Generational differences in content generation in social media: The roles of the gratifications sought and of narcissism

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A R T I C L E   I N F O

A B S T R A C T

This study examines the roles of the gratifications sought and of narcissism in content generation in social media and explores the generational differences in motivations and in narcissistic personalities when predicting the usage of Facebook, blogs, and forums. Data were gathered from a probability sample of 596 social media users through a telephone survey in 2010. Factor analysis results showed that content generation using social media was satisfying five socio-psychological needs: showing affection, venting negative feelings, gaining recognition, getting entertainment, and fulfilling cognitive needs. In particular, people who used social media to meet their social needs and their need for affection tended to use Facebook and blogs. In contrast, when users wanted to air out discontent, they often turned to forums. Results also showed that exhibitionists seemed to use social media to show affection, express their negative feelings, and achieve recognition. The study found no generational differences in using Facebook and blogs as a means to satisfy social needs or the need for affection. However, differences in patterns of social media usage were found among Baby Boomers with different narcissistic personalities. The paper includes a discussion of the study's limitations and suggestions for future research.

1. Introduction

Social media is a group of internet-based applications that build on the technological foundations of Web 2.0, which allows the creation and exchange of user-generated content (UGC) (O'Reilly, 2005). UGC in social media has exploded in recent years. Social media takes many different forms, including both web-based and mobile technologies, such as internet forums, email, social networking sites (SNSs), blogs, microblogs, vlogs, wikis, and voice-over IP. In the Web 2.0 era, social media is a platform for service deliveries that emphasize user control, participation, and emergent behavior; they also provide a way of creating micro-content focusing on social connections between people (Alexander, 2008). Enabled by ubiquitously accessible and scalable communication techniques in mobile devices, social media has substantially changed the way individuals, organizations, and communities communicate and share content in an unprecedented environment of hyper-inter-connectivity. Through social media such as Facebook, MySpace, MSN Spaces, Blogger, forum, YouTube, and Twitter, users can publish their own diaries on their own websites, post-photos or videos, express opinions, meet other users, and establish communities based on shared interests. Among these different examples of social media, the present study narrowed and focused on three most popular, namely Facebook, blogs, and forums. These social media were chosen in this research because they facilitate many of the seven functional building blocks of social media (i.e., identity, conversations, sharing, presence, relationships, reputation, and groups) (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). However, it is not the aim of this study to differentiate which social medium functions best in any of the seven in our conceptualization and tested in hypotheses. Nevertheless, the results may invite such concepts to be adopted to explain the differences in the use of social media.

To examine media behavior and its consequences, an appropriate approach is to examine the objectives, the underlying assumptions, and the perspectives of the uses and gratifications (U&G) of its users. What motivates users to create content in social media and how the gratifications of generating content affect the activities in social media are important research topics. Thus, the first objective of this study was to identify the gratifications sought in the production of UGC in social media (especially in Facebook, blogs, and forums).

In addition, the study focused on the contribution of narcissism to social media content generation. Narcissism is the fascination with oneself, and narcissists generally think they are better than others, inflate praise of themselves, and believe that they are unique and special. Buffardi and Campbell (2008) found that these qualities may predict participation in social media. Narcissism has been consistently and positively related to content-generation online among young adults (Poon & Leung, 2011). People with

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strong narcissistic tendencies generally report a greater number of microblog friends and wall-posts, and they are more willing to upload photos (Ong et al., 2011). In line with these studies, it could be hypothesized that highly narcissistic subjects are likely to participate actively in social media content-generation.

2. Generational divide

In his book, *Grown up Digital: How the Net Generation is Changing Your World,* Tapscott (2009) characterized different generation cohorts, primarily as Baby Boomer, Baby Bust, and Echo Boomer (sometimes called the Net Generation or the Y Generation). A Baby Boomer is anyone born between 1946 and 1964, after the end of the Second World War, when the after-war economy was thriving. Following the boom, birth rates fell dramatically, with 15% fewer babies born in the next 10 years (Tapscott, 2009). These babies were named "Baby Bust," Generation X, or the Gen Xers, and were born between 1965 and 1976; the "X" stands for the feeling of exclusion from society and of being less competitive in the job market.

The Echo Boomer, or the echo of the Baby Boom, came next. Tapscott named this generation according to its defining characteristics; according to him, naming this generation according to the timeline, such as Millennials or Generation Y, diminished its importance in the larger scheme of things. Therefore, the term "Net Generation," referring to those born between 1977 and 1997 most precisely described this generation, as it was the first generation bathed in bits (Tapscott, 2009). In 2012, 'Net Generation' babies are adolescents and young adults between the ages of 15 and 35.

Social media is at the heart of a culture and a grown-digital generation who, in profound and fundamental ways, learn, work, play, communicate, shop, and create communities very differently from their parents (Livingstone, 2002; Tapscott, 1998, 2009). The Net Generation feels more comfortable with computers than do their parents, so they are more likely to be online consumers and users of social media. Bombarded with information and being media savvy, this generation has grown up understanding the digital economy. More than any previous generation, Net Geners are conversant with a communications revolution transforming business, education, health care, social relations, entertainment, government, and every other institution (Lenhart, Madden, Macgill, & Smith, 2007).

3. Rationale for the study

Social media is a very recent social phenomenon. However, there is a distinct lack of psychological theory relating to its use. Past research has begun to identify the types of people who use Facebook (Barker, 2009) and found that the specific gratifications of Facebook use differs as a function of individuals' personality traits (Park, Kee, & Valenzuela, 2009; Ross et al., 2009; Urista, Dong, & Day, 2009). However, this line of investigation has been limited to student or adolescents and research focusing on generational differences in the use of social media has been scarce. Furthermore, in order to obtain a more accurate representation of the types of users that social media appeals to, this study focused on the relationship between a narrow personality trait of narcissism, gratification-sought, and social media use across the different generational cohorts. Going beyond the most commonly used Facebook to include blogs and forum use, this study aimed to investigate how narcissistic personality traits and generational differences are related to users' gratifications-sought and in actual production of UGC in social media.

4. Theoretical frameworks

4.1. Uses and gratifications

The uses and gratifications approach assumes the active participation of the audience in media selection and use. The general theoretical conclusion of many uses and gratifications studies is that the gratifications sought from an audience motivate the use of a particular medium. The audience is often attempting to satisfy certain social and psychological needs, such as surveillance, information-seeking, entertainment, personal identity, or companionship (Dimmick, Sikand, & Patterson, 1994; Lin, 1998; Rubin, 1983). Maslow (1970) described these psychological needs as cognitive and emotional in nature. As such, the behavior of media gratification-seeking is regarded as goal-directed and utility-driven (Palmgreen & Rayburn, 1979). This utilitarian view of media use can be conceptually applicable to people's motives associated with UGC in social media.

Past research in the gratifications or benefits of computer-mediated technologies, such as the Internet (Leung, 2003; Papacharissi & Rubin, 2000), electronic bulletin boards (Dimmick, Kline, & Stafford, 2000), and user-generated content (Leung, 2009), among others, suggests broad motivations. These motivations include information exchange, conversation and socializing, information viewing, entertainment, information and education, escape and diversion, reassurance, and fashion and status. Therefore, one of the goals of this study was to explore a wide range of motivations connected to content generation in social media, which users can identify as unique. Therefore, we proposed the following research question and hypothesis:

RQ$_1$	What motivates internet users to produce content using social media (especially in Facebook, blogs, and forums)?
H$_1$	The more gratification internet users find in content generation using social media, the more they will use social media.

4.2. Narcissism

Narcissism is first of all a personality. According to Campbell and Foster (2007), "narcissism is a quality of the self that has significant implications for thinking, feeling, and behaving. Individuals with narcissistic personality possess highly inflated, unrealistically positive views of the self. Often times, this includes strong self-focus, feelings of entitlement, and lack of regard for others. Narcissists focus on what benefits them personally, with less regard for how their actions may benefit (or harm) others (p. 115)."

Scholars often measured a person's narcissistic personality using a scale called Narcissistic Personality Inventory (NPI). It was a 223-item inventory originally developed by Raskin and Hall (1979) to measure the extent of a narcissistic personality. With a reduced inventory and clustered into fewer components, Raskin and Terry (1988) proposed that narcissism included seven dimensions: authority, self-sufficiency, superiority, exhibitionism, exploitativeness, vanity, and entitlement. More recently, Ackerman et al. (2011) proposed a model in which three-factor dimensions, leadership/authority, grandiose exhibitionism, and entitlement/exploitativeness, constituted narcissism.

Scholars have found that in order to achieve narcissistic goals, the narcissists often use certain self-regulatory strategies to make themselves look and feel special, successful, and important (Bergman, Fearrington, Davenport, & Bergman, 2011). As Campbell and Foster (2007) suggested, narcissism is better understood as a self-regulatory system—"an interactive group of traits, abilities,

beliefs, strategies, behavior, and emotions that mutually predict and reinforce each other (p. 120)." Central in this theoretical model of narcissism is the view that narcissistic esteem is the result of a complex process of relationship management and identity construction. This view has naturally lent prominence to narcissism research in the field of interpersonal communication. In particular, the issue of how narcissists communicate with others in the virtual environment, especially in social networking sites (SNSs), has attracted tremendous academic attention in recent years. As many researchers have found, SNSs provide ideal platforms for narcissistic self-regulation, because they allow one to have almost full control over self-presentation and afford the ability to maintain large social network bases of superficial relationships, which would appeal to narcissists (Ong et al., 2011).

Previous research found that narcissism was positively related to levels of social activity and intentions of self-promotion; that is, the more narcissistic a person was, the more he or she was likely in interact with other people in the online community, and the more he or she would be likely to post-self-promoting content (Buffardi & Campbell, 2008). This finding indicated that narcissism was a strong predictor of usage of social media. In addition, Poon & Leung (2011) also found that people who were more narcissistic reported a higher frequency of online content production. These results supported the general view that adolescents with higher narcissism levels enjoyed the self-presentational nature of SNSs (Buffardi & Campbell, 2008). Thus, the current study posed two hypothesizes and asked one overriding question:

H_{2a}	Internet users who are more narcissistic will report a higher frequency of content generation using social media.
H_{2b}	Internet users who are more narcissistic will find content generation using social media more gratifying.
RQ_2	How can demographics, narcissism, and social media use predict the gratifications sought from content generation in social media?

4.3. Generational differences in media use

The Baby Boomers, representing 23% of the US population, were the first generation raised with television (Tapscott, 2009). In contrast, Generation X, now in their thirties and forties and representing 15% of the population, is highly media-centered and regularly consumes radio, TV, film, and the Internet. Given their media diet, the experiences of Gen Xers are good indicators of how future generations will master the digital universe. The Net Generation differs from the Boomers in various respects, such as entertainment preferences, study, consumption, work, and family values (Djamasbi, Siegel, & Tullis, 2010). It was tagged as a generation because its members grew up with the Internet; thus, they came to view such technology as part of their lives. Previous research has estimated that the Net Generation represents 27% of the population in the United States (Tapscott, 2009), making it a consumer group potentially larger than the Baby Boomers. Net Geners are more numerous, more affluent, better educated, and more ethnically diverse than any previous generation (Howe & Strauss, 2000).

Past research has also investigated the influence of demographic profiles and users' personality traits leading them to engage in social media use. In particular, Correa, Hinsley, and de Zúñiga (2010) found that while extraverted men and women were both likely to be more frequent users of social media tools, only the men with greater degrees of emotional instability were more regular users. The relationship between extraversion and social media use was particularly important among the young adult cohort.

As the internet is the medium of choice for the Net Geners, a better grasp of how the demographic and generational differences of these cohorts are linked to personality traits and their social media behavior would help marketers and designers to use the medium effectively. However, there is a distinct lack of research investigating the inter-relationships among demographic and generational differences, narcissistic personality traits, and social media use. Therefore, this exploratory study also inquired:

RQ_3	How do Net Geners, the Gen Xers, and the Baby Boomers differ in social media use related to the gratifications sought and narcissistic traits?

5. Method

5.1. Sample and sampling

Data for this study were collected via a telephone survey in Hong Kong with a probability sample of internet users aged 18–69. Initially designed in English, the survey instrument was translated into Chinese before pilot testing. Ambiguous or problematic translations were identified and corrected before the actual fieldwork which ran between September 29 and October 28, 2010. The response rate was 41% with a total of 596 complete interviews and the sampling error equaled ±3.1% at the .05 confidence level. Of the 596 respondents, 44.7% (n = 266) were Net Geners, 23.9% (n = 143) were Gen Xers, and 31.4% (n = 187) were Baby Boomers. Close to 49% of the sample were males. The median age category of the sample was 35–39. Over 38.5% of all respondents had a median monthly household income equaling US$3,866-5,155. In education, 3% were primary school students or graduates, 46.8% were high school students or graduates, and 50.2% attended, or had graduated from, university.

5.2. Measurement

5.2.1. Gratifications of content generation in social media

Initially, relevant gratification items used in previous research into traditional and new media, such as television (Rubin, 1983), personal computers (Lin, 1998), mobile phones (Leung & Wei, 2000), the Internet (Papacharissi & Rubin, 2000), friends-networking sites (Raacke & Bonds-Raacke, 2008), and ICQ (Leung, 2001) were included in the survey questionnaire. Additional items were gathered through a focus group of 17 students to refine the unique motives associated with content generation using social media. A pilot study of 27 items on gratifications sought in content generation using social media was conducted with 35 respondents to eliminate ineffective items and to solicit new ones. Items that were ambiguous or repetitive were eliminated. The final questionnaire consisted of 23 gratification statements. A 5-point Likert scale was used, with "1" meaning "strongly disagree" and "5" meaning "strongly agree."

5.2.2. Social media use

Respondents were asked, "On a typical day, how often do you spend time generating content on the following social media: (a) updating content on your Facebook and posting messages on others, (b) writing and commenting on blogs, and (c) expressing opinions on forums?"[1] The scale used was 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often.

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[1] Other social media (such as YouTube, Twitter, Flickr, and Wikipedia) were not chosen in this study because over 65% reported in the sample that they have never generated content in them.

5.2.3. Narcissism

An established scale called the Narcissistic Personality Inventory (NPI) assessed narcissism. Raskin and Hall (1979) developed the NPI to measure differences in narcissism among individuals who were not narcissistic. Raskin and Terry (1988) then discovered that the original 40-item inventory could be divided into seven components. However, to make the questionnaire more manageable, only 20 items were extracted from the inventory in this research, with statements such as "I am an extraordinary person," "I like to be complimented," "I find it easy to manipulate people," and "I like to look at my body." Respondents used a five-point Likert scale with 1 indicating "strongly disagree" and five indicating "strongly agree." Fifteen items survived the pre-test; five items that were low in communality, repetitive, or ambiguously worded were eliminated. As a whole, the fifteen items yielded a reasonably high reliability alpha of .78.

As shown in Table 1, the principal components factor analysis yielded a four-factor narcissism structure and accounted for 65.62% of the total variance. The first factor was "Authority/superiority" ($\alpha = .88$) reflecting that narcissistic individuals viewed themselves as extraordinary, could talk their way out of anything, were good leaders, and had natural talent to influence other people. "Exhibitionism" was the second factor ($\alpha = .78$), indicating that narcissistic individuals liked to be complimented, respected, and the center of attention. The third factor was "exploitativeness" ($\alpha = .70$), illustrating that narcissistic individuals believed that they could easily manipulate people and make people believe anything they wanted. "Vanity" was the fourth factor ($\alpha = .63$), showing that narcissistic individuals liked to look at their bodies and themselves in the mirror.

As a whole, this study identified four narcissism factors that were conceptually consistent with the theoretical origins described in the Narcissistic Personality Inventory (NPI) scale (Emmons, 1984; Raskin & Hall, 1979).

5.2.4. Demographics

The study also assessed and recorded personal data, such as gender, age, education, and monthly income.

6. Findings

6.1. Motives for generating content in social media

To explore what motivates internet users to produce content using social media, the study ran a principal components factor analysis with a varimax rotation to determine the potential groupings of 23 items. Five items with extremely low communalities and items that failed to load on any factors were removed. The analysis yielded five factors and explained 68.21% of the variance (see Table 2).

The first factor was "social and affection needs," which reflected how internet users engage in content generation using social media to show others encouragement, to share interest, views, thoughts, and experiences, to let their family and friends know their recent situations, and to thank others. The reliability of these seven items, as indicated by Cronbach's alpha, was high at .86. "Venting negative feelings" was the second factor ($\alpha = .81$). It included three items stating that content generation using social media helped to voice discontent, get anger off one's chest, and fight back against something that was unfair. "Recognition needs" was the third factor ($\alpha = .81$). It consisted of three items illustrating how internet users use social media to promote or publicize their expertise, establish their personal identity, and gain respect and support. The fourth factor, "entertainment needs" ($\alpha = .70$), contained three items indicating that content generation online could be fun, entertaining, relaxing, and used to pass time. "Cognitive needs" was the fifth factor ($\alpha = .67$). It included two items reflecting that social media could be a place to broaden one's knowledge base and to refine one's thinking.

As a whole, these five factors were conceptually consistent with the theoretical expectations described by Papacharissi (2003), Nardi, Schiano, Gumbrecht, and Swartz (2004), and Leung (2009). In sum, this study found that there was a deeply held belief in the value of content-generation using social media. Respondents believed that through the content-generation process, they had the opportunity to be recognized, gain respect, publicize their expertise, voice grievances or injustices, learn more of the world, socialize with friends, and be entertained. Social media users thrive on

Table 1
Factor analysis of narcissism.

	Factors				Mean	SD
	1	2	3	4		
Authority/superiority						
1. I am an extraordinary person.	.732				2.50	.99
2. I can usually talk my way out of anything.	.724				3.23	.98
3. I see myself as a good leader.	.720				2.75	.96
4. I am more capable than other people.	.698				2.77	.94
5. I know that I am good because everybody keeps telling me so.	.683				2.46	.95
6. I have a natural talent for influencing people.	.667				2.72	1.03
7. I would prefer to be a leader.	.576				2.54	1.11
Exhibitionism						
8. I like to be complimented.		.758			3.26	1.05
9. I insist upon getting the respect that is due me.		.749			3.05	1.04
10. I like to be the center of attention.		.736			2.82	1.01
Exploitativeness						
11. I find it easy to manipulate people.			.747		2.11	.94
12. I will never be satisfied until I get all that I deserve.			.699		2.64	1.07
13. I can make anybody believe anything I want.			.573		2.75	1.02
Vanity						
14. I like to look at my body.				.807	2.07	.94
15. I like to look at myself in the mirror.				.781	2.31	1.05
Eigen values	6.68	1.28	1.03	.85		
Variance explained	44.55	8.55	6.84	5.68		
Cronbach's alpha	.88	.78	.70	.63		

Scale used: 1 = strongly disagree and 5 = strongly agree. *N* = 596.

Table 2
Factor Analysis of Motives in Content Generation Using Social Media.

I generate content online using social media:	Factors					Mean	SD
	1	2	3	4	5		
Social and affection needs							
1. Because I am concerned about them.	.73					3.20	1.05
2. To thank others.	.72					3.07	1.13
3. To show others encouragement.	.69					3.06	1.08
4. To let my family and friends know my recent situation.	.69					3.23	1.20
5. To share my interests, views, thoughts, and experiences.	.68					3.48	1.04
6. To feel involved with what's going on with other people.	.65					3.24	1.11
7. To understand myself and others.	.60					3.31	1.07
Venting negative feeling							
8. To voice out discontent.		.80				2.74	1.14
9. To get anger off my chest.		.76				2.24	1.14
10. To fight back of something unfair.		.74				2.80	1.16
Recognition needs							
11. To promote or publicize my expertise.			.75			2.31	1.03
12. To establish my personal identity.			.73			2.20	1.05
13. To gain respect and support.			.72			2.34	.98
14. *Entertainment*							
15. To pass time.				.78		2.99	1.19
16. Because it is entertaining.				.76		2.53	1.13
17. To relax.				.51		2.69	1.10
Cognitive needs							
18. To broaden my knowledge base.					.76	3.31	1.23
19. To refine my thinking.					.74	2.63	1.04
Eigen values	7.77	1.37	1.12	1.03	.89		
Variance explained	43.74	7.60	6.21	5.72	4.94		
Cronbach's alpha	.86	.81	.81	.70	.67		

Scale used: 1 = strongly disagree and 5 = strongly agree. N = 596.

their immediate access to the world, and they are indicative of a culture that experiences being both a producer and a consumer of media content in the Web 2.0 era.

6.2. Hypotheses testing

Results from the bivariate correlation in Table 3 showed that content generation using social media, especially Facebook, blogs, and forum, was in various degrees, significantly linked to all five dimensions of the gratifications of content generation in social media. Specifically, all three social media uses were significantly correlated with social/affective needs (r ranged from .19 to .39; $p < .001$) and with entertainment (r ranged from .15 to .25; $p < .05$ or more). Recognition needs were significantly linked to

Facebook, blogs, and forum use (r ranged from .15 to .17; $p < .05$ or more), while venting negative feelings were related to the use of forum ($r = .16$, $p < .05$) and cognitive needs were linked to forum use ($r = .14$, $p < .01$).

In particular, additional regression analyses were run using individual gratifications as dependent variables. As shown in Table 4, the results indicated that social media users tended to use Facebook and blogs to socialize and to show affection and blogs to get recognition and to share interest, thoughts, and experience, while they tended to participate in forums to vent negative feelings, be entertained, and broaden their knowledge of the world. Therefore, H_1 was partially supported.

H_{2a} hypothesized that Internet users who are more narcissistic will report a higher frequency of content generation using social

Table 3
Zero-order Pearson correlations among key variables.

	2	3	4	5	6	7	8	9	10	11	12
Gratifications-sought											
1. Social/affection needs	−.00	.04	−.08	−.07	.11[*]	.28[***]	−.02	.04	.39[***]	.26[***]	.19[***]
2. Venting negative feelings		.05	−.07	.00	−.01	.15[**]	.04	−.07	.05	.05	.16[***]
3. Recognition needs			.00	−.13	−.03	.24[***]	.06	.12[**]	.17[***]	.15[**]	.17[***]
4. Entertainment				−.05	−.03	.17[***]	.13[**]	.09	.25[***]	.15[*]	.23[**]
5. Cognitive needs					.17[***]	−.08	.01	−.06	−.07	.05	.14[**]
Narcissism											
6. Authority/superiority						.58[***]	.68[***]	.39[***]	−.00	.01	.05
7. Exhibitionism							.48[***]	.39[***]	.23[***]	.13[**]	.10[*]
8. Exploitativeness								.30[***]	.07	.04	.07
9. Vanity									.07	.01	.05
Social media use											
10. Facebook										.50[***]	.47[***]
11. Blogs											.39[***]
12. Forum											

N = 596.
[*] $p \leqslant .05$.
[**] $p \leqslant .01$.
[***] $p \leqslant .001$.

Table 4
Regressing the gratifications sought on demographics, narcissism, and social media activities.

Predictors	Gratifications-sought				
	Social /affection needs β	Venting negative feelings β	Recognition needs β	Entertainment needs β	Cognitive needs β
Demographics					
Gender (male = 1)	−.06	−.14**	.18***	−.02	.09
Age	.06	.11*	.00	−.17***	.06
Education	.13**	−.09	−.11*	−.13*	−.07
Income	−.16***	−.01	.01	.09	−.12*
Narcissism					
Authority/superiority	.09	−.02	−.20**	.00	.18***
Exhibitionism	.18***	.15**	.25***	.10	−.04
Exploitativeness	−.04	.05	.04	.11	.02
Vanity	.01	−.15**	.14**	.06	−.04
Social media use					
Facebook	.29***	−.03	.07	.10	−.13**
Blogs	.10*	−.01	.10*	.03	.05
Forum	.02	.19***	.08	.12*	.17**
R^2	.24	.08	.15	.14	.12
Adjusted R^2	.22	.05	.13	.12	.09
F	11.73***	3.16***	6.38***	5.95***	4.81***

N = 596.
* $p \leqslant .05$.
** $p \leqslant .01$.
*** $p \leqslant .001$.

media. As shown in Table 3, the narcissistic dimension of exhibitionism significantly correlated with Facebook ($r = .23$, $p < .001$), blogs ($r = .13$, $p < .01$), and forums ($r = .10$, $p < .05$) use. Thus, H_{2a} was only partially supported.

The results in Table 3 also show significant bivariate relationships between the exhibitionism dimension of narcissism and social/affection needs ($r = .28$, $p < .001$), the venting negative feelings ($r = .15$, $p < .01$), recognition needs ($r = .24$, $p < .001$), and entertainment ($r = .17$, $p < .001$) dimensions of the gratifications sought from content generation in social media. Results also indicated that entertainment gratification was significantly linked to exploitativeness ($r = .13$, $p < .01$), that recognition needs were linked to vanity ($r = .12$, $p < .01$), and that cognitive ($r = .17$, $p < .001$) and social/affective ($r = .11$, $p < .05$) needs were connected to the authority/superiority dimensions of narcissism. This suggested that exhibitionists who used social media to generate content tended to satisfy their social/affective, recognition, and entertainment needs, as well as their need to vent negative feelings, through social media. Narcissists with authority and superiority attributes tended to seek social/affective and cognitive gratifications. Similarly, narcissists with exploitative personalities tended to seek entertainment and those with vanity attributes tended to seek recognition. Thus, H_{2b} was largely supported.

6.3. Predicting the gratifications sought in social media use

To determine the factors that predict the gratifications sought from content generation in social media, the study ran five parallel multiple regressions (see Table 4). Results showed that individuals who sought to satisfy their social/affective needs by using social media tended to be exhibitionists ($\beta = .18$, $p < .001$), educated ($\beta = .13$, $p < .05$), in lower income groups ($\beta = -.16$, $p < .001$) and frequent users of Facebook ($\beta = .29$, $p < .001$) and blogs ($\beta = .10$, $p < .05$). Those who used social media to vent their negative feelings tended to be forum users ($\beta = .19$, $p < .001$), older females ($\beta = -.14$, $p < .01$ and $\beta = .11$, $p < .05$), exhibitionists ($\beta = .15$, $p < .01$), and not particularly vane ($\beta = -.15$, $p < .01$). Poorly educated males generally sought recognition using social media ($\beta = -.11$, $p < .05$ and $\beta = .18$, $p < .001$), as did exhibitionists ($\beta = .25$, $p < .001$), those feeling

inferior to others ($\beta = -.20$, $p < .01$), and people who were often quite vane ($\beta = .14$, $p < .01$); their favorite social medium for recognition was the blog ($\beta = .10$, $p < .05$). Results also showed that the young ($\beta = -.17$, $p < .01$) and the less educated preferred forums ($\beta = -.13$, $p < .05$) as means of entertainment. Those who used social media to satisfy their cognitive needs tended to be narcissists who believed that they were superior ($\beta = .18$, $p < .001$) to others; they were frequent users of forums ($\beta = .17$, $p < .01$), but made limited use of Facebook ($\beta = -.13$, $p < .01$), to broaden their knowledge of the world. Altogether, the predictors included in the regression equations explained 5–22% of the variance.

6.4. Predicting social media use across generations

To examine and contrast the generational differences in content generation using social media, the study conducted nine parallel regressions analyses with the levels of Facebook, blog, and forum use as dependent variables. The results in Table 5 indicate that individuals who used social media to satisfy their social and affective needs tended, invariably, to use Facebook and blogs as their media of choice, regardless of the generation cohort to which they belonged. Net Geners also used forums to extend their social network to show affection and to share their interests and experiences while the Gen Xers used forums, in addition to Facebook and blogs, to seek their social/affective gratification. Both the Net Geners and the Baby Boomers preferred forums while, additionally, the Baby-Boomers would use blogs, to fulfill their need to vent negative feelings. The forum seemed to be the medium of choice for all generation cohorts to seek recognition through content generation in social media. In particular, Net Geners also preferred Facebook, and Baby Boomers favored blogs. The results also showed that Net Geners used Facebook, blogs, and forums significantly as a means for entertainment, while Baby Boomers favored forums, but definitely not Facebook. To broaden their knowledge of the world through social media, the Net Geners preferred forums.

The results show that there seems to be generational differences in narcissistic motivation to use social media to generate content. It is interesting to note that Baby Boomers who have exhibitionistic personalities tend not to use blogs or forums and

Table 5
Regressing Social Media Use on the Gratifications Sought and Narcissism.

Predictors	Social media use								
	Facebook			Blogs			Forum		
	Net-Gen β	Gen-X β	Baby-Boomer β	Net-Gen β	Gen-X β	Baby-Boomer β	Net-Gen β	Gen-X β	Baby-Boomer β
Gratifications-sought									
Social/affection needs	.40***	.30**	.25***	.19**	.25**	.22***	.22***	.26*	.08
Venting negative feelings	.05	−.06	.07	.04	−.03	.11**	.26***	.05	.11**
Recognition needs	.24***	.10	.05	.13	.10	.21***	.15*	.23*	.18***
Entertainment	.21**	.10	−24***	.18**	−.03	.07	.24***	.00	.16***
Cognitive needs	.01	−.18	−.04	.04	.04	.02	.17**	.01	.10
Narcissism									
Authority/superiority	.08	−.15	−.17*	−.01	.18	−.08	.00	.13	−.06
Exhibitionism	−.04	.15	−.09	.04	.02	−.31***	−.04	.05	−.26***
Exploitativeness	.01	−.12	.29***	.05	−.20	.32***	.02	.14	.10
Vanity	−.08	.07	.01	−.03	−.09	−.03	.05	−.29*	.16***
R^2	.30	.25	.15	.12	.14	.19	.22	.23	.15
Adjusted R^2	.26	.13	.12	.07	.01	.17	.17	.11	.13

Total $N = 596$ (specifically $n = 266$ for Net-gener; 143 for Xers; and 187 for Baby Boomers).
* $p \leqslant .05$.
** $p \leqslant .01$.
*** $p \leqslant .001$.

that Baby Boomers who have exploitative personalities prefer Facebook and blogs to create content using social media to exploit and to manipulate other people. Baby Boomers who are vane would also use forums to achieve that goal. It is important to note that the study did not significantly link any narcissistic personality trait to social media use for the Net-generation cohorts. The amount of variance ranged from 1% to 26%.

7. Discussions

7.1. Linking gratifications to social media use

One of the major aims of this study was to identify the underlying structure of the motivation for internet users to generate content using social media. Exploratory factor analysis successfully yielded five clearly identifiable factors that generally confirmed previous research's characterization of the gratifications obtained from content creation among bloggers. Findings suggest that users are motivated by social and affection needs, the need to vent negative feelings, and recognition, entertainment, and cognitive needs. This reinforces Trammell, Tarkowski, and Hofmokl (2004) qualitative study that described motivations for web blogging self-expression, social interaction, entertainment, passing time, information, and professional advancement, and the study by Nardi et al. (2004) that concluded that bloggers blog to document their lives, provide commentary and opinions, express deeply felt emotions, articulate ideas through writing, and form and maintain community. Not only were the 18 gratifications-sought items able to provide a wealth of contextual information relating to internet users' motivations in social media content generation, but also the data yielded clear evidence for the multi-factorial nature of socio-psychological needs being fulfilled.

There was strong support for the expectation that the more gratifying users find social media content generation, the more they will use it. In particular, people who use social media to meet their social and affection needs tend to use Facebook and blogs. This is understandable, as Facebook and blogs are the most popular channels to help users connect, share updates about themselves, and see updates about others. Meanwhile, blogs are also used to satisfy recognition needs. With minimal technical skills, users can showcase their artworks designs, photos, and latest achievements on their blogs in order to gain respect and recognition from others. Widely known as microblog, Twitter is another popular social medium that would also help users to gain recognition, indicated by the number of followers a user has. However, over 91% in our sample reported that they never or rarely use Twitter. Thus, Twitter was excluded in our analysis.

In contrast, when users want to display their discontent, they often turn to forums[2] to speak their negative feelings. This may be because a forum is less interactive, which allows more time and space for the users to present themselves in an *asynchronous* fashion. As expected, forums are also venues to post-content and to learn from others in reading and posting opinions on different issues. As a result, forum participants can be entertained and broaden their knowledge of the world.

7.2. Linking narcissism to gratifications

Apart from the five motivations mentioned above, personality traits are the other determining factors influencing internet users to produce UGC using social media. Our principal-components factor analysis clearly confirms four multi-dimensional narcissistic personality types: feeling authoritative or superior, exhibitionistic, exploitative, and often hungry for vanity (Foster & Campbell, 2007) with largely acceptable construct validity and reliability. Such a multi-dimensional construct allows a much deeper contextualization of narcissism, instead of the simple single-dimensional measure.

It is important to note that exhibitionists seem to use social media to show affection, express their negative feelings, and be recognized, while people with superior views of self are motivated in social media use by cognitive needs and less by their recognition needs. This is logical as narcissists who feel that they are leaders with strong self-focus and feelings of entitlement already think that they are better than others. They would not be motivated by recognition needs as they believe that they are unique and special.

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[2] Similar to the West, online forums in Hong Kong are dedicated to information sharing through posting of questions and answers on specific theme/topic of interest. The category of forums in this research referred to broad topics such as business and finance, health and fitness, travel and transportation, restaurants, community, and especially in Hong Kong on issues related to property, politics, and the government since the reunification to China 15 years ago.

In contrast, individuals with vane personalities, who often self-admire and are often self-absorbed in their own image, would implicitly seek recognition and attention (DeWall, Buffardi, Bonser, & Campbell, 2011) and have minimal interest in venting negative feelings through content generation in social media. These results are consistent with previous research; social media provides ideal platforms for narcissistic self-regulation, as social media allows one to have almost full control over self-presentation according to narcissistic personalities (Ong et al., 2011).

7.3. Linking narcissism to social media use

It is interesting to note that, in this study, unlike other narcissistic personality types, *exhibitionists* – those who like to be complimented and to be the center of attention – were attracted and easily adapted to all forms of social media (including Facebook, blogs, and forums) to achieve their narcissistic goals. This might have been because, at the social level, exhibitionists valued the diverse means of social media to express and share their feelings and viewpoints, to be entertained, and to be recognized in the process of achieving relationship management and identity construction in social media. In the bivariate relationships, exhibitionists significantly correlated with all but one gratification, cognitive needs, in the use of social media. With such diverse gratifications being sought, it is natural that exhibitionists would seek all forms of social media to satisfy their social and psychological needs to the fullest extent. Other narcissistic personality types were motivated by only one or two gratifications. This result is consistent with similar research by Buffardi and Campbell (2008) and Medhizadeh (2010) that suggested that narcissists enjoyed the exhibitionistic nature of social media. A second possible explanation is that the interactive and reciprocal nature of all forms of social media attracts exhibitionists because the responses and comments they receive on their content encourage them to do more. This fuels the cycle of content generation, especially for the exhibitionists. A third possible reason is that the more gratified exhibitionists were with social media, the more they perceived that they were empowered with high self-efficacy and perceived competence (Leung, 2009).

7.4. Contrasting generational differences in social media use

In exploring social media use among the three generational cohorts, this study found no generational differences in the use of Facebook and blogs as means to satisfy social and affection needs. This explains, at least in part, why the use of Facebook and blogs has grown dramatically across all generations. Net Geners, Gen Xers, and Baby Boomers are increasingly dependent on them to socialize with friends, show encouragement, share interests, views, thoughts, and experiences, and to feel involved in the lives of other people (Nadkarni & Hofmann, 2012). According to a recent study by the Pew Internet & American Life Project, between April 2009 and May 2010, internet users, aged 50–64, who said they used a social networking site like Facebook, MySpace, or LinkedIn grew by 88%, and those aged 65 and older grew by 100% (Madden, 2010), compared with a growth rate of 13% for those aged 18–29. However, in addition to Facebook and blogs, the Net Geners and the Gen Xers use forums to socialize and to share common interests. This may be because the Internet is heavily embedded in the Net Geners', and to a smaller degree in the Gen Xers', lives. Compared to the Gen Xers and the Boomers, Net Geners are more tech-savvy and cleverer creators of social media content. As a result, they are more comfortable and enthusiastic with all forms of social media.

One other interesting finding across all generations was that Facebook was not the channel of choice for venting negative feelings. To display discontent, Net Geners often went to forums, while the Baby Boomers preferred forums and blogs. No social media were significant channels for venting grievances for the Gen Xers. This may be due to the fact that Facebook is generally perceived as a platform for meeting friends, sharing updates about one's self or seeing updates about others. It is not a place for a serious debate or a place for voicing conflicting views. Both Net Geners and Baby Boomers considered forums to be the ideal place for intellectual dialogues as forums are mostly text-based and less interactive than other social media, which allows users to take the time to make thoughtful arguments.

As expected, all generational cohorts acknowledged forums as the preferred social medium for gaining recognition. This is logical as forums are venues for exchanging ideas, expressing controversial opinions, establishing your identity, and publicizing your expertise. Thus, forum users can gain respect, support, and recognition. However, Net Geners also use Facebook to show off and to be recognized as it is a more interactive and multimedia-based platform, while the Boomers use mostly text-based blogs.

In terms of using social media for entertainment, Net Geners find Facebook, blogs, and forums ideal places to find entertainment, while Boomers find forums, where they can join interesting discussions, more entertaining. Being in the prime of their lives, Gen Xers (aged 34–44 at the time of the study) constituted the cohort with busy professional careers. Thus, they might not have the time to maintain their own Facebook pages and blogs, or to participate in forums.

No specific narcissistic personality was associated with any patterns of social media use for the Net Generation. In other words, social media use was independent of narcissistic personality for the Net Geners. In addition, being in the grown-digital generation, Net Geners were comfortable with all forms of social media. However, many differences were found among Baby Boomers with different narcissistic personalities in their usage of social media patterns. First, Baby Boomers who had an exhibitionistic personality tended to use blogs and forums significantly less than other groups. Since forum is semi-synchronous in nature, exhibitionistic Boomers may prefer asynchronous forms of social media. Together with Boomers' lack of competence in creating and maintaining their own blogs, these limitations might have driven them away from forums and blogs. Second, Baby Boomers who had exploitative personalities preferred Facebook and blogs and favored forums if they had a vane personality. Such differing results may again be attributable to the fact that both Facebook and blogs are asynchronous forms of social media, where Boomers with higher scores on exploitativeness can take the time and space in a social medium to engage in self-promotion, self-regulation, and manipulation of others' opinions (Qian & Scott, 2007). Furthermore, Boomers with higher scores on exploitative personality would be more willing to engage in self-disclosure. In contrast, Boomers with higher scores on vanity would have higher preferences for social media where they could be gratified more interactively from their self-disclosure in forums with friends. As individuals with high scores on vanity like to self-admire their own abilities, appearances, and achievements, self-disclosure in real time may provide interactive social connections to understand the self better and to confirm one's beliefs with instant rewards.

8. Conclusions and implications

In sum, social media are good platforms for narcissists to self-regulate and exert control over self-presentation, by conveying desirable information about themselves and posting attractive photos, for example, and to maintain a large network base of superficial relationships, such as virtual friends through CMC (Ong et al., 2011). However, as Buffardi and Campbell pointed

out, the prevalence of narcissistic individuals on Facebook might lead to a rise in narcissistic behavior among users in general, if such behavior were to be viewed as acceptable. Nevertheless, these findings seem to be consistent with previous research indicating that social media users are usually motivated by two primary needs; one is the need to belong, predicted by demographic and cultural factors, and the other is the socio-psychological need for self-presentation management and relationship construction, predicted by personal traits, such as the four narcissistic personalities (Nadkarni & Hofmann, 2012; Qian & Scott, 2007).

Having brought up in different decades, the Net Generation is certainly more media savvy with technology, especially with social media, while the X-Geners and the Baby Boomers may feel a little technophobic. Thus, one major implication of this study is that the social-psychological (both gratifications-sought and narcissistic personality trait) approach taken in this study and the generational difference concept used to diagnose the pattern of social media use will contribute in providing valuable information for developing effective strategies both in the design and marketing of future social media products to better incorporate social media for narcissistic self-regulation in such widely popular social technology (especially into mobile devices) not only for the Net Generation but also for the much neglected Gen Xers and Baby Boomers.

9. Limitations and suggestions for future research

Although the study has made a reasonably good start in adopting a measure of narcissism, the authors do not believe that the current item pool of the NPI accounts for all of the psychological themes and behavioral dimensions that are central to narcissism. Future studies should employ a more exhaustive inventory of narcissistic behaviors and sentiments. Next, the cross-sectional and correlational nature of this study implies that causality cannot be established and the results of the present study may not be generalizable. Cultural backgrounds (e.g., collectivist vs. individualistic) may determine different roles narcissism plays in content generations in social media. Future studies should include empirical evidence from diverse samples of ethnicities and cultures and contents generations in different languages. To better reflect generational difference, it would be more targeted if stratified random sampling was adopted in further studies. Furthermore, as social media has undergone changes with more and more applications, especially in Facebook, future studies should examine different generational cohorts' usage patterns of communicative features such as Wall and Chat, and their relationships to gratification and narcissism variables. Also, this study operationalized content generation as updating content on Facebook, writing and commenting on blogs, and expressing opinions on forums. Future studies should include other forms of content generation (e.g., tagging, commenting and providing feedbacks on Facebook and sharing of news).

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