): 27-38.
- [5] Stafford TF, Stafford MR. Identifying motivations for the use of commercial Websites: a uses and gratifications perspective [J]. *Information resources management journal*, 2001, 14(1): 22-30.
- [6] Venkatesh V, Brown SA. A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges [J]. *MIS quarterly*, 2001, 25(1): 71-102.
- [7] Webster J, Watson RT. Analyzing the past to prepare for the future: writing a literature review [J]. *MIS quarterly*, 2002, 26(2): 13-23.
- [8] Tranfield D, Denyer D, Smart P. Towards a methodology for developing evidence-informed management knowledge by means of systematic review [J]. *British journal of management*, 2003, 14(3): 207-222.
- [9] Katz E, Haas H, Gurevitch M. On the use of the mass media for important things [J]. *American sociological review*, 1973, 38(2): 164-181.
- [10] Blumler JG, Katz E. The uses of mass communications: current perspectives on gratifications research [M]. Beverly Hills: Sage publications, 1974.

- [11] Giannakos MN, Chorianopoulos K, Giotopoulos K, et al. Using Facebook out of habit [J]. *Behaviour & information technology*, 2013, 32(6): 594-602.
- [12] Hsu MH, Tien SW, Lin HC, et al. Understanding the roles of cultural differences and socio-economic status in social media continuance intention [J]. *Information technology & people*, 2015, 28(1): 224-241.
- [13] Smock AD, Ellison NB, Lampe C, et al. Facebook as a toolkit: a uses and gratification approach to unbundling feature use [J]. *Computers in human behavior*, 2011, 27(6): 2322-2329.
- [14] Kelman HC. Compliance, identification, and internalization: three processes of attitude change [J]. *Journal of conflict resolution*, 1958, 2(1): 51-60.
- [15] Cheung CMK, Chiu PY, Lee MKO. Online social networks: why do students use Facebook? [J]. *Computers in human behavior*, 2011, 27(4): 1337-1343.
- [16] Short J, Williams E, Christie B. The social psychology of telecommunications [J]. *Contemporary sociology*, 1978, 7(1): 32-33.
- [17] Straub D, Karahanna E. Knowledge worker communications and recipient availability: toward a task closure explanation of media choice [J]. *Organization science*, 1998, 9(2): 160-175.
- [18] Fishbein M, Ajzen I. Belief, attitude, intention and behavior: an introduction to theory and research [J]. *Philosophy & rhetoric*, 1975, 41(4): 842-844.
- [19] Oliveira MJd, Huertas MKZ, Lin Z. Factors driving young users' engagement with Facebook [J]. *Computers in human behavior*, 2016, 54: 54-61.
- [20] Ifinedo P. Applying uses and gratifications theory and social influence processes to understand students' pervasive adoption of social networking sites: perspectives from the Americas [J]. *International journal of information management*, 2016, 36(2): 192-206.
- [21] Ng M. Factors influencing the consumer adoption of Facebook [J]. *Computers in human behavior*, 2016, 54: 491-500.
- [22] Lee SY, Hansen SS, Jin KL. What makes us click "like" on Facebook? Examining psychological, technological, and motivational factors on virtual endorsement [J]. *Computer communications*, 2016, 73: 332-341.
- [23] Xu C, Ryan S, Prybutok V, et al. It is not for fun: an examination of social network site usage [J]. *Information & management*, 2012, 49(5): 210-217.
- [24] Chiang HS. Continuous usage of social networking sites: the effect of innovation and gratification attributes [J]. *Online information review*, 2013, 37(6): 832-834.
- [25] Pornpaksitvanich V, Dumrongsiri S. Internal and external influences on social networking site usage in Thailand [J]. *Computers in human behavior*, 2013, 29(6): 2788-2795.

- [26] Hollenbaugh EE, Ferris AL. Facebook self-disclosure: examining the role of traits, social cohesion, and motives [J]. *Computers in human behavior*, 2014, 30: 50-58.
- [27] Hollenbaugh EE, Ferris AL. Predictors of honesty, intent, and valence of Facebook self-disclosure [J]. *Computers in human behavior*, 2015, 50: 456-464.
- [28] Alhabash S, Chiang YH, Huang KM. MAM&U&G in Taiwan: differences in the uses and gratifications of Facebook as a function of motivational reactivity [J]. *Computers in human behavior*, 2014, 35: 423-430.
- [29] Baek YM, Cho Y, Kim H. Attachment style and its influence on the activities, motives, and consequences of SNS use [J]. *Journal of broadcasting & electronic media*, 2014, 58(4): 522-541.
- [30] Chang CW, Heo J. Visiting theories that predict college students' self-disclosure on Facebook [J]. *Computers in human behavior*, 2014, 30: 79-86.
- [31] Choi J. Why do people use news differently on SNSs? An investigation of the role of motivations, media repertoires, and technology cluster on citizens' news-related activities [J]. *Computers in human behavior*, 2016, 54: 249-256.
- [32] Dermenzi E, Papagiannidis S, Toro CO, et al. Academic engagement: differences between intention to adopt social networking sites and other online technologies [J]. *Computers in human behavior*, 2016, 61: 321-332.
- [33] Chan M. Social identity gratifications of social network sites and their impact on collective action participation [J]. *Asian journal of social psychology*, 2014, 17(3): 229-235.
- [34] Yang Yafen, Li Guangjian. Review of e-government adoption research: from citizens' perspective [J]. *Chinese Journal of Library Science*, 2015(1): 92-111.
- [35] Lu Xiaobin, Wang Jianya. Analysis of cloud computing adoption behavior research status [J]. *Journal of Library Science in China*, 2014(1): 73-83.
- [36] Apaolaza V, He J, Hartmann P. The effect of gratifications on adolescents' positive mood derived from use of the social networking site Qzone on Chinese adolescents [J]. *Computers in human behavior*, 2014, 41: 203-211.
- [37] Wang W, Segev S, Liu Y. Use of social networking sites for product communication: a comparative study of Hispanics and non-Hispanic whites [J]. *Computers in human behavior*, 2015, 49: 86-93.
- [38] Cho I, Kim JK, Park H, et al. Motivations of Facebook places and store atmosphere as moderator [J]. *Industrial management & data systems*, 2014, 114(9): 1360-1377.
- [39] Hsu MH, Chang CM, Lin HC, et al. Determinants of continued use of social media: the perspectives of uses and gratifications theory and perceived interactivity [J]. *Telemedicine and e-Health*, 2015, 21(5): 415-421.

- [40] Taylor DG, Lewin JE, Strutton D. Friends, fans, and followers: do ads work on social networks? [J]. *Journal of advertising research*, 2011, 51(1): 258-275.
- [41] Baek K, Holton A, Harp D, et al. The links that bind: uncovering novel motivations for linking on Facebook [J]. *Computers in human behavior*, 2011, 27(6): 2243-2248.
- [42] Curras-Perez R, Ruiz-Mafe C, Sanz-Blas S. Social network loyalty: evaluating the role of attitude, perceived risk and satisfaction [J]. *Online information review*, 2013, 37(1): 61-82.
- [43] Park N, Lee S. College students' motivations for Facebook use and psychological outcomes [J]. *Journal of broadcasting & electronic media*, 2014, 58(4): 601-620.
- [44] Leung L, Wei R. More than just talk on the move: uses and gratifications of the cellular phone [J]. *Journalism & mass communication quarterly*, 2000, 77(2): 308-320.
- [45] Basak E, Calisir F. An empirical study on factors affecting continuance intention of using Facebook [J]. *Computers in human behavior*, 2015, 48: 181-189.
- [46] Mantymaki M, Islam AKMN. The Janus face of Facebook: positive and negative sides of social networking site use [J]. *Computers in human behavior*, 2016, 61: 14-26.
- [47] Sheldon P, Bryant K. Instagram: motives for its use and relationship to narcissism and contextual age [J]. *Computers in human behavior*, 2016, 58: 89-97.
- [48] Chung JE. Social networking in online support groups for health: how online social networking benefits patients [J]. *Journal of health communication*, 2014, 19(6): 639-659.
- [49] Holtz B, Smock A, Reyes-Gastelum D. Connected motherhood: social support for moms and moms-to-be on Facebook [J]. *Telemedicine and e-Health*, 2015, 21(5): 415-421.
- [50] Daniel H, David A, Archana K. The influence of computer-mediated communication apprehension on motives for Facebook use [J]. *Journal of broadcasting & electronic media*, 2012, 56(2): 187-202.
- [51] Kim Y, Sohn D, Choi SM. Cultural difference in motivations for using social network sites: a comparative study of American and Korean college students [J]. *Computers in human behavior*, 2011, 27(1): 365-372.
- [52] Masur PK, Reinecke L, Ziegele M, et al. The interplay of intrinsic need satisfaction and Facebook-specific motives in explaining addictive behavior on Facebook [J]. *Computers in human behavior*, 2014, 39: 376-386.

- [53] Park N, Kee KF, Valenzuela S. Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes [J]. *Cyberpsychology & behavior*, 2009, 12(6): 729-733.
- [54] Shim H, Oh P, Song H, et al. An exploration of motivations for two-screen viewing, social interaction behaviors, and factors that influence viewing intentions [J]. *Cyberpsychology Behavior & Social Networking*, 2015, 18(3): 158-164.
- [55] Hsu LC, Wang KY, Chih WH, et al. Investigating the ripple effect in virtual communities [J]. *Computers in human behavior*, 2015, 51: 483-494.
- [56] Jung EH, Sundar SS. Senior citizens on Facebook: how do they interact and why? [J]. *Computers in human behavior*, 2016, 61: 27-35.
- [57] Gan C. Understanding WeChat users' liking behavior: an empirical study in China [J]. *Computers in human behavior*, 2017, 68: 30-39.
- [58] Gan C, Wang W. Uses and gratifications of social media: a comparison of microblog and WeChat [J]. *Journal of systems and information technology*, 2015, 17(4): 351-363.
- [59] Malika, Dhira, Nieminen M. Uses and gratifications of digital photo sharing on Facebook [J]. *Telematics & informatics*, 2016, 33(1): 129-138.
- [60] Ogan C, Cagiltay K. Confession, revelation and storytelling: patterns of use on a popular Turkish Website [J]. *New media & society*, 2006, 8(5): 801-823.
- [61] Ha YW, Kim J, Li Baqué-Saenz CF, et al. Use and gratifications of mobile SNSs: Facebook and KakaoTalk in Korea [J]. *Telematics & informatics*, 2014, 32(3): 425-438.
- [62] Wei HL, Lin KY, Lu HP, et al. Understanding the intentions of users to 'stick' to social networking sites: a case study in Taiwan [J]. *Behaviour & information technology*, 2015, 34(2): 151-162.
- [63] Sina Technology. In the social networking era, the elderly are actually the most empowered group [EB/OL]. [2016-12-20] <http://tech.sina.com.cn/i/2016-12-20/doc-ifyxtqax6891920.shtml>.
- [64] Zheng X, Lee MKO. Excessive use of mobile social networking sites: negative consequences on individuals [J]. *Computers in human behavior*, 2016, 65: 65-76.

Author Contributions

Gan Chunmei: Proposed the research topic, designed the research framework, determined the paper structure, wrote, revised, and finalized the manuscript;
Liang Xubin: Collected and organized materials, conducted data analysis, wrote the initial draft;
Li Tingting: Collected and organized materials, conducted data analysis, wrote the initial draft.

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

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