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ABSTRACT

This study focused on digital media dependency, relational orientation, and demographic variables as potential factors that were relevant to the usage of social networking websites (e.g., MySpace and Facebook) among college students. A total of 258 (101 male and 157 female) students completed the questionnaire that contains the measures of digital media dependency, relational orientation, social networking media usage, and demographic characteristics. The respondents also indicated specific types of things that they disclose (post) on their social media websites. The results showed that relational orientation is positively correlated with the disclosure (posting) of family photos, friends' photos, and travel photos and that White students are more likely than others to disclose their gender and favorite things (likes/dislikes) and post their own photos and travel photos. Regression analysis revealed that age is a significant, negative indicator of social media usage, whereas digital media dependency and overall computer usage are significant, positive predictors for the dependent measure. That is, the younger the student and the greater the levels of digital media dependency and overall computer usage, the greater the level of involvement in social networking websites.

INTRODUCTION

Current college students, also known as, millennial learners, are *digital natives*, the first generation to come of age in a digital world (Ito, Horst, Bittanti, Boyd, Herr-Stephenson, Lange, Pascoe, & Robinson, 2008; Wolff, 2009). In general, this generation has grown up with video games and social networking, and prefer to be connected at all times to their friends and family through texting, instant messaging, mobile phones, and Facebook and/or MySpace (Ito et al., 2008). A national study by the Pew Internet & American Life Project determined that college students adopt, adapt, and heavily use the Internet (Jones, 2002). As the first generation to be considered "digital natives," will the construct of the "digital divide" have any bearing upon

college students' usage of social networking sites?

Dimensions of the digital divide have been identified as socioeconomic status (income and education), age, and race (Birnie & Horvath, 2002; Howard, Rainie, & Jones, 2001; Lenhart, 2000; Novak & Hoffman, 1998; Rios & Gaines, 1998; UCLA Center for Communication Policy, 2001; Wilhelm, 2000). The digital divide is the well-studied concept that suggests people with higher incomes and higher levels of education that are White, male, and younger are more likely to have access to the Internet (Jung, 2008). However, a more recent Pew Internet study notes that teen girls, beginning at age 15, are faster adopters of social networking than boys (Lenhart & Madden, 2007). In addition, nearly 73 percent of teens who use the Internet and an equal number of young adults use social network sites (Lenhart, Purcell, Smith, & Zickuhr, 2010). Does this pattern of social networking usage hold true for college students, as well? This study explores how the digital native generation of current college students interacts through social networking sites, and whether the "digital divide" plays a significant role in usage and participation. Research questions are predicated as follows:

RQ1: Are there differences between male and female college students in the usage of social networking websites?

RQ2: Is age related to the usage of social networking websites?

While it may seem that the Internet has been around forever, it wasn't until 1994 when a nascent revolution in self-expression became possible online know as the web (http). Individuals began creating and uploading basic, static websites. In 1995, Classmates.com appeared on the Web, providing a way for people to find each other. Group-led chat rooms and discussion boards quickly followed. As technologies evolved to what is now known as Web 2.0, or the "writeable Web," new forms of interactive and integrative social networks opened the door to the establishment of online communities where members post their profiles and exchange information, share interests, and discuss common topics. The connections work through the "Invite-a-Friend" system (Gillin, 2009). Fast forward to today and estimates are that 75 percent of the U.S. population is now online and more than one billion people post information online through social media channels, such as blogs, Twitter; social networks (Facebook, MySpace); and photo/video sharing services (flickr, YouTube) (Phillips & Young, 2009). To illustrate the ubiquitous nature of the Internet's influence on digital natives, YouTube recently announced that Lady Gaga's number one hit, "Bad Romance" has been played 185.39 million times as of April 15, 2010 (Johnson, 2010).

Beyond the pop culture motivations, social networking provides a way for students to establish interpersonal relationships quickly. The ability to upload photos and build profiles makes it easier for students to share personal information that might otherwise have to be "disclosed gradually and repeatedly in face-to-face context" (Kim, Klautke, & Serota, 2009, p. 3) Qualitative research has identified a duality of usage by college students as being both passive and active. On one hand, the Internet helps students "solidify their offline identities…within the context of family and social structures" (McMillan & Morrison, p. 79). On the other hand, the Internet buzzes with immediately gratifying activity as students use the online environment to study, write, search, build relationships, and chat.

Previous theoretical and empirical studies support findings, which indicate a positive correlation between one's circle of friends, acquaintances, and family, with one's ease of online interaction (Matei & Ball-Rokeach, 2001; Parks & Floyd, 1996; Slater, 2001). Thus, a relational orientation of connecting with family and friends through daily interactions is hypothesized to influence social networking usage.

H1: Relational orientation is positively related to social networking involvement.

Facebook, the online social network created and launched by Mark Zuckerberg and roommates while at Harvard University in 2003, recently surpassed Google to become the most visited site on the Internet (Hitwise, 2010). Hitwise analytics report that Facebook is responsible for 7.26 percent of all Internet visits or .21 percent more than Google. The market share of visits to Facebook increased 185% in March 2010 as compared to the same week in 2009 (Hitwise, 2010). A January 2009 Compete.com study ranked Facebook as the most used social network by worldwide monthly active users, followed by MySpace (Kazeniac, 2009).

Ben Wolff, a producer for the MacArthur Foundation, videotaped a program entitled, "A Day Without Facebook," in which students allowed Wolff to watch as they dealt with feelings of withdrawal from the social networking site (Wolff, 2009). These recent studies, video productions, articles, and staggering usage metrics bear witness to the growing dependency by young people on social media (Facebook, MySpace, text messaging, Twitter, & blogs) for managing their daily lives and maintaining contact with family and friends (Hall & Parsons, 2001; McMillan & Morrison, 2006; Street-Porter, 2010; Sysomo, 2010). Based on these studies and statistics, a second hypothesis is proposed regarding college students' dependency on social networking sites:

H2: Digital media dependency is positively related to social networking involvement.

Understanding college students' usage of social networking for communication, social interaction, information and file sharing, entertainment, transaction, and connection, provides valuable information on the psychographic drivers linking Internet dependency, online activity participation, and relational orientation (Korgaonkar & Wolin, 1999; McMillan & Morrison, 2006; Shah, McLeod, & Yoon, 2001).

METHODS

Participants

A total of 258 (101 male and 157 female) undergraduate students at a medium-sized western university completed an anonymous self-administered survey that contains the measures of relational orientation, digital media dependency, and social networking involvement as well as demographic characteristics. The students received extra credit in exchange for their participation. Their mean age was 22.2 ($\underline{SD}$ = 6.5). There were no significant differences between males and females in age ($\underline{t}$ = -1.59, $\underline{df}$ = 255, $\underline{p}$ > .05), marital status ($\underline{x}^2$ = 3.84, $\underline{df}$ = 2, $\underline{p}$ > .5), and ethnicity ($\underline{x}^2$ = 13.44, $\underline{df}$ = 19, $\underline{p}$ > .5).

Instruments

Relational Orientation. Relational orientation was measured by a 12-item Likert-type scale in which respondents indicate on a 5-point scale, anchored by "strongly disagree" (1) and "strongly agree" (5), their agreement or disagreement with each of the 12 statements relating to how much they value their interpersonal relationships with others. For example, the Relational Orientation Scale (ROS) includes statements such as "I greatly value my friendships with others," "I would like to develop personal relationships with as many people as I can," "Real success in life hinges on our relationships with others," and "It is not very important to have good personal relationships with others" (R, scores were reversed). A Cronbach inter-item reliability for this scale was $\alpha = .72$.

Digital Media Dependency. Digital media dependency was measured by another 12-item Likert-type scale in which respondents indicate their agreement or disagreement with each of the statements relating to how dependent they are on various digital media (e.g., cell phones, digital music players, & the Internet) for such activities as text messaging, listening to music, emailing, instant messaging, online chatting/shopping/registering, social networking, and twittering. For example, the Digital Media Dependency Scale (DMDS) includes statements such as "I would like emailing people rather than talking to them face-to-face," "I would like writing messages for my friends on Facebook Wall rather than telling them face-to-face," "I would like shopping things online rather than visiting retail stores," and "I would like chatting with others online rather than doing so face-to-face." An internal reliability of the scale in the present data was $\alpha = .79$.

Social Networking Involvement. Social networking involvement was measured by asking the students "approximately how much time a week" they usually spend (in hours & minutes) using social networking websites. The hours were converted to minutes so social networking involvement is indexed by the total number of minutes spent using those websites. The respondents were also asked to indicate which social networking websites they use (e.g., MySpace and Facebook). Finally, they were asked what they usually disclose on their social networking website(s). A total of 21 item categories were listed (e.g., real name, gender, age, birth date, email address, occupation, education level, marital status, favorite things, political views, religious views, photos, & videos). The respondents checked all the items that they usually choose to disclose on the websites.

RESULTS

About 79% of the respondents surveyed (205 out of 258) indicated that they engage in social networking activities. On an average, they spent about 5 hours a week using the social networking websites ($\underline{M} = 300.04$, $\underline{SD} = 500.00$). MySpace and Facebook were the two most popular social networking websites used by the respondents (187 out of 205). Table 1 presents Pearson Correlation coefficients between the major variables and the items of disclosure on social networking websites. Most notably, relational orientation was found to be positively correlated with the disclosure (posting) of family photos ($\underline{r} = .15$, $\underline{p} < .05$, two-tailed), friends' photos ($\underline{r} = .18$, $\underline{p} < .05$), and travel photos ($\underline{r} = .14$, $\underline{p} < .05$) whereas digital media dependency was not a significant indicator of disclosing any types of information on their social networking

websites. Being White produced positive correlations with the disclosure of sex ($\underline{r}$ = .22, $\underline{p}$ < .01), favorite things ($\underline{r}$ = .23, $\underline{p}$ < .01), travel photos ($\underline{r}$ = .18, $\underline{p}$ < .01), own photos ($\underline{r}$ = .16, $\underline{p}$ < .05), and educational level ($\underline{r}$ = .15, $\underline{p}$ < .05), and negative correlations with the disclosure of address ($\underline{r}$ = -.17, $\underline{p}$ < .05) and email address ($\underline{r}$ = -.16, $\underline{p}$ < .05).

Disclosure Items	Relational Orientation	Digital Media Dependency	Subject Age	Subject Race (White)	M (SD)
1. (real) name	.09	.05	-.08	.13	.70 (.46)
2. Gender	.06	.01	-.08	.22**	.86 (.34)
3. Age	.04	.04	-.09	.09	.82 (.39)
4. Birth date	.04	.02	-.12	-.01	.58 (.50)
5. Birth year	.04	.05	-.08	-.01	.54 (.50)
6. Address	-.17*	.06	-.07	-.17*	.09 (.29)
7. Phone number	-.14	.01	-.02	-.12	.10 (.30)
8. Email address	-.10	.04	.14*	-.16*	.40 (.49)
9. Personal website	.11	.03	-.17*	.05	.17 (.38)
10. Occupation	.05	.08	-.12	.04	.47 (.50)
11. Education level	.06	.03	-.17*	.15*	.66 (.47)
12. Marital status	.08	.03	-.18*	.09	.69 (.46)
13. Favorite things (likes/dislikes)	.08	.12	-.15*	.23**	.61 (.49)
14. Political views	.02	.01	-.14*	.01	.18 (.39)
15. Religious views	.13	-.07	-.10	.04	.40 (.49)
16. Own photos	.05	.01	-.29***	.16*	.81 (.39)
17. Family photos	.15*	.02	-.13	.06	.55 (.50)
18. Friends' photos	.18*	.05	-.11	.05	.64 (.48)
19. Travel photos	.14*	.10	.05	.18**	.53 (.50)
20. Personal video	-.01	.10	-.07	.04	.14 (.34)
21. Non-personal video	.16	.08	-.15*	.10	.20 (.40)
22. Total no. of disclosure items	.13	.10	-.21	.14*	10.08 (4.34)

$\underline{N}$ = 205. *p < .05, **p < .01, ***p < .001. (two-tailed).

Table 1: Pearson Correlations Between Social Media Disclosure Items and Mediators.

Interestingly, the respondent's age was found positively correlated with the disclosure of their email address ($\underline{r}$ = .14, $\underline{p}$ < .05), but negatively correlated with the disclosure of many other items such as their own photos ($\underline{r}$ = -.29, $\underline{p}$ < .001), marital status ($\underline{r}$ = -.18, $\underline{p}$ < .05), educational level ($\underline{r}$ = -.17, $\underline{p}$ < .05), personal website ($\underline{r}$ = -.17, $\underline{p}$ < .05), non-personal video ($\underline{r}$ = -.15, $\underline{p}$ < .05), favorite things ($\underline{r}$ = -.15, $\underline{p}$ < .05), and political views ($\underline{r}$ = -.14, $\underline{p}$ < .05).

Table 2 shows intercorrelations between the major variables including digital media dependency, relational orientation, sex, age, overall computer usage, and social networking involvement as indexed by the amount of time spent using social networking websites. The zero-order

correlations indicated significant inter-relationships among some of the variables.

	Variables	1	2	3	4	5	6
1.	Social Networking[1]	-					
2.	Digital Media Dependency[2]	.23***	-				
3.	Relational Orientation[2]	.03	-.14*	-			
4.	Sex[3]	-.11	-.18**	.11	-		
5.	Age	-.21**	-.09	-.03	.07	-	
6.	Computer Usage[1]	.51***	.22	-.09	.21**	-.09	-
	M	300.04	2.20	3.84	.63	22.07	891.42
	SD	500.00	.62	.53	.48	6.21	772.47

Table 2: Intercorrelations Among Major Variables.

Note. [1]The amounts of time for Social Networking and Computer Usage were converted to minutes. [2]Scoring for Digital Media Dependency and Relational Orientation was on a scale of 1-5. [3]Male = 0, Female = 1. $\underline{N}$ = 243 (listwise). *$\underline{p}$ < .05. **$\underline{p}$ < .01. ***$\underline{p}$ < .001 (two-tailed).

For instance, digital media dependency was found to be negatively related with the sex of the respondent ($\underline{r}$ = -.18, $\underline{p}$ < .01) and relational orientation ($\underline{r}$ = -.14, $\underline{p}$ < .05). The results indicate that male students are more dependent on digital media communication than are female counterparts and that those who are less relationally oriented tend to prefer digital media to face-to-face channels of communication. The age of the respondent, on the other hand, was found negatively correlated with the overall usage of computers ($\underline{r}$ = -.21, $\underline{p}$ < .01). That is, the older the respondent, the less time spent using the computer. Finally, social networking involvement was found to be positively correlated with digital media dependency ($\underline{r}$ = .23, $\underline{p}$ < .001) and overall computer usage ($\underline{r}$ = .51, $\underline{p}$ < .001), and negatively correlated with the age of the respondent ($\underline{r}$ = -.21, $\underline{p}$ < .01). Hence, heavy users of computers and other digital media and younger people are more likely to engage in social networking activities than are their respective counterparts.

To test the research hypotheses/questions, a multiple regression analysis was conducted with sex, age, relational orientation, digital media dependency, and computer usage as predictor variables, and social networking involvement as the criterion variable (see Table 3). In support of Hypothesis 1, the regression results show that digital media dependency is a significant, positive predictor for social networking involvement (β = .13).

Predictor	Regression Coefficient	Standardized Beta (β)	$\underline{t}$	$\underline{p}$
Sex	17.23	.02	.30	.767
Age	-12.04	-.15	-2.73	.007
Relational Orientation	82.22	.09	-1.35	.180
Digital Media Dependency	103.70	.13	2.25	.025
Computer Usage	.31	.48	3.88	.003
Overall R^2 = .30, Adjusted R^2 = .29, F = 20.57, p < .001.				

Table 3: Multiple Regression of Social Networking Engagement on Mediator Variables.

That is, the higher the level of digital media dependency, the higher the level of social networking involvement. However, relational orientation is not found to be a significant indicator of the dependent variable ($\underline{t}$ = -1.35, $\underline{p}$ > .05). Thus, the present data fail to support Hypothesis 2. As for Research Questions 1 and 2, the sex of the respondent did not contribute significantly to the prediction of social networking involvement ($\underline{t}$ = .30, $\underline{p}$ > .05) whereas the age of the respondent was found to be a significant, negative indicator of the dependent measure (β = -.15). Specifically, the younger the respondent, the more actively involved in social networking activities. Finally, the overall usage of computers also contributed significantly to the prediction of the dependent variable (β = .48). These variables accounted for 29% of the variance in the level of social networking involvement (Adjusted $\underline{R}^2$ = .29, $\underline{F}$ = 20.57, $\underline{p}$ < .001)

DISCUSSION

The millennial learners are allowing for researchers to start understanding what is happening with this group of students. This generation of students is truly blazing the way for future generations. The results help to support the notion that the younger the student is, he or she will spend more time with social networking. Thus, the question for the future will be if social networking will become the norm or standard for future generations of students. Currently, at least from the results from this study, white students seem to be more comfortable with this medium? Will students live more on line like some have projected (Bahk & Rohm, 2009)? Will the digital divide become more prominent with social networking? Will instructors of college or university courses need to learn how to use and integrate this media into their course of instruction? Will special emphasis have to be expanded to help this generation of youth to cope with face-to-face interactions? Will digital media dependency become a very serious problem in the near future? Will a gender gap become a problem in the future? These and many other questions need to be explored.

It seems certain that social networking is starting to become intertwined within the fabric of society. How far it will go is something to watch and definitely not to be ignored. This group of millennial learners will allow for researchers to start to understand the role of social networking like never before in the history of the world. It seems that information technology is being embraced quicker and more internally than any other time in history. According to former Secretary of Education, Richard Riley (2010), "the top 10 in-demand jobs in 2010 may not have existed in 2004." In the fall of 2003, Facebook, YouTube, Flickr, Digg, Yelp and Twitter did not exist yet. And Myspace and Wordpress were brand new. We are currently preparing students for jobs that do not yet exist and using technologies that haven't yet been invented in order to solve problems we do not even know are problems yet. It is a fun time for researchers to be alive and watch what students are doing in society. The challenge comes in trying to understand what is happening and to predict what will transpire.

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