Interpersonal Skills and Facebook® Use Among College Students

Darson L. Rhodes, Jessica L. Sniatecki, Mary Rocco, and Lauren Todd

Abstract

The use of Facebook® among college students is prevalent, and its relationship with interpersonal skills is unknown. A cross-sectional design study using a convenience sample of undergraduate students enrolled in one of four sections of an upper-level nutrition course at a Northeastern, public university was conducted to investigate this relationship. Participants completed a paper survey containing items that assessed interpersonal skills, Facebook® use, and demographics. Data from 136 participants were analyzed to determine what, if any, relationship exists between Facebook® use and interpersonal skills. A statistically significant relationship was found between three pairs of variables: the Bergen Facebook® Addiction Scale total scores and a communication subscale, $r(127) = -.29$, $p < .01$; the Bergen Facebook® Addiction Scale total scores and a conflict resolution subscale, $r(127) = -.34$, $p < .01$; and the Bergen Facebook® Addiction Scale total scores and a total Interpersonal Skills Scale, $r(127) = -.25$, $p < .01$. Given the inverse relationship of these variables, health educators may need to emphasize interpersonal skills to a greater extent than in the past; however, further research investigating Facebook® use and interpersonal skills should be conducted to better understand this relationship and determine whether or not it is a causal relationship.

Introduction

Technology has changed the way that U.S. college students communicate, and in particular, the use of social media websites has the potential to impact the personal and social competence of future generations. Decades of research have led to links between protective factors, such as personal and social competence, and the resilience/health status of youth (Werner & Smith, 1983; Blum & Rinehart, 1997; Resnick et. al, 1997). Additionally, while fewer studies exist on students at the post-secondary level than at lower education levels, some researchers have concluded there are links between specific aspects of personal and social competence and the academic success of undergraduate students (Dass-Brailsford, 2005; Morales, 2008).

Interpersonal Communication Skills

Interpersonal communication skills are an essential element of personal and social competence. Best practice in health education suggests that personal and social competence (which includes interpersonal skills) should be addressed (Centers for Disease Control and Prevention [CDC], 2013). Further, one of the eight National Health Education Standards (NHES) focuses on interpersonal communication skills. NHES outline the knowledge and skills needed for youth in grades K-12 (Joint Committee on National Health Education Standards, 2007). Students that are exposed to best practice health education based upon NHES, presumably would enter college with the knowledge and skills outlined in the NHES including interpersonal communication skills.

Several studies have indicated that interpersonal communication may be a salient factor in determining the extent to which youth engage in positive, healthy behaviors. Positive family communication has been acknowledged as a protective factor, and associated with a decreased likelihood of alcohol and drug use in adolescence (Oman, Vesely, Aspy, McLeroy, Rodine, & Marshall, 2004). Family communication has also been shown to have a significant relationship with adolescent social competence, self-esteem, and health-promoting behaviors (Youngblade, Theokas, Schulenberg, Curry, Huang, & Novak, 2007).

College Students' Use of Facebook®

Fox and Rainie (2014) reported that 87% of adults in the United States use the Internet, and the use rate for young adults (ages 18-29) is even higher (97%). Almost half of internet users utilize at least one social networking site and Facebook® is the most common platform (Hampton, Goulet, Rainie, & Purcell, 2011).

Facebook® use is also extremely common among college students. Studies have found that use rates may be as high as 97% (Smith & Caruso, 2010). Existing studies have reported wide variation in the amount of time that students spend on Facebook, with results ranging from as little at 10 minutes per day to up to 106 minutes per day (Hew, 2011; Sheldon, 2008; Junco, 2012). Junco (2012) found that students spent an

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average of 106 minutes per day on the site. Students have, on average, between 150 and 350 Facebook® friends (Hew, 2011; Sheldon, 2008; Orr, Sisic, Ross, Simmering, Arseneault, & Orr, 2009; Manago, Taylor, & Greenfield, 2012; Junco, 2012).

The literature suggests a variety of reasons that students utilize Facebook®. In a study involving 172 students, Sheldon (2008) identified six motives for use: a) relationship maintenance; b) passing time; c) developing a virtual community; d) entertainment; e) coolness; and f) companionship. While maintaining relationships was the most commonly noted reason for use, results suggested that students who felt more anxious about their face-to-face interactions were more likely to use Facebook® for companionship and/or to pass time. Such students also were likely to have fewer Facebook® friends (Sheldon, 2008). Similar results were found in a subsequent investigation which linked shyness to increased time spent on Facebook® and fewer Facebook® friends (Orr et al., 2009).

At present, Facebook® is not used extensively for educational purposes. Instead, Facebook® is a tool that college students use to maintain interpersonal relationships with people they have initially come to know through face-to-face interactions; it is less commonly used to meet new people or form new interpersonal relationships (Hew, 2011).

Negative Implications of Facebook® Use

Though research on the impact of social media is in its infancy, several studies have examined how using Facebook® impacts other aspects of college student life. The available literature suggests that Facebook® use may have a significant negative impact on college students' academic performance (Junco, 2012; Junco & Cotton, 2012; Kirschner & Karpinski, 2010). Kirschner and Karpinski (2010) found that students who used Facebook® spent less time studying and had significantly lower GPAs that those who did not; interestingly, these students denied that use of Facebook® had any impact on their academic performance. A subsequent study reinforced the substantial negative impact of Facebook® use on GPA. "In this sample, time spent on Facebook® was half as strong a predictor as the strongest single predictor of college GPA, high school GPA" (Junco, 2012, p. 195). A significant inverse relationship was found between time spent engaging in Facebook® chat and time spent getting ready for class (Junco, 2012).

Several studies have indicated that Facebook® use has a negative impact on self-esteem (Kalpidou, Costin, & Morris, 2011; Mehdizadeh, 2010). In addition, Facebook® use has been associated with disconnection in interpersonal relationships, and this disconnection may actually lead users to spend more time on the social media site (Sheldon, Abad, & Hinsch, 2011). While the cause of this disconnection is not clear, it could be due to a decreased amount of real time spent with others.

Positive Implications of Facebook® Use

Facebook® use has also been linked with several positive outcomes, including improved social adjustment (Kalpidou, et al., 2011), close interpersonal relationships (Hampton, et al., 2011) as well as increased ability to maintain communication with people from one's past (Manago, Taylor, & Greenfield, 2012; Hampton, et al., 2011). Among college students, Facebook® use has also been associated with greater levels of personal contentment, trust, and civic and political participation (Valenzuela, Park, & Kee, 2009).

In contrast to previous studies, Gonzales and Hancock (2011) found that Facebook® use can enhance self-esteem through self-awareness attained by selective self-presentation. In other words, by selectively choosing how to present themselves in social media, students can improve their awareness of their "optimal self" (p. 82), which may have positive implications for self-esteem possibly due to the favorable feedback they receive from others based upon their optimal selves.

Kirschner and Karpinski (2010) suggested that Facebook® use may be linked with extraversion, as Facebook® users had significantly higher rates of involvement in extracurricular activities as compared to non-users. Indeed, some researchers have argued that Facebook® use may have more benefits for individuals who are more extroverted (Sheldon, 2008). The purpose of the current study was to examine the relationship between interpersonal skills and Facebook® usage.

Methods

A cross-sectional study using a convenience sample of undergraduate students enrolled in one of four sections of an upper-level nutrition course at a Northeastern, public university during the fall 2012 semester was conducted. Participants were asked to complete a paper survey containing items that assessed their interpersonal skills, their use of Facebook®, and demographic items. Survey responses were anonymously recorded by participants on a Scantron® form. All students ages 18 and older who were present the day the survey was administered were solicited for participation. This study was reviewed and approved by the Institutional Review Board at the university under study.

Instrument

The survey instrument was comprised of five demographic items, a 64 item interpersonal skills scale, and the six item Bergen Facebook® Addiction Scale. Demographic items included the approximate number of hours using Facebook® each week, year in school, age, sex, and ethnicity.

The 64 item Interpersonal Skills Scale was developed as part of the personal and social competence instrument development process completed by Fetro, Rhodes, and Hey (2010). This process consisted of an extensive literature review, content analysis of identified empirical studies and theoretical articles, development of operational definitions of subconstructs of interpersonal skills, and compilation of an initial set of items. Content validity of items was established through a Delphi Study of nine expert panel members. Items were revised as necessary as a result of the Delphi Study. The final Interpersonal Skills Scale was comprised of four subscales: developing and maintaining relationships (29 items), communication skills (12 items), conflict resolution skills (13 items), and empathy (10 items). The Gunning Fog Index, a readability index that indicates the number of years of education needed to understand text (Govoni, 2004), of the Interpersonal Skills Scale was computed to be 4.62

(fourth grade reading level). Internal consistency was initially established through the computation of a Cronbach alpha of .91 (Fetro, et al., 2010). In this study, a Cronbach alpha of .91 also was computed. More detailed information concerning the development of the interpersonal skills scale has been published elsewhere (Fetro et al., 2010). Each item consisted of a statement with five choices: "Almost never", "Seldom", "Sometimes", "Often", and "Almost always". Each participant was instructed to select the choice that best described him/her.

The six item Bergen Facebook® Addiction Scale (Andreassen, Torsheim, Brunborg & Pallesen, 2012) was constructed using Brown (1993) and Griffiths (1996) six components of addiction as a foundation. An initial set of 18 items was compiled, three items for each of the six components. A survey containing the original 18 items was completed by a sample of 423 undergraduate students and was re-administered three weeks later to 36.2% of the original sample. Internal consistency reliability was measured with a Cronbach alpha of .83 (Andreassen et al., 2012). In this study, a Cronbach alpha of .85 was obtained. The test-retest Pearson product-moment correlation coefficient was .82 (p<.01; 95% CI = .75, .86). Of the 18 original items, one item for each of the addiction components was retained. The item in each component that had the highest item-total correlation with the sum of scores for all other item ratings was retained, resulting in a six-item scale. More detailed information concerning the development of the Bergen Facebook® Addiction Scale has been published elsewhere (Andreassen et al., 2012). Each item consisted of a statement with five choices: "Very rarely", "Rarely", "Sometimes", "Often", and "Very often". Each participant was instructed to select the choice that best described him/her.

Data Analysis

Interpersonal Skills Scale (Fetro et al., 2010) items were coded from 1 "Almost never" to 5 "Almost always". Subsequently, 28 items were reverse coded so that higher scores reflected more favorable interpersonal skills. The Bergen Facebook® Addiction Scale (Andreassen et al., 2012) items were coded from 1 "Very rarely" to 5 "Very often" with higher scores reflecting a greater level of addiction. Missing data in scale items were assigned the mean score of all of the other corresponding item responses. Surveys missing more than 10% of data in a given scale were excluded from analysis. Participants who indicated they were on Facebook® for 70 or more hours per week (n = 3) also were deleted from analysis.

Total scale scores were computed for the Interpersonal Skills Scale (Fetro et al., 2010) and the Bergen Facebook® Addiction Scale (Andreassen et al., 2012) by summing all items of each respective scale. Similarly, total scores also were computed for the four subscales of the Interpersonal Skills Scale (Fetro et al., 2010). Descriptive statistics and measures of central tendency and dispersion were computed on all scale items and demographic items as appropriate, as well as the total scale and subscale scores.

A Pearson product-moment correlation coefficient was calculated to determine the relationship between the Interpersonal Skills Scale (Fetro et al., 2010) total scores and the Bergen Facebook® Addiction Scale (Andreassen et al., 2012) total scores. Also, Pearson product-moment correlation coefficients were computed for the four interpersonal skills subscales (Fetro et al., 2010) and the Bergen Facebook® Addiction Scale (Andreassen et al., 2012). Alpha was set at .05.

Results

A total of 140 participants completed the survey. Of those 140 participants, three were excluded from analysis for indicating they spent 70 or more hours a week on Facebook® , and one was excluded from analysis as the total Interpersonal Skills Scale (Fetro et al. 2010) score was an outlier as compared to all other respondents. Thus, a total of 136 participants' responses were included in analysis. Of the 136 participants, most were female (n = 89). Nearly one half of participants reported being a sophomore in college (n = 64), and more than one third reported being 19 years old (n = 51). The vast majority reported being White, non-Hispanic (n = 107). See Table 1. Participants reported using Facebook® an average of 6.85 hours per week (SD = 6.60).

Participants averaged a score of 242.95 (SD = 22.43) on the total Interpersonal Skills Scale (Fetro et al., 2010). Scores ranged from 186.00 – 296.00, with a possible score range of 64.00 – 320.00. Grand means were computed for the total scale and the four interpersonal skills subscales to allow for comparison of the scores. Grand means were calculated by dividing the mean scores by the number of total items for a given scale or subscale. Of the four subscales, the grand mean (4.03) was highest for the developing and maintaining relationships subscale (M = 116.90, SD = 12.16). After the developing and maintaining relationships subscale, highest grand mean scores were found, in order from highest to lowest, on the empathy subscale, conflict resolution subscale, and the communication skills subscale. See Table 2.

Participants averaged a score of 9.51 (SD = 3.86) on the Facebook® Addiction Scale (Andreassen et al., 2012). Scores ranged from 6.00 – 24.00, with a possible score range of 6.00 – 30.00. See Table 2. Two participants met criteria for being classified as addicted to Facebook®. Facebook® addiction was defined as four or more responses of "Often" or "Very often" to items on the six item Bergen Facebook® Addiction Scale (Paddock, 2012).

Of the five Pearson product-moment correlation coefficients computed, three were found to be statistically significant. The Bergen Facebook® Addiction Scale (Andreassen et al., 2012) total scores were found to be significantly correlated with the communication subscale, $r(127) = -.29$, $p < .01$; the conflict resolution subscale, $r(127) = -.34$, $p < .01$; and the total Interpersonal Skills Scale (Fetro et al., 2010), $r(127) = -.25$, $p < .01$. Statistically significant relationships were not found between the Bergen Facebook® Addiction Scale (Andreassen et al., 2012) and the developing and maintaining relationships subscale, $r(127) = -.15$, $p > .05$, or the empathy subscale, $r(127) = -.04$, $p > .05$.

Discussion

While only two participants met criteria for being addicted to Facebook®, the use of Facebook® is clearly a significant part of participants' lives, with them averaging nearly seven hours of use per week. Exploring the relationship between Facebook® use and interpersonal skills proved interesting, as an inverse

Table 1

Demographics of Study Participants (n = 136)

Demographic Variable	Frequency (n)	Percentage
Sex		
Male	40	29.4%
Female	89	65.4%
Other	1	0.7%
Year in School		
Freshman	6	4.4%
Sophomore	64	47.1%
Junior	31	22.8%
Senior	27	19.9%
Other	3	2.2%
Age		
18	11	8.1%
19	51	37.5%
20	24	17.6%
21	27	19.9%
Over 21	17	12.5%
Ethnicity		
White, non-Hispanic	107	78.7%
Black, non-Hispanic	11	8.1%
Hispanic or Latino/a	3	2.2%
Asian or Pacific Islander	2	1.5%
Other	4	2.9%

Note: Percentages not totaling 100% indicate missing data

relationship between Facebook® use and overall interpersonal skills was found. Further analysis of the relationship between the particular interpersonal skills subscales and Facebook® use indicated significant relationships with only two of the four subscales, the communication subscale and the conflict resolution subscale. These findings may have particular implications for health educators.

The communication subscale includes items that specifically address refusal skills such as one's ability to say "no" to friends and feelings of guilt associated with saying "no". Teaching youth appropriate refusal skills is an essential aspect of effective health education (CDC, 2013). Given the extensive use of Facebook®, particularly by young people with 73% of 12-17 year olds using Facebook® (Pew Research Center, 2014), health educators may need to emphasize these skills more than they have in the past. Similarly, conflict resolution skills may need to be emphasized to a greater extent. Results from this study suggested that individuals whose Facebook® use is more problematic (as indicated by higher scores on the Bergen Facebook® Addiction scale) may have deficits in these two skills areas. As Facebook® and other social media continues to change the way that people communicate, health educators can benefit from awareness of the potential impact of these social outlets on interpersonal communication.

Given that this study was conducted with a college-aged sample, lack of interpersonal skill at this age may be a reflection of students not learning about these skills in grades K-12. Not only does this indicate that greater emphasis on these skills may be needed in these grades, it also has implications for those teaching health courses at the college level. Educators working with college students may need to utilize the high school level performance indicators outlined in the NHES as a curriculum guide for college-aged students to remediate

Table 2

Measures of Tendency and Dispersion for Total Interpersonal Skills Scale, Interpersonal Skills Subscales, and Facebook® Addition Scale

Subscale/Scale	n	Possible Scores	Mean	Grand Mean*	SD	Variance	Range	Min	Max
Interpersonal Skills total scale	136	64-320	242.95	3.80	22.43	503.13	100.00	186.00	286.00
Developing and Maintaining Relationsips subscale	136	29-145	116.90	4.03	12.16	147.77	55.12	84.00	139.12
Communication Skills subscale	136	12-60	40.98	3.42	5.44	29.58	30.00	24.00	54.00
Conflict Resolution subscale	136	13-65	46.90	3.61	5.65	31.91	25.00	34.00	59.00
Empathy Skills subscale	136	10-50	38.16	3.82	5.07	25.66	23.00	26.00	49.00
Facebook® Addiction total scale	129	6-30	9.51	1.59	3.86	14.91	18.00	6.00	24.00

*Grand mean was calculated by dividing the mean by the total number of items in the respective scale or subscale.
SD= Standard Deviation

their skills. Further, educators should consider discussing with college students monitoring appropriate amounts of screen time. While there are not current recommendations of screen time specifically for this age, development of such recommendations may be useful.

While this study only examined if a relationship between Facebook® use and interpersonal skills existed and not if this was a causal relationship, researchers can only speculate about why this relationship exists. It may be that as more and more communication occurs in a virtual format rather than face-to-face that individuals are afforded less practice in interpersonal skills that are more specific to non-virtual communication. For example, the ability to say "no" in a face-to-face circumstance requires that one directly responds to the request or offer. In a virtual world, one can simply ignore the request or offer and pretend to not see it.

Conflict resolution in-person also is very different than in a virtual world. Whereas the virtual world affords the opportunity to "say" things to others without realization or care of how poorly chosen words can impact the other person, face-to-face communication does not allow such immunity. Also, you cannot simply "unfriend" someone in the real world with whom you are in conflict. Attempting to resolve a conflict in-person requires attentiveness to others' emotions, ability to control one's own emotions, and an ability to compromise (Segal & Smith, 2014). These are not skills that are necessary in a virtual world, where the repercussions from an interpersonal conflict are not always as immediate or impactful as those that occur in face-to-face situations.

Alternatively, it may be that individuals with lower interpersonal skills are inclined to use Facebook® more often than those with stronger skills. The virtual world may be more comfortable for lower skilled individuals than in-person communication is. Certainly, other factors not discussed here may also explain the inverse relationship between Facebook® use and interpersonal skills and should be considered for future studies.

While the findings of this study are of interest, they are not without limitations. The data are self-reported and based upon personal perceptions. Participants might not have been forthright in their responses and/or their perception of their skills may not reflect their actual skills. Second, much of the discussion has focused on implications for health educators as it applies to youth, and the study sample was comprised of young adults. While the researchers believe there is still merit in utilizing the responses of young adults to ascertain potential implications for working with youth, further research that examines youth directly is recommended. Finally, while this research implies a relationship between Facebook® use and interpersonal skills, it should be reiterated that it does not imply causality. Thus, Facebook® use may not be directly impacting interpersonal skills or vice versa; however, this study could serve as the impetus for future studies which investigate a causal relationship between these variables.

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