

# **A COMPARISON OF USER PERCEPTIONS AND FREQUENCY OF USE OF SOCIAL MEDIA TO USE OF SOCIAL MEDIA**

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## **ABSTRACT**

*Social media has increasingly become a place consumers go to for interpersonal communication, information gathering and sharing, and recreation. Understanding social media user perceptions in relation to how they use social media can benefit marketers in developing social media strategies and content, as well as selecting the specific social media networks to use. This research examined user perceptions and frequency of use of social media in relation to the uses of selected social media – Facebook, Twitter, and Pinterest – among undergraduate university students 18 to 23 years old. The findings indicate the importance of frequency of use, perceived usefulness and enjoyment, and showed a relevant though lesser role of enjoyment on the uses of social media*

**JEL:** M31, M38

**KEYWORDS:** Social Media, Perceived Ease of Use, Perceived Usefulness, Frequency of Use, Enjoyment

## **INTRODUCTION**

Social media has changed the ways consumers share, evaluate and use information (Smithee, 2011; Xiao, Zhang, Xue & Yue, 2013) through allowing consumers to engage directly with the organization therefore becoming active participants in the communication process (Thackeray, Neigerm Hanson & McKenzie, 2008). This enhanced consumer ability to interact with one another has shifted the traditional power base between businesses and consumers towards consumers (Christodoulides & Jevons, 2011) and significantly changed the methods organizations use to communicate with their constituencies (Lai & Li, 2005; Mangold & Faulds, 2009). Social media offers organizations the opportunity to interact with consumers in new ways and enhanced engagement between business and customers increases the chances that customers will become more involved with a company and its brands (Smith & Zook, 2011). Social media is important because it lets customers communicate with each other and organizations two-way communication with customers (Smith & Zook, 2011). This type of digital communication between firms and their audiences is important for marketers as an increasing number of consumers desire such connectedness any time and any place (Karaatli, Ma & Suntornpithug, 2010). Social media platforms have allowed the Internet to move from primarily an information medium to a source of influence to consumers (Hanna, Rohn & Crittenden, 2011). Due to this ability to engage consumers while at relatively low costs compared to other media, social media is relevant for organizations of all sizes – small, medium and large (Kaplan & Haenlein, 2010).

While traditionally thought of as the face-to-face passing of information from one person to another, WOM can be passed through other methods as well in both offline and online environments (Brown, Barry, Dacin & Gunst, 2005). One significant aspect of WOM delivered through online methods is its wider distribution beyond small circles of family and friends (Kiecker & Cowles, 2001). This wider personal online information distribution has been enhanced through personal publishing – social networks – available over the Internet (Gruhl, Guha, Liben-Nowell & Tomkins, 2004). Social media allows word-of-mouth

communication to be distributed to large numbers of consumers – be it organization to consumers or consumer to consumers (Mangold & Faulds, 2009; Sago, 2010; Evans, 2012). Positive online brand interactions lead to increased brand satisfaction (Kim, 2005) and a stronger level of brand relationship (Veloutsou, 2007). Ghose, Ipeirotis and Li (2009) found consumer generated online content an important information source in other consumers' purchase decision process. In fact, digital WOM has become a dominant influence in buying decisions (Cheng, Lee & Thadani, 2009). Word-of-mouth (WOM) communication is an important influence on purchase choices by consumers (Brown & Reingen, 1987; Herr, Kardes & Kim, 1991; Reingen & Kernan, 1986). Katz and Lazarsfeld (1955) found that WOM is seven times more effective than print advertisements while Harrison-Walker (2001) showed WOM is four times more effective than personal sales pitches related to changing consumer attitudes and behavior. One benefit of positive WOM is that it can reduce perceived social and financial risks related to purchase buying decisions (Schimmel & Nicholls, 2005). WOM can also be a multiplier of advertising impact and increase the pace of brand growth (Bond & Kirshenbaum, 1998).

Laczniak, DeCarlo and Ramaswami (2001) found that negative WOM, if strong and compelling, can negatively impact brand evaluations. However, a limited amount of negative WOM among a majority of positive WOM was shown to be not critically harmful (Doh & Hwang, 2009). Consumers impacted by an unsatisfying brand experience often use WOM communication to share their dissatisfactions with others (Brown & Reingen, 1987; Richins, 1983; Swan & Oliver, 1989). This article examines the use and user perceptions of social media concentrating on perceived ease of use, perceived usefulness, and enjoyment. After a literature review, the framework of the research methodology including 3 research questions related to comparing these user perceptions to uses of social media is given and research results presented and discussed. The final section gives concluding comments and limitations of the study.

## **LITERATURE REVIEW**

The Technology Acceptance Model (TAM) has been one of the most tested and widely adopted acceptance models since its introduction by Davis in the 1980s (Teo, 2009). TAM has been supported by theoretical and empirical research (Pipers, Bemelmans, Hemstra & van Montfort, 2001; Legris, Ingham & Collette, 2003; Olson & Boyer, 2003; Pederson, 2005; Yang, 2007) and has been shown to successfully model technology acceptance and use across organizational types and technologies (Saade, 2003; Seyal, Rahmin & Rahm, 2002; Martins & Kellermanns, 2004; Landray, Griffeth & Hartman, 2006). Research has shown TAM to be a method to predict the acceptance of technology products (Pagani, 2004; Yang, 2005) and offer an understanding of user intention to use a current or new technology. Research has also shown the validity of using TAM to predict acceptance of a variety of information technology-related products (Segars & Grover, 1993; Chin & Todd, 1995; Igarra, Zinatelli, Cragg & Cavaye, 1997; Hu, Chau, Sheng & Tam, 1999; Venkatesh & Davis, 2000; Horton, Buck, Waterson & Clegg, 2001; Hong, Thong, Wong & Tam, 2002). Perceived usefulness (PU) and perceived ease of use (PEOU) are key components that have made the Technology Acceptance Model an influential research model related to understanding information technology usage (Chau, 2001). Davis, Bagozzi and Warshaw (1989) defined PU as “the prospective user’s subjective probability that using a specific application system will increase his or her job performance within an organization” (p. 985) and PEOU as “the degree to which the prospective user expects the target system to be free of effort” (p. 985). PU and PEOU were found to be primary factors in adoption in the early days of personal computers in organizational settings (Davis, 1986). PU and PEOU impact attitudes toward a technology, which in turn impact adoption and use of a new information technology (Davis, 1989).

Research has shown that PU and PEOU are indicators of adoption and use across a range of technology aspects. Lee, Kozar and Larsen (2003) found PU and PEOU foundational conditions needed in the adoption of technology. PU and PEOU have a significant positive impact on attitudes towards website use (Tseng, Hsu & Chuang, 2012). PU and PEOU have a positive impact on consumer online shopping as related to future plans to use online shopping (Koufaris, 2002), overall attitude and behavior towards online shopping

(Hsieh & Liao, 2011) and attitudes and behavior intention (Hung, Ku & Chang, 2003). Adoption of Facebook has been shown to be positively impacted by perceived usefulness and ease of use (Mazman & Usluel, 2010). Additionally, PU and PEOU have been found to influence use of mobile marketing. PU and PEOU were shown to have positive impact on the use of mobile coupons (Venkatesh & Davis, 2000; Han, Yoon & Cameron, 2001; Hsu, Wang & Wen, 2006; Jayasingh & Eze, 2010). Amin (2007) found that PU and PEOU were key predictors of customer adoption of mobile phone credit cards. The two variables have been shown to positively impact the consumer usage intention of mobile advertising (Shen & Chen, 2008) and the adoption of e-prescriptions and automated medication management systems (Escobar-Rodriguez, Monge-Lozano & Romero-Alonso, 2012). PU and PEOU have been found to impact the adoption and acceptance of online learning. Lee, Hsieh and Hsu (2011) found that PU and PEOU had a significant positive impact on behavioral intention to use online learning systems. Joo, Lim and Kim (2012) found that academic achievement in online environments was influenced to such a degree by PU and PEOU that “the design of the learning environment should be centered around learners so that every feature and function of the online system is useful and easy to use” (p. 323).

Learning achievement and user satisfaction in online MBA programs can be predicted by the level of PU and PEOU by students (Arbaugh & Duray, 2002). The positive influence of PU and PEOU on the behavior intention to use university blended learning systems – a mixture of traditional and online learning – has been shown (Tselios, Daskalakis & Papadopoulou, 2011). PU alone has been shown to also be a significant determinant of technology adoption and acceptance. PU has been found to be a key determinant of attitude towards and intention to use technology (Hu, Chan, Sheng & Tam, 1999). Lee (2010) found a significant positive relationship between PU and ecommerce adoption. Research has shown PU to be an important factor in the intention of health care educators to use social media (Hanson, West, Neiger, Thackery, Barnes & McIntyre, 2011). The expectation for PU in a technology was stronger for men and younger workers (Venkatesh, Morris, Davis & Davis, 2003). However, usefulness of a technology should be promoted regardless of gender (Goh, 2011). Research has found PU to have a significant impact on user adoption and satisfaction levels across a range of technologies. PU was related to the adoption of computers (Davis, Bagozzi & Warshaw, 1989), online banking (Lee, 2009) and mobile coupons (Jayasingh & Eze, 2010). PU was found to be a significant predictor of user satisfaction of an ecommerce website (Green & Pearson, 2011). Mazman and Usluel (2010) stated the PU had a significant impact on the high rate of adoption and number of users of Facebook. The impact of prior experience with technology on PU of technology conflicted. While Venetesh, Morris, Davis and Davis (2003) research indicated previous experience with technologies is positively associated the PU of new technologies, Guo and Stevens (2011) found that the previous use of Facebook or MySpace had a significant negative impact on the PU of wikis.

Davis, Bagozzi and Warshaw (1992) found that technology is rejected by users due to the lack of perceived usefulness even if the technology was easy to use. PEOU plays a major role in the development of attitudes towards a range of technologies (Burton-Jones & Hubona, 2005; Childers, Carr, Peck & Carson, 2001; Davis, 1989; Davis, Bagozzi & Warshaw, 1989; Lim & Ting, 2012; Selamat, Jaffar & Ong, 2009; Teo, 2001; Yulihastri & Daud, 2011). PEOU impacts user perceived enjoyment and perceived usefulness (Lee, Xiong & Hu, 2012). Green and Pearson (2011) found PEOU had a significant impact on how users view the usefulness of online retail websites. PEOU had such a positive effect on attitudes toward online shopping that “consumers would only develop favourable attitudes toward online shopping if online shopping sites are easy to use” (Lim & Ting, 2012, p. 54). PEOU was found to have a significant positive role in the adoption of mobile coupons (Jayasingh & Eze, 2010), ecommerce (Lee, 2001) and the adoption and use of cellular phones (Kwan & Chidambaram, 2000). However, research by Parra-Lopez, Bulchand-Gidumal, Gutierrez-Tano and Diaz-Armas (2011) found the tendency of social media users related to plan vacation trips was not significantly influenced by perceived ease of use.

Control, intrinsic motivation and emotion are key determinants in user formation of PEOU related to technology acceptance (King & He, 2006). Maholtra and Segars (2005) found that a significant behavior

change needed to adopt the perceived complexities of the wireless web inhibited the speed of adoption of mobile commerce. The attractiveness of PEOU has been found to be stronger for women, older workers and users with limited experience with a technology (Venkatesh, Morris, Davis & Davis, 2003).

User enjoyment plays a significant role in the success of certain technologies. Research has shown that user perceptions of entertainment provided by the technology are associated with the adoption and satisfaction levels of information systems and products (Kim, Choi & Han, 2009; Kim & Han, 2009). Curran and Meuter (2007) found adoption of self service technology is significantly influenced by enjoyment. The level of enjoyment resulting from use of a technology has an important role in the actual use of web-based information systems (Yi & Hwang, 2003) and online shopping (Shen & Eder, 2011). Both consumer usage intention and actual use of sports websites were significantly determined by the level of enjoyment the user gained from the website (Hur, Ko & Claussen, 2012). User enjoyment was also an important indicator of the intention to use blogs and similar hedonic systems (Hsu & Lin, 2008; Hsu & Lu, 2007; Lin & Bhattacharjee, 2010; Van der Heijden, 2003; Van der Heijden, 2004; Wang, Lin & Liao, 2010). The most popular reason for the adoption of e-books by university students was for enjoyment from pleasure and leisure reading over academic purposes (Abduallah & Gibb, 2006). Lee and Tsai (2010) found enjoyment to be a key to usage of online gaming.

The impact of enjoyment is powerful enough that the adoption of a somewhat unproductive system might increase due to high levels of perceived user enjoyment (Davis, Bagozzi and Warshaw, 1992). Mathwick (2002) found that users often appreciated that online shopping often offers enjoyment. And that variable was an important influence on users returning to an online retailer (Koufaris, 2002). The strongest factor influencing the intention to recommend social media sites was enjoyment (Curran & Lennon, 2011). Younger men newer to a technology have been found to be more motivated by enjoyment benefits attained from the technology (Venkatesh, Thong and Xu, 2012). The combination of enjoyment and PU has been shown to have significant positive impact on technology usage intention. Davis, Bagozzi and Warshaw (1992) stated that “usefulness and enjoyment together represent a simple yet powerful explanation of what influences computer usage intentions” (p. 1125). The use of instant messaging (IM) and text messaging (TM) is positively influenced by user perceived usefulness and enjoyment (Lee, Li & Merrier, 2010). A main reason for using social media include the user benefits derived from usefulness and hedonic aspects (Parra-Lopez et al., 2011). The continued user’s usage intention of social networking services have been shown to be predicted by user PU and perceived enjoyment (Kim, 2011). Davis, Bagozzi and Warshaw (1989) found that an increase of output quality and ease of use provided by a technology would have positive effects on both perceived usefulness and enjoyment of the information system.

Gender differences exist for technologies already adopted (Selwyn, 2007) and among genders aged 16 to 25 year olds (Goh, 2011). Sohn and Lee (2007) found females more likely to adopt text messaging than males. First year college female students were found to be less confident using computer technology than their male counterparts (Madigan, Goodfellow & Stone, 2007). Females were found to have lower levels of satisfaction with and desire more training with enterprise planning software (Bradley & Lee, 2007). Males displayed a higher level of confidence regarding using software successfully (Hartzel, 2003). However, Lee (2010) stipulates that gender differences might be receding as research found no significant difference between gender and ecommerce adoption.

## **DATA AND METHODOLOGY**

This study examines the user perceptions and frequency of use related to social media network services (SMNS) and various uses of the social media network services. The SMNS used in this research included Facebook, Twitter and Pinterest. User traits related to SMNS included overall awareness and knowledge levels of SMNS, frequency of use, level of enjoyment from the SMNS, the perceived ease of use and perceived usefulness of the SMNS. These variables were analyzed against actual use of the SMNS features

such as using the SMNS to contact friends, play games, post information about themselves, find information about another person, find information about a store, find information about a product, post information about a product, and post information about a store.

The following research questions (RQ) were investigated among current university students:

- RQ1: What was the relationship between user Facebook perceptions and frequency of use to uses of Facebook?
- RQ2: What was the relationship between user Twitter perceptions and frequency of use to uses of Twitter?
- RQ3: What was the relationship between user Pinterest perceptions and frequency of use to uses of Pinterest?

The research instrument used was a self-administered questionnaire that yielded 195 completed surveys from 107 females (55%) and 88 males (45%) ages 18 to 23 years old. The mean age for the overall sample was 22.23 years (SD 1.324). All in the sample were undergraduate university students. Surveys were collected over 3 consecutive days from students in 36 of the institution’s 55 majors in addition to undeclared majors.

Figure 1: Levels of Strength of Correlation for Use with Tables 1, 2 & 3

Correlation	Strength of Correlation
≤ -.9, ≥ .9	near perfect
≤-.7 to -.89, ≥ .7 to .89	very high
≤-.5 to -.69, ≥ .5 to .69	high
≤-.3 to -.49, ≥ .3 to .49	medium
≤-.1 to -.29, ≥ .1 to .29	low
≥-.09 to ≤ .09	very low

*This figure shows the strength of correlations (for Pearson r values) in tables 1, 2 and 3. The levels were developed by Cohen, 1988. Typically, values in the ranges of “medium”, “high”, “very high” and “near perfect” are deemed of significant strength for consideration.*

## RESULTS AND DISCUSSION

The results addressing Research Question 1 (RQ1) identified the strength of relationship and statistical significance between traits and perceptions of Facebook users and their uses for Facebook. Table 1 shows the level of relationship strength between user traits and Facebook uses by gender. While various significant strength of correlations and levels of significance of Pearson r are spread throughout the table, several relationships between user Facebook traits and Facebook uses that include both genders are noteworthy. These tended to be grouped in the user traits of frequency of use, enjoyment, and perceived usefulness combined with the Facebook uses of contact with friends, post information about myself, and find information about another person.

As categorized by Cohen (Figure 1), these relationships are at a medium or high strength of correlation and, as indicated in Table 1, were statistically significant at the .01 level. RQ1: What was the relationship between user traits and perceptions of Facebook and uses of Facebook? The results related Research Question 2 (RQ2) showed the strength of relationship and statistical significance between traits and perceptions of Twitter users and their uses for Twitter. Table 2 shows the level of relationship strength between user traits and Twitter uses by gender. Various significant strength of correlations and levels of significance of Pearson r are found throughout the table. However, 3 user Twitter traits – frequency of use, enjoyment, and perceived usefulness – share significant levels across the 2 Twitter uses of contact with friends and post information about myself. These relationships are at a medium or high strength of correlation (refer to Figure 1) and, as displayed in Table 2, were statistically significant at the .01 level.

Table 1: User Facebook Traits and Perception to Uses for Facebook

Uses										
Frequency Of Use / Perceptions										
	Contact with Friends	Play Games	Post Information About Myself	Find Information About Another Person	Find Information About a Store	Find Information About a Product	Post Information About a Product	Post Information About a Store	Get a Coupon	
<b>Frequency of use</b>										
Female	0.378***	0.269***	0.391***	0.289***	0.0277***	0.223**	0.193**	0.211**	0.220**	
Male	0.441***	0.109	0.480***	0.300***	0.019	(0.025)	(0.004)	0.015	0.040	
<b>Enjoyment</b>										
Female	0.297***	0.164*	0.264***	0.223**	0.192**	0.133	0.109	0.176*	0.165*	
Male	0.465***	0.046	0.411***	0.355***	0.349***	0.283**	0.283**	0.256**	0.146	
<b>Perceived ease of use</b>										
Female	0.170*	0.004	0.301***	0.042	0.123	0.036	0.047	0.134	0.060	
Male	0.107	0.137	0.053	(0.022)	0.015	(0.009)	0.061	0.081	0.096	
<b>Perceived usefulness</b>										
Female	0.364***	0.155***	0.250***	0.328***	0.245**	0.220**	0.041	0.159	0.222**	
Male	0.528***	(0.111)	0.561***	0.439***	0.259**	0.155	0.331***	0.288***	0.185*	

This table shows correlations (Pearson *r* value) between frequency of use of Facebook / various perceptions of Facebook and various uses of Facebook. Correlations are further segmented by gender. \*, \*\*, \*\*\* indicate significance at the 1, 5, and 10 percent levels respectively.

RQ2: What was the relationship between user traits and perceptions of Twitter and uses of Twitter?

Table 2: User Twitter Traits and Perception to Uses for Twitter

Uses										
Frequency Of Use / Perceptions										
	Contact with Friends	Play Games	Post Information About Myself	Find Information About Another Person	Find Information About a Store	Find Information About a Product	Post Information About a Product	Post Information About a Store	Get a Coupon	
<b>Frequency of use</b>										
Female	0.655***	0.225	0.712***	0.360**	0.090	0.204	0.264	0.277*	0.655***	
Male	0.667***	(0.043)	0.597***	0.442**	0.382**	0.542***	0.438**	0.549***	0.667***	
<b>Enjoyment</b>										
Female	0.271*	0.108	0.475***	0.179	0.491***	0.567***	0.551***	0.573***	0.271*	
Male	0.849***	0.056	0.631***	0.384**	0.339*	0.372*	0.274	0.340*	0.849***	
<b>Perceived ease of use</b>										
Female	0.150	0.081	0.374**	0.195	0.166	0.173	0.163	0.163	0.150	
Male	0.211	(0.170)	(0.004)	0.009	0.293	0.065	0.148	0.148	0.211	
<b>Perceived usefulness</b>										
Female	0.457***	0.118	0.510***	0.219	0.306*	0.482***	0.564***	0.485***	0.457***	
Male	0.677***	0.086	0.600***	0.450**	0.394**	0.369*	0.369*	0.264	0.677***	

This table shows correlations (Pearson *r* value) between frequency of use of Twitter / various perceptions of Twitter and various uses of Twitter. Correlations are further segmented by gender. \*, \*\*, \*\*\* indicate significance at the 1, 5, and 10 percent levels respectively.

The results dealing with Research Question 3 (RQ3) identified the strength of relationship and statistical significance between traits and perceptions of Pinterest users and their uses for Pinterest. Table 3 shows the level of relationship strength between user traits and Pinterest uses for females only as the sample included only 1 male Pinterest user. Multiple significant relationships that were statistically significant between user Pinterest traits and Pinterest uses among females are also shown. The user trait frequency of use held 4 medium strength correlations with the uses of contact with friends, find information about another person,

find information about a product, and post information about a product. Perceived usefulness (with contact with friends and post information about a product) and enjoyment (with find information about another person) had limited significant relationships with uses that fell in the medium strength correlation at statistically significance at the .01 level RQ3: What was the relationship between user traits and perceptions of Pinterest and uses of Pinterest?

Table 3: User Pinterest Traits and Perception to Uses for Pinterest

Uses	Uses						
	Contact with Friends	Post Information About Myself	Find Information About Another Person	Find Information About a Store	Find Information About a Product	Post Information About a Product	Post Information About a Store
Frequency Of Use / Perceptions							
<b>Frequency of use</b> Female	0.420***	0.287**	0.406***	0.192	0.427***	0.384***	0.200
<b>Enjoyment</b> Female	0.297**	0.304**	0.365***	0.110	0.062	0.167	0.216*
<b>Perceived ease of use</b> Female	0.305*	0.254*	0.207*	(0.050)	0.059	0.245*	0.147
<b>Perceived usefulness</b> Female	0.398***	0.210	0.303**	0.143	0.316**	0.385***	0.159

*This table shows correlations (Pearson  $r$  value) between frequency of use of Pinterest / various perceptions of F Pinterest and various uses of Pinterest. Correlations for males omitted due to only 1 male Pinterest user in sample. \*, \*\*, \*\*\* indicate significance at the .10, .05, and .01 levels respectively.*

The objectives of this research were to understand the roles of multiple user related variables on the uses of social media. Specifically, the study examined the impacts of frequency of use, enjoyment, perceived of use, and perceived usefulness on a range of social media uses including contact with friends, playing games, posting personal information, finding information about other people, finding information about a store, finding information about a product, posting information about a product, and posting information about a store. All of the findings relate to data displayed in tables 1, 2 and 3. A finding of this research is the positive relationships between frequency of use and multiple uses for social media in both females and males. Significant relationships between frequency of use of social media and the uses of social media exist across genders. Among males, frequency of use was shown to play a positive role across the majority (76.46% at either the .05 or .01 significance levels) of possible uses for the three social media networks. For females, frequency of use was a positive influencer on 37.50% of possible social media uses.

Another finding of this research shows the positive correlations between perceived usefulness (PU) and social media uses. Between the .05 and .01 levels of significance, perceived usefulness had a relationship in 39.02% of the entire sample's social media uses – 47.06% and 29.67% among males and females, respectively. An additional finding ran contrary to other findings as perceived ease of use (PEOU) was shown to have limited impact on the uses of social media among both females and males. Overall, only 2.44% of social media uses tested were shown to have a significant level of correlation with PEOU at either the .05 or .01 levels of significance (4.17% among females and 0.00% among males). The final finding dealt with the relationships between enjoyment and social media uses. Over thirty-one percent (31.70%) of total social uses examined had a positive correlation of significant strength among the .05 or .01 significance

levels. Results showed more such correlations between enjoyment and uses among males (41.18% of the tested uses versus females at 25.00%).

## CONCLUDING COMMENTS

This research compared the relationships between various user traits and perceptions of social media including frequency of use, enjoyment, perceived of use, and perceived usefulness and uses of social media. The sample of traditional age university students were administered a self-administered questionnaire. Survey results showed multiple significant relationships between enjoyment, perceived usefulness and frequency of use to various common uses of social media. Accordingly, social media strategists and site designers should take steps to develop methods to ensure users find enjoyment in using their sites, consider the site useful in accomplishing desired tasks, and develop methods to encourage frequency in the usage of the social media site. A limitation of this research includes the limited geographic representation of the sample of college students as the sample was drawn from a university that primarily attracts students from one geographic portion of the United States. This limitation could be minimized by including samples from colleges across various regions of the nation. Future directions of this research include geographic domestic and international dispersion of samples, broader age group samples, and examining social media networks beyond Facebook, Twitter and Pinterest.

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