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Social Media Use in Higher Education: Do Members of the Academy Recognize Any Advantages?

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Existing research demonstrates that faculty in higher education are gradually relying more on social media to enhance instruction (e.g., Carpenter & Krutka, 2014; Jacquemin, Smelser, & Bernot, 2014). This study built upon this conclusion in two ways. First, the population of interest was expanded to include not only faculty, but researchers, administrators, and clinicians at a comprehensive university. Second, the study explored whether respondents perceived any change in student attitude or performance, in addition to advantages and disadvantages of social media use. Results of the study confirmed that, other than Facebook, LinkedIn, blogs and online forums, university members (especially researchers and clinicians) were slow to adopt social media for use in the workplace. Teachers and administrators were somewhat more active incorporating social media into their practices. The majority of respondents saw no change either positive or negative in their students' communication skills. The one positive assessment noted that learner satisfaction and attitudes had slightly improved.

Keywords: social media; higher education; faculty use of social media; effect of social media on learning.

The adoption and inclusion of social media in the professional activities of faculty and researchers in institutions of higher education have lagged when compared with adoption by undergraduate students (Pempek, Yevdokiya, & Calvert, 2009; Cheung, Chiu, & Lee, 2010; Neier & Zayer, 2015). Several explanations have been provided for not adopting social media. One asserts the prevailing notion that the use of social media has no role to play in advancing educational goals (Heiberger & Junco, 2011). A second argument notes that faculty have always been slow to adopt new technology (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Roblyer et al. (2010) observed that while secondary level teachers are already using social media,

university faculty will continue to resist its use until there is evidence that it is efficient and used in a business-like manner.

The conclusions of the preceding research reflect the attitudes of the period in which they were written; however, a more current assessment could conceivably reveal a change in attitude. Moreover, the previous studies limited their focus to a single population, typically faculty. The purpose of this study was to provide updated research about the use of and attitudes toward social media of the academic community, as well as to expand the study participants to include all professional members of a public, comprehensive research university and medical center located in the Southeast. We sent questionnaires by e-mail to four employee groups: administrators, clinicians, researchers and teachers, and then analyzed the results through the lens of three pre-determined objectives: 1) awareness and use of social media, 2) observed changes among students as a result of social media use, and 3) perceived advantages and disadvantages of implementation.

LITERATURE REVIEW

Many professors have embraced the social media trend and have used it to improve instruction in university classrooms. Effective learning and motivation of students have been shown to increase through professors' use of social media (Mazer, Murphy, & Simonds, 2009). On the other hand, students surveyed by Hewitt and Forte (2006) believed that faculty should not be present on Facebook at all. Conversely, other studies have reported positive reasons for social media implementation. For example, research has shown that students who were encouraged to use Twitter in educationally relevant ways were more engaged in the real world and had higher grades (Heiberger & Junco, 2011). Additionally, as Lederer (2012) notes, many social media platforms provide the means for deeper explorations of subject material as well as more robust discussions outside of the classroom.

Tracking the actual adoption of social media within higher education is a particular challenge. Should the introductory phase start with the incorporation of social media in classroom instruction or with earlier student personal use? Moreover, perhaps because of the sputtering origins of general social media use and the steep learning curve often associated with the adoption of new social media platforms, the literature on its use in

educational settings is somewhat limited. A review of the reference list found at the end of this manuscript, as well as the sources cited by each manuscript within the reference list, suggests that 2007 is the pivotal point when social media use in higher education became the subject of a more focused research interest and theory development by academicians. We have chosen to call the research produced after this date developmental to reflect its transition to a more scholarly orientation.

Initial Studies

Much of the early literature exploring social media focused on personal use by undergraduate students (Pempek, Yevdokiya, & Calvert; 2009; Cheung, Chiu, & Lee, 2010). As a secondary observation, the authors of these early studies noted that faculty were slower to adopt social media in both personal and professional settings than adolescents and young adults. Some researchers proffered explanations for this difference in application. For example, Heiberger and Junco (2011) asserted that the use of social media had no role to play in advancing educational goals. A second argument noted that faculty had always been slow to adopt new technology (Roblyer et al., 2010). The authors observed that while secondary level teachers were already using social media, university faculty would continue to resist its use until there was evidence that it was efficient and used in a business-like manner. Young (2013) concluded that university faculty feared social media, as its use might lead to the creation of massive-open-online-courses (MOOCS) and eliminate teaching positions.

Early publications also explored the undergraduate use of Facebook and Twitter. Cheung, Chiu, and Lee (2010) summarized several influential theories of communication and followed with the results of an online survey, which supported Uses and Gratifications Theory (Katz, 1959) and Social Presence Theory (Short, Williams, & Christie, 1976). Both theories underscore the importance of using groups to (1) reinforce self-image and social status, and (2) for entertainment and information gathering. Facebook provided a platform that facilitated achieving these goals. The research of Pempek, Yevdokiya, and Calvert (2009) supported the conclusions of Cheung, Chiu, and Lee (2010) that Facebook was an ideal platform for maintaining connections with friends and for acquiring

information. Additionally, Riquelme (2014) discussed how Facebook could be deployed by faculty to address questions from large groups of students.

Grossbeck and Holotescu (2008) extended the discussion of social media as communication channels but focused on Twitter rather than Facebook. Their manuscript was one of the earliest efforts to explore the value of social media for educational purposes. After defining microblogging, the authors argued for the use of Twitter as an educational tool. Suggestions included using Twitter to create and reinforce a classroom community as students worked collaboratively on projects and writing assignments. Moreover, they noted that Twitter was an ideal medium to support professional development as it provided a simpler means of accessing current research in the relevant subject matter. Later publications describe actual applications of Twitter for these purposes (e.g., Grossbeck & Holotescu, 2008; Heiberger & Junco, 2011).

Educational Studies

The second group of publications focused more narrowly on how social media could facilitate academic functions by enhancing classroom instruction and faculty communication with students. However, the studies that focused on classroom applications yielded mixed results. In particular, Twitter was more likely to elicit negative opinions. Several studies concluded that Twitter disrupted lectures and did not encourage discussions or reflective thinking (Carpenter & Krutka, 2014; Jacquemin, Smelser, & Bernot, 2014). In contrast, Charleson and Lyal (2014) speculated that Twitter would be more inclusive and would encourage less-privileged students to engage in academic exchanges. In a study of undergraduate student use of five networking sites, Neier and Zayer (2015) also concluded that Twitter had limited use as a classroom tool, while Facebook provided an informal means for students to interact with friends.

In contrast, several studies described how personnel in K-12 educational settings used social media to enhance and enable faculty activity not necessarily related to classroom instruction. For example, Carpenter and Krutka (2014) noted that Twitter was well-suited for professional development especially for teachers who lacked face-to-face contact with peers. Twitter served as a conduit for isolated faculty to network and create professional communities.

Social media platforms have also become tools used by administrators to maintain relationships with current students, alumni, and donors, as well to attract future students. Both Andrade, Castro, and Ferreira (2012) and Subramanyan (2013) stress the importance of employing multiple platforms such as Twitter and blogs in addition to Facebook in establishing and maintaining relationships with alumni and current and prospective students. In another application, Gonzalez, Davis, Lopez, Munoz, and Soto (2012) suggested approaching student advising as an optimization problem in which social media could reduce the costs associated with the advisement process. Beyond acknowledging the potential value of social media, however, Gonzalez et al. could not draw more meaningful conclusions as their sample was small and few respondents had used any of the platforms available at that time. As an example of a classroom application, Quain, Scales, and Whithem (2014) presented a lesson plan for teaching a hospitality course that included social media exercises that faculty could use or adapt.

Despite examples of successful applications of various networking tools, widespread adoption of social media by educational institutions has not happened. In her survey of institutional adoption of social media, Wilson (2013) presented several arguments explaining why faculty and administrators did not use social media. The most serious were concerns about integrity—particularly on the part of students—and privacy. A third concern related to the time it took to become proficient in using a particular platform followed by the amount of time to monitor and keep it updated. In the Neier and Zayer (2015) study referenced above, the authors discovered that Millennial students were as cautious as their instructors about the use of social media in the classroom.

Wilson (2013) suggested that academic personnel would likely realize more success if they first established a sound purpose for using social media and then measured the success of each application. Measurement should include offline results, such as attendance at publicized events, in addition to more traditional online assessments such as counting unique visitors, the number of page-views and time spent on each page. Additionally, asking students to assess the use of social media in their courses was another means of exploring social media effectiveness.

Perhaps Wilson's (2013) most significant contribution was reminding current and future users of social media that the objective should not be the inclusion of technology

just for technology's sake, but rather, the use of technology to create more engaging ways of communicating information and stimulating the exchange of ideas. Moreover, the creation of social media policies that govern the content and articulate what is appropriate and legal should accompany technology use. The existence of well-publicized policies could conceivably assuage the fears of students and faculty (Nathan & MacGougan, 2014). To date, however, only 22.7% of the institutions listed in the Carnegie Classifications Data File have created social media policies (Pomerantz, Hank, & Sugimoto, 2015).

The essential contribution of the preceding articles is their shift in emphasis from descriptions of somewhat random uses of social media to stressing the importance of developing a strategic plan. The plan must first identify the target audience and then craft a message tailored to the target audience and upload it to the appropriate social media platform. Finally, appropriate evaluative measures need to be developed and applied.

Purpose of This Study

The purpose of this study was to provide updated research about the use of and attitudes toward social media of faculty and researchers by surveying members of a public research university and medical center located in the Southeast that offers undergraduate programs in the liberal arts, business, and education as well as numerous graduate programs and postdoctoral clinical research studies. While previous research has focused on one or two groups employed in higher education—specifically faculty and administrators—none has reviewed social media use by all members of the university. This study sought to address that gap by surveying the four employee groups found at this institution: administrators, clinicians, researchers, and teachers. Additionally, because students' use and attitudes toward social media have been widely researched, this population was purposely left out of the current study.

Objectives. We established three objectives to be examined in this study. The first assessed awareness and use by each employee group of nine different social media platforms. The second objective explored respondents' assessment of changes, such as quality of work and learner satisfaction, which they observed in their audiences after the inclusion of social media in their curricula. The final objective was to secure a better

understanding of how respondents perceived the advantages and disadvantages of using social media for educational purposes.

METHODS

An online questionnaire that consisted of 29 questions (see Appendix A for a list of questions) was administered using Qualtrics and sent via an e-mail link to 1,598 employees. All respondents had access to social media in their offices, classrooms, and laboratories. Three hundred twenty-eight questionnaires were returned for an effective response rate of 21 percent. Participation was voluntary, and respondents were unidentified. We used IBM SPSS Statistics 24, to generate descriptive statistics for the three objectives, and to apply a chi-square test to measure differences between the four employee categories in awareness and use of social media as part of Objective 1.
We analyzed the open-ended responses qualitatively using Strauss and Corbin's (1990) open coding system to write down any thoughts as we read the comments individually. We shared those notes with each other and discussed the very few discrepancies and came to consensus as to which category responses should be assigned. From there, we applied codes that resulted in seven categories listed for advantages and the twelve for disadvantages.

Sample

Respondents were either administrators (n = 34), clinicians (n = 59), researchers (n = 42) or teachers (n = 193). The administrative category included directors of programs, department chairs, and deans. Clinicians consisted of healthcare professionals who held medical and related degrees who practiced medicine in addition to instructing students seeking professional degrees. Researchers possessed advanced academic degrees, but their primary responsibility was research typically in a healthcare field. Teachers held graduate degrees and represented 40 departments housed in liberal arts, business, education, and healthcare programs of study.

The sample consisted of 176 women (54 percent) and 152 men (46 percent), and the mean age was 49.77 years with a range of 28 to 77 years. Respondents had been in their current roles an average of 14 years with a range of 1 to 40 years.

Survey Instrument

The questionnaire (Appendix A) consisted of 29 questions that gauged social media use and attitudes. Respondents rated their use on a scale of 1 (not aware) to 4 (use regularly) of nine social media platforms: 1) Facebook, 2) LinkedIn, 3) blogs, 4) microblogs such as Twitter, 5) wikis, 6) online forums such as discussion threads, 7) media sharing sites such as YouTube, 8) social news sites such as Reddit, and 9) review sites such as Rate My Professor.

Additional questions asked respondents who worked with students to evaluate the impact of social media on quality and frequency of communication and quality of work. Two open-ended questions captured respondents' assessments of the strengths and weaknesses of social media use. We also were able to capture demographic information on age, gender and primary work classification (e.g., administrator, clinician, researcher or teacher).

RESULTS

Awareness and Use of Nine Different Social Media Platforms by the Four Respondent Categories

We originally planned to perform chi-square tests of independence that would examine awareness and use by the four employee classifications: administrators, clinicians, researchers, and teachers for each of the nine social media platforms. Responses varied from 1 (unaware), 2 (aware but do not use), 3 (use infrequently), to 4 (use regularly). Because there were instances of classes with expected frequencies less than five in many of the chi-square tests, we pooled the original response choices and reduced them to two new pooled classes. In other words, we combined unaware with aware but do not use, and use infrequently with use regularly and named the two new classes do not use and use. While this action sacrificed some information about awareness and use, it did create classes in every case with frequencies of five or greater. In addition to performing chi-square tests, we used z-tests to identify significant differences in proportions. We also calculated Cramer's V in order assess the effect size of significant chi-square values.

Chi-square tests for four social media platforms—LinkedIn, Facebook, blogs and online forums—produced significant results. The remaining five chi-square tests did not produce significant results. As a consequence, we present tables for only the four significant outcomes to include data on observed use (O), expected use (E), and standardized residuals (SR). Chi-square and p-values for the remaining five platforms that were not significant will follow.

Table 1.1
Observed and Expected Values for LinkedIn

	Response Category						
	Do Not Use			Use			
	O	E	SR	O	E	SR	Total
Administrator	10_a	16.2	-1.5	22	15.8	1.5	32
Clinician	35_a	28.8	1.2	22_a	28.2	-1.2	57
Researcher	15_a	17.7	-0.6	20_a	17.3	0.6	35
Teacher	95_a	92.4	0.3	88_a	90.6	-0.3	183
Total	155			152			307

Notes: O=Observed values; E=Expected values; SR = Standard Residual

The chi-square test of independence for LinkedIn yielded a significant value (X^2 (3) = 8.42, p = .04). However, Cramer's V equaled 0.17 which indicates a weak, positive association. Moreover, results of the z-test indicate that the proportion of administrators who used LinkedIn was significantly greater than expected and contrasts with the proportion representing administrators who chose not to use LinkedIn. One explanation for the greater number of administrators who did use LinkedIn was that many administrators were more likely to interface with the public and, therefore, LinkedIn would be a useful tool.

Table 1.2
Observed and Expected Values for Facebook

	Response Category						
	Do Not Use			Use			
	O	E	SR	O	E	SR	Total
Administrator	8_a	10.4	-0.8	24_a	21.6	0.5	32
Clinician	27_a	18.6	2.0	30_b	38.4	-1.2	57
Researcher	13_a	11.4	0.5	22_a	23.6	0.6	35
Teacher	52_a	59.6	-1.0	131_a	123.4	0.7	183
Total	100			152			307

Notes: O=Observed values; E=Expected values; SR = Standard Residual

A significant chi-square value of 8.29 (p = .04) supports an association between employee groups and this platform. Cramer's V, however, produced a value of 0.16, which indicates that while the result was significant, it was relatively weak. An examination of z-test results revealed that the proportion of clinicians in the use column was significantly less than expected. Moreover, they were more likely than expected to not use Facebook. Among users, 72% of all teachers represented the largest percentage of that category, which is not surprising as Facebook is a platform that supports blended and online classes as well as classroom communication.

Table 1.3
Observed and Expected Values for Blogs

	Response Category						
	Do Not Use			Use			
	O	E	SR	O	E	SR	Total
Administrator	12_a	17.4	-1.3	20_b	14.6	1.4	32
Clinician	40_a	30.9	1.2	17_b	26.1	-1.8	57
Researcher	22_a	18.4	0.8	12_a	15.6	-0.9	34
Teacher	92_a	99.3	-0.7	91_a	83.7	0.8	183
Total	166			140			306

Notes: O=Observed values; E=Expected values; SR = Standard Residual

The calculated chi-square value of 12.11 (p = .01) indicates that there was an association between employee groups and the use of blogs. Cramer's V equaled 0.20 which suggests a weak, positive association. An examination of z-test values highlighted two instances of significant differences. First, the proportion of administrators who used blogs was significantly greater than expected while the proportion that did not use them was significantly less than expected. This may have been a consequence of having to maintain a presence in the community with alumni and current and future students. In contrast, the proportion of clinicians who used blogs was significantly less than anticipated while the proportion that did not use blogs was much less.

Table 1.4
Observed and Expected Values for Online Forums

	Response Category						
	Do Not Use			Use			
	O	E	SR	O	E	SR	Total
Administrator	7_a	10.4	-1.0	25_a	21.9	0.7	32
Clinician	35_a	18.0	4.0	22_b	39.0	-2.7	57
Researcher	21_a	11.0	3.0	14_b	24.0	-2.0	35
Teacher	34_a	57.9	-3.1	150_b	126.1	2.1	184
Total	97			211			308

Notes: O=Observed values; E=Expected values; SR = Standard Residual

As the outcome of the chi-square test (X^2 (3) = 52.64, p = .00) demonstrated, there was a strong association between employee groups and use of online forums such as Blackboard and Desire2Learn (D2L). Moreover, the value of Cramer's V was 0.413 which suggests a moderate association. Examination of z-test results reveals significant differences for three employee groups: clinicians, researchers and teachers. The proportion of clinicians and researchers who used online forums was significantly less than expected and differed from the proportion that did not use them. In contrast, the proportion of teachers who did use online forums was significantly greater than the proportion that did not.

Table 1.5
Summary of Remaining Non-Significant Chi-Square Analysis

Platform	Chi-Square	P – value	% Do Not Use	% Use
Review Sites	4.84	.18	82%	18%
Wikis	4.58	.21	64%	36%
Media Sharing	3.97	.27	15%	85%
Social News Sites	2.32	.51	87%	13%
Microblogs	1.21	.75	74%	16%

An examination of percentages of the total sample in the last two columns discloses that a large majority of the sample was in one or the other column. Four social media platforms which respondents chose not to use include 1) review sites such as Rate My Professor and other more scholarly sites designed for clinicians and practitioners, 2) wikis such as knowledge management resources, 3) social news sites such as Reddit, and 4)

microblogs such as Twitter. Of the four platforms only social news sites are currently not associated with academic and professional communities, which may explain why 87% of the sample was not familiar with them. In contrast, media sharing sites such as YouTube were used by 85% of the sample.

Observed Changes in Quality of Work and Learner Satisfaction

The purpose of Objective 2 was to capture respondents' assessment of changes in their audiences as an outcome of using social media for instructional purposes. Therefore, we did not include administrators in the analysis. Researchers were included as they had teaching responsibilities. We asked five questions which are represented below.

If you have used social media in your capacity as a teacher, researcher or clinician, what changes have you seen in your audiences with respect to

1. *the frequency of communication?*
2. *the quality of communication?*
3. *the quality of work?*
4. *learner satisfaction?*
5. *learner attitudes/professionalism?*

The answer scale was the same for each question and went from *major decrease, slight decrease, no change, slight increase* to *major increase.*

Table 2
Change in Audience Behavior

	Change Category					
Question	Major Decrease n / %	Slight Decrease n / %	No Change n / %	Slight Increase n / %	Major Increase n / %	Total Response n
Frequency of communi-cation	7 / 3%	5 / 2%	121 / 53%	74 / 33%	20 / 9%	227
Quality of communi-cation	7 / 3%	24 / 11%	115 / 53%	58 / 27%	12 / 6%	216
Quality of work	3 / 1%	21 / 10%	139 / 65%	43 / 20%	9 / 6%	215
Learner satisfaction	2 / 1%	9 / 4%	111 / 52%	76 / 36%	16 / 7%	214
Learner attitudes	7 / 3%	32 / 15%	124 / 58%	46 / 21%	6 / 3%	215

Note: Table show number of participants responded followed by % of total sample.

In each instance, more than 50% of respondents reported no change in any of the five items, with the quality of work being the highest at 65% (See Table 2). Moreover,

when we combined the columns for slight and major increase, only the frequency of communication and learner satisfaction exceeded 40%. Conversely, when we combined the columns for major and slight decrease, the range was 5% to 18%. These values suggest that while respondents were overwhelmingly neutral in their assessment of the impact of social media in their professional capacity, they did not perceive a significant decline in any of the five measures.

Perceived Advantages and Disadvantages of Using Social Media for Educational Purposes

Two open-ended questions asked respondents to comment in their professional roles on the biggest advantages and disadvantages of using social media for educational purposes. There were 210 responses addressing advantages and 213 responses focusing on disadvantages. Tables 3.1 and 3.2 summarize results.

Advantages. Categorizing responses regarding the perceived advantages of using social media did not yield discrepancies among the separate coders. All, except ten responses, fit into one of six mutually agreed upon categories. As Table 3.1 demonstrates, the most frequent answer was an improved ability to reach a wider audience, which was particularly true for educators and researchers (23%). Typical responses included, "multiple ways to connect to others," and "connecting with people you otherwise would not have interacted with."

Two categories each yielded 17%: 1) more successfully engaging students who were already using social media, and 2) using social media as a tool for educational and medical research. Responses included, "might be a way to enhance communication with an audience that is already using them," and "easier to research and learn broadly about the subject of interest before class or experiments." In response to this question, 12% of respondents took the opportunity to note that they saw no value or advantage in using social media.

Table 3.1
Advantages of Using Social Media

Answer	n / %
Helps reach a larger audience	48 / 23%
Aids education & health research	36 / 17%
Engages students who are already using social media	35 / 17%
Improves communication	30 / 14%
Helps to manage courses	26 / 12%
There are no advantages	25 / 12%
Miscellaneous	10 / 5%

Disadvantages. Classifying the responses regarding perceived disadvantages in Table 3.2 was more challenging as many were unique and did not fit in established categories. However, using independent coding, the two researchers were able to narrow the codes into the following twelve categories as seen in Table 3.2 on the following page. The largest percentage, 20%, was driven primarily by educators who felt face-to-face instruction was superior, and that social media, in fact, was a distraction. For example, one respondent commented, "It's difficult to find a better method than face to face, hands-on learning," while another noted, "too much fluff out there; easy to become distracted by sensationalistic content." Another 15% concluded that social media should be reserved for personal use—that it was superficial and not professional.

In a nod to the continuing penetration of social media within the academic community, only 6% noted that they had no experience with social media, which suggests that 94% of respondents were using social media in some capacity. However, 22% of the sample did voice concerns about one of the following: a lack of guidelines, the steep learning curve, maintenance, or technology failure. These are the same concerns that were articulated in earlier research (e.g., Roblyer et al., 2010; Wilson, 2013).

Table 3.2
Disadvantages of Using Social Media

Answer	n / %
Too distracting/face-to-face is l still the better teaching mode	43 / 20%
Too personal or superficial/ not professional	32 / 15%
Concerns about validity/reliability of online information	24 / 11%
Privacy concerns	17 / 8%
Miscellaneous criticisms	16 / 8%
No guidelines for use	14 / 7%
Deteriorating quality of communication	15 / 7%
No experience	13 / 6%
Too time-consuming to maintain	12 / 6%
Steep learning curve	11 / 5%
Technology failure/lack of access	9 / 4%
No disadvantages	7 / 3%

DISCUSSION

In contrast with young adults who have driven the adoption of social media and have been characterized as early adopters of technology, many older adults fall into the late majority or laggard category. Moreover, Millennials continue to find new ways to use social media. For example, in their survey of Millennials and their use of seven different social media platforms, the American Press Institute (2015) discovered that 88% of Millennials rely on Facebook for news and supplement it with news from Pinterest (36%), Twitter (33%), Reddit (23%), and Tumblr (21%). In contrast, the findings of the Pew Research Center (2016) which investigated social media use by four different age groups support the conclusion that older cohorts have been slower to adopt social media and in lower percentages. Use of social media by the 18-29 age cohort peaked at 92% in August

2012, whereas three older age groups peaked in 2014 and achieved the following percentages: 30-49: 82%, 50-64: 65%, and 65+: 49%. Participants of the current study, 79% of whom were age 40 or older, overlap the last three age ranges reported on in the Pew Research Study, which suggests that—based on age alone—this sample aligns with the late adopter and laggard classifications.

While age is one marker of where individuals may fall in the adoption process, behaviors and attitudes ultimately determine placement. On behavior, awareness and use of social media by this sample reinforces their classification as late adopters or laggards. While awareness of all platforms except wikis and review sites was relatively high, total percentages for regular use never exceeded 47%. Again, there were exceptions for individual employee groups. For example, teachers regularly used Facebook (54%), and online forums (57%). Administrators were the heaviest users of LinkedIn (47%). Perhaps because of their roles as chairs, deans and admissions officers, administrators assumed a role that requires connecting with external audiences in professional and promotional capacities, and were exposed to and consequently expected to use select social media such as LinkedIn.

On attitudes, more than 50% of respondents who used social media in their interactions with students and other professionals failed to see any change in frequency or quality of communications. Similarly, slightly more than 50% of respondents declared no change in student satisfaction and attitudes. Even if we were to combine the two columns, *Slight Increase* and *Major Increase*, the percentage for any one of the five questions would not have exceeded 43%. In summary, one must question whether this assessment of students is objective or an extension of the respondents' neutrality or discomfort with social media.

Limitations and Recommendations for Future Research

There are several limitations that readers should consider. First, this study relied on a nonprobability sample as respondents self-selected and, therefore, may not have been representative of all employees of the university and health-system. Individuals who did choose to participate may have been motivated by more extreme attitudes. Future studies may wish to use a probability method to create a more representative sample.

Second, while the results of this study are enlightening, they are a cross-sectional study of employees at one point in time. Replication of this study would be useful not only because it would confirm or disconfirm various employee groups' use of social media, but also because it could track potential change in attitudes. In light of the retirement of Baby Boomers and the ascendency of Millennials, one could reasonably expect increased comfort with and use of social media. Moreover, in response to pressure from governmental agencies on institutions of higher learning to contain costs in part by implementing distance learning, employees may have to rely on social media whether they prefer to or not.

As this study did not address attitudes or use of social media by students, future studies might consider including them. Student data might permit the comparison of their attitudes toward and use of social media with those of faculty and other employees. It would be especially useful to see whether there is any association between student and faculty attitudes.

CONCLUSION

As social media continues to penetrate the larger community, it is important to understand how successfully it has penetrated higher education. The objective of this study, therefore, was to examine the use of and attitudes toward social media for educational purposes by members of a Southeastern comprehensive research university that includes undergraduate and graduate programs as well as a health sciences curriculum that offers medical and dental degrees. Results of the study confirm that, other than Facebook, LinkedIn, blogs and online forums, university members have been slow to adopt other social media platforms in the workplace. Researchers and clinicians were particularly unlikely to use social media. In fact, they were uncomfortable with the idea of using known as well as unknown social media platforms, perhaps because they had not given much thought to the use of them in their professional roles. In contrast, possibly because they interact with a larger audience, teachers and administrators were somewhat more active incorporating social media into their practices.

More telling is the evaluation of the effect of the instructional use of social media on student performance. Fifty percent or more of respondents saw no change either positively

or negatively in their students' written and verbal communication skills. The one positive finding noted that learner satisfaction and attitudes had improved somewhat. Moreover, assuming that the majority of higher education personnel are older and—as Kennedy and Funk (2016) suggest—are influenced by the assessment and experience of others, their adoption of social media may increase in response to the perceived satisfaction of their students.

Recommendations for Program Design

The results of this study suggest that there is work to be done to aid in the incorporation of social media in the plans and activities of higher education personnel. First, individuals need to see how others are using social media in instructional design, for example, by teaching hands-on skills or collaborative learning. Secondly, technology specialists should guide new users with the incorporation and mastery of social media in their area of expertise. Finally, policies that govern the use of social media should be formulated to assure the responsible and effective use of social media both by professionals and by students.

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APPENDIX A

SOCIAL MEDIA USE QUESTIONNAIRE

How aware are you of the following types of social media? Examples for each category are provided in parentheses. For each form of social media please check the box that applies. Choose from "not aware" to "use regularly."

1.	Facebook	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
2.	LinkedIn	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
3.	Blogs	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
4.	Microblogs	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
5.	Wikis	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
6.	Online forums (such as D2L, online groups)	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
7.	Media sharing sites (YouTube, Instagram)	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
8.	Social News Sites (such as Reddit)	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY
9.	Review Sites (such as Rate My Professor)	NOT AWARE	AWARE BUT DO NOT USE	USE INFREQUENTLY	USE REGULARLY

In the conduct of your job as a teacher, researcher, or clinician, how often do you spend using the following types of social media during a typical semester?

10.	Facebook	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
11.	LinkedIn	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
12.	Blogs	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY

13. Microblogs	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
14. Wikis	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
15. Online Forums	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
16. Media Sharing Sites	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
17. Social News Sites	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY
18. Review Sites	NEVER	ONE OR TWO TIMES PER SEMESTER	WEEKLY	EVERYDAY

19. How comfortable are you with the idea of using social media with which you are already familiar for educational or research purposes?

UNCOMFORTABLE	SOMEWHAT UNCOMFORTABLE	NEUTRAL	SOMEWHAT COMFORTABLE	COMFORTABLE

20. How comfortable are you with the idea of using social media with which you are NOT familiar for educational or research purposes?

UNCOMFORTABLE	SOMEWHAT UNCOMFORTABLE	NEUTRAL	SOMEWHAT COMFORTABLE	COMFORTABLE

21. Which mode of teaching is most conducive to including and using social media? Please select only one.

TRADITIONAL FACE-TO-FACE CLASSES	HYBRID (BLENDED) CLASSES	ONLINE CLASSES

If you have used social media in your capacity as a teacher, researcher or clinician, what changes have you seen in your audiences with respect to each of the following?

22. Frequency of communication	MAJOR DECREASE	SLIGHT DECREASE	NO CHANGE	SLIGHT INCREASE	MAJOR INCREASE
23. Quality of communication	MAJOR DECREASE	SLIGHT DECREASE	NO CHANGE	SLIGHT INCREASE	MAJOR INCREASE

24. Quality of work	MAJOR DECREASE	SLIGHT DECREASE	NO CHANGE	SLIGHT INCREASE	MAJOR INCREASE
25. Learner satisfaction	MAJOR DECREASE	SLIGHT DECREASE	NO CHANGE	SLIGHT INCREASE	MAJOR INCREASE
26. Learner attitudes/ professionalism	MAJOR DECREASE	SLIGHT DECREASE	NO CHANGE	SLIGHT INCREASE	MAJOR INCREASE

27. In your professional role, what do you feel are the biggest advantages of using social media for educational purposes?

28. In your professional role what do you feel are the biggest disadvantages of using social media for educational purposes?

29. How many years have you been in your present role not only at this University, but also at previous institutions?