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Sex Differences in Use of Facebook and MySpace among First-Year College Students

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Introduction

Headlines in the popular press indicate the growing popularity of technology, ranging from "WiFi Usage Growing Rapidly in US" to "Analyst Sees Sign of iPod Shortage," "Facebook becomes tool for employers" (Balakrishna, 2006) to "Facing the Facebook" (Bugeja, 2006). The latter refer to a set of technologies that have quickly ascended to primacy, namely social networking sites like Facebook and MySpace. Affirming this fact, recent statistics indicate that there are approximately 19 million registered users of Facebook (Walther, Van Der Heide, Kim, Westerman, & Tong, 2008).

Academic researchers also have started studying the prevalence and use of social networking sites (SNSs), focusing particularly on the ways in which users construct and express their identity (boyd, 2006), access and enhance their social capital (e.g., Ellison, Steinfield, & Lampe, 2007), and manage privacy issues (e.g., Gross & Acquisti, 2005; Hodge, 2006). Whereas some scholars focus on the types of SNSs that exist (Donath & boyd, 2004; Preece & Maloney-Krichmar, 2003), others examine the relationship students' use of such sites and learning (Mazer, Murphy, & Simonds, 2007), civic engagement (Pasek, More, & Romer, 2007), relationship-building (Wellman, Haase, Witte, & Hampton, 2001), and persistence (Strayhorn, under review).

While these areas of inquiry are certainly useful and worthy of research exploration, an issue that is equally as important has been largely ignored: Are there systematic differences between who uses SNSs and the frequency with which they use such sites? For instance, despite compelling evidence that men spend more time online than women (Bimber, 2000; Hargittai & Shafer, 2006; Jackson, Erwin, Gardner, & Schmitt, 2001; Ono & Zavodny, 2003), no studies were readily uncovered that estimated differences between collegiate men and women in terms of time spent using SNSs. This is the gap addressed by the present study, where the purpose of the study is to determine the extent to which sex influences undergraduate students' use of social networking sites, namely Facebook and MySpace. Specifically, the following question guided the present analysis: *Do men and women differ in terms of the frequency with which they use SNSs, controlling for potentially confounding influences?*

[1] A previous version of this paper was presented at the annual convention of the American College Personnel Association (ACPA) in Atlanta, Georgia.

Method

This study employed an ex-post facto survey design to study first-year college students' use of two SNSs: Facebook and MySpace. Indeed, this survey was conducted as part of a larger, ongoing research project on the experiences of undergraduates during the first-year of college. While the larger study consists of both quantitative and qualitative data sources, this article is based on analyses of the survey data only.

Data Collection and Sample

The sample was drawn from the population of first-time, first-year students enrolled at a large, public, predominantly White research university located in the southeastern region of the United States. Records from the university's registrar indicate that approximately 2,500 students fit the sampling criteria (excluding non-degree seeking students). During the spring 2007 semester, all of these individuals were invited to participate in the study via email. Specifically, the electronic invitation included a hyperlink to the URL of the website on which the survey was located. The *First-Year Assessment Survey* (FYAS) consists of 82-items and was developed by the author. A web-based approach was employed because response rates are frequently low to mailed surveys (Crawford, Couper, & Lamia, 2001). Several strategies were employed to encourage student participation including reminder messages, which were sent at 2-week intervals, and fifty $100 prizes were raffled for completing the survey. These strategies yielded an overall response rate of 40%, after accounting for undeliverable electronic invitations, data with missing cases, and "bounce backs."

The analytic sample consisted of 755 participants. The majority of the respondents were women (59%), 86% were White (non-Hispanic), 7% Black/African American, 4% Latino, and 3% Asian Pacific Islander. This closely reflected the demographic composition of all first-year students at the university where the study was conducted. Given the relatively small number of racially/ethnically diverse students in the sample, I pooled all of these responses together to form a single group for analysis: students of color.

Variables

The dependent variable in this analysis measured the frequency with which participants used social networking sites (i.e., Facebook and/or MySpace). Specifically, the survey item asked, "So far during your first year of college, how much time have you spent during a typical week using Facebook or MySpace?" Response options ranged from 1 ("never") to 5 ("more than 15 hours").

The main independent variable, given the study's focus, was sex. Sex was measured using two categories: 1 ("male") and 2 ("female"). Since the weight of evidence suggests that college students' engagement in educationally purposeful activities (e.g., clubs/organizations, studying, technology use) varies by background traits, a number of statistical control variables were included in the analysis. These included whether the respondent was an international student (measured from 1 ["yes"] to 2 ["no"]), a transfer student (measured from 1 ["no"] to 2 ["yes"]), enrolled full-time (measured from 1 ["yes"] to 2 ["no"]), or a student of color (measured from 0 ["no"] to 1 ["yes"]). A final control variable measured participants' grades in college; response options ranged from 1 ("mostly Ds or below") to 4 ("Mostly As"). Table 1 presents descriptive statistics and frequencies for all variables.

Data Analysis

Data analysis proceeded in three stages. First, descriptive statistics were calculated for all variables included in the final analysis. Second, a one-way analysis of variance (ANOVA) was conducted to estimate differences between men and women in their use of SNSs among the sample. Third, a one-

way analysis of covariance (ANCOVA) was conducted to test for the main effect of sex on frequency of SNS use, controlling for differences in background traits and college grades. Before presenting the study's results, several limitations should be addressed.

Limitations

As with all research investigations, there are several limitations to the present study. First, the sample was drawn from a single institution best characterized as a large, public research-extensive university. Therefore, results of the study may not be representative of those who attend other colleges (e.g., selective private, small liberal arts, and historically Black colleges). Second, the survey item used to measure students' usage of SNSs only included Facebook and MySpace, although other SNSs exist (e.g., Xanga, Friendster). Consequently, this may introduce a sort of sampling bias as those who use the former may differ significantly from those who use the latter. Findings should be interpreted with this caution in mind. While certainly useful to admit, these limitations do not reduce the importance of the results.

Results

Comparing descriptive statistics revealed that women (M = 2.55, SD =0.88) spent slightly more time than men (M = 2.33, SD = 0.93) using SNSs, and this difference was statistically significant, $F(1,671) = 9.66$, $p < 0.01$.

A one-way analysis of covariance (ANCOVA) was conducted to evaluate the main effect of sex on frequency of SNS use, controlling for demographic differences and college grades. The ANCOVA was significant, F (1,666) = 9.63, MSE = 0.80, $p < 0.01$, $\eta^2 = 0.01$. The strength of the relationship between sex and SNS use was modest, as assessed by a partial η^2, with sex accounting for 1% of the variance in SNS use, holding constant demographic and grade differences. Also worth noting, race/ethnicity was associated with first-year students' SNS use, $F(1,666) = 10.67$, MSE = 8.56, $p < 0.01$, $\eta^2 = 0.02$. Table 2 presents a summary of the results.

Discussion

The results of this exploratory study provide empirical evidence about the relationship between sex and first-year college students' usage of Facebook/MySpace. Several conclusions can be drawn from the analysis.

Given the well-documented differences between men and women in their use of the computer and internet (e.g., Bimber, 2000; Hargittai & Shafer, 2006), it is remarkable that women in this sample reported higher levels of SNS use than their male counterparts. Second, first-year students of color use SNSs more frequently than their White counterparts in the sample. It may be the case that students of color, particularly those in predominantly White environments, use online networks to keep in touch with family and friends who live at a distance or to nurture friendships that existed prior to enrolling in college (e.g., old high school friends). The latter seems reasonable given the relatively low college enrollment rates among historically underrepresented minorities (U.S. Department of Education, 2006).

There are several implications for practice and future research. Given the apparent and frequent use of SNSs among women and minorities in the sample, faculty members and staff in higher education institutions might consider these results when working with such groups, especially in academic disciplines where women and minorities are underrepresented (e.g., science, technology, engineering, and math [STEM]). Such efforts may lead to innovative teaching and advising strategies, which could effectively broaden participation in STEM fields or encourage women and ethically diverse learners to engage their peers in new and different ways.

Further study is needed on other SNSs (e.g., Xanga, Friendster), although Facebook and MySpace are the most popular among college student populations (Hargittai, 2008). In addition, more research attention should be given to students' reasons for using SNSs. Whereas some students may use SNSs to communicate with their peers across campus or back home, others may use online networks to construct, manage, and negotiate their identity in ways that current developmental theories fail address. Finally, researchers should explore the relationship between SNS usage and student learning outcomes, as others have done with general uses of technology (Strayhorn, 2006).

Table 1

Descriptive statistics for all variables included in analysis

Variable	*M*	*SD*
Sex	1.59	0.49
International status	1.97	0.17
Transfer status	1.05	0.21
Enrollment status	1.01	0.08
Race/ethnicity	0.86	0.35
Grades	3.25	0.74
Facebook/MySpace Use	2.46	0.91

Table 2

ANCOVA of Main Effects for Sex, With Demographic Traits and Grades as Covariates

Variable	MS	*F*	*df*	Partial η^2
Corrected model	3.46	4.31	6	0.04
Intercept	13.10	16.32	1	0.02
IS	0.60	0.74	1	0.00
Transfer	0.45	0.57	1	0.00
ES	0.08	0.10	1	0.00
Ethnicity	8.56	10.67**	1	0.02
Grades	2.18	2.72	1	0.00
Sex	7.73	9.63**	1	0.01
Error	0.80			

Note. IS = international status. ES = enrollment status. $R^2 = 0.04$. Adjusted $R^2 = 0.03$.
** $p < 0.01$.

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