

ATTITUDES AND EXPERIENCES OF DENTAL HYGIENE FACULTY
REGARDING INTERACTIONS WITH CURRENT UNDERGRADUATE DENTAL
HYGIENE STUDENTS ON FACEBOOK

A Thesis

by

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ABSTRACT

Facebook (FB) currently boasts over 1 billion active monthly users. Forty-eight percent of 18-43 year olds access FB when they wake up; furthermore, since the end of 2012, the number of FB users ages 45-54 increased 45%. It is no surprise, then, that FB use between students and dental educators now intersect. The effect of FB on relationships between faculty and current undergraduate students has been largely unexplored. The purpose of this study was to identify attitudes and experiences of dental hygiene faculty regarding interactions with current undergraduate dental hygiene students on FB.

An online survey instrument was designed through SurveyMonkey® and received Texas A&M University Baylor College of Dentistry IRB approval. After pilot testing, a personal survey link was emailed to 232 dental hygiene faculty members at 33 dental hygiene programs in Texas, Oklahoma and New Mexico.

A total of 95 dental hygiene faculty members participated, resulting in a 41% response rate. Of the 84.2% (n = 80) of faculty members who indicated they had a FB account, only 12.5% (n = 10) responded they were friends with students on FB. Just over 69% of respondents (n = 65) felt it was inappropriate for faculty and students to interact on FB. Many felt the line between faculty and students was blurred because of FB interaction (68.1%, n = 64). Over half (54.3%, n = 51) agreed that faculty should use a separate FB page to interact with students. Just over 79% (n = 74) of faculty desired institutional guidelines advising about interactions on FB. Open-ended

comments revealed four dominant themes: 1) FB relationships with students were appropriate only after graduation, 2) there was a blurring of lines when faculty were “friends” with undergraduate students on FB, 3) institutional guidelines were desired by faculty, and 4) concern over content on students’ FB pages.

Online relationships between the two groups remained a gray area as faculty wrestled with implications of interactions with current students on FB. Furthermore, few dental hygiene faculty used FB to interact with students or as a platform for academic use. Finally, faculty desired institutional support by providing best practice guidelines, assisting them in navigating the ambiguity of social networking relationships.

DEDICATION

To the Circle of Love....

For knowing me inside and out and loving me anyways.

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NOMENCLATURE

FB	Facebook
SNS	social networking site(s)
Timeline	page on which a user's personal information can be accessed.
Friend request	the means by which one user contacts another user to enter into a relationship where permission to each other's information is granted.

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CHAPTER I
INTRODUCTION AND
LITERATURE REVIEW

Online social networking is a large part of everyday life for people across the globe. One such social networking site (SNS), Facebook (FB), currently boasts 1.1 billion monthly active users; 50% of those users log onto the site on a given day.¹ Forty-eight percent of 18-43 year olds access FB when they wake up, with 28% doing so before they even get out of bed.¹ It is no surprise, then, that the use of SNSs among college students and dental education now intersect. For this reason, dental educators recognize the need for further research regarding how SNSs such as FB impact both dental and dental hygiene students and dental education.² At this time, few studies have been conducted to explore how social media is being used in dental and dental hygiene education and the implications of its use. The purpose of this study was to assess the influence of online social networking on relationships between current undergraduate dental hygiene students and dental hygiene faculty.

FB, originally created in 2004 to build community among college-age young adults, is now the most popular social networking site in the world.³ Similar to other SNSs, FB requires users to create a profile in which demographic and other personal information is stored on the user's home page called a "timeline." Based on mutual agreement, users can become "friends" with other users by one user sending a "friend request." Consent by both users creates a mutual "friendship" whereby both users have

access to each other's timelines, photos and friend list. Users can post information, photographs and "tag" themselves and other "friends" in those pictures. Users can also join communities, such as college groups and other special interest groups. Since upwards of 80-90% of college age students have profiles on FB,⁴ institutions are challenged to navigate uncharted territory, with administrators and faculty looking for guidance in dealing with the implications of this digital trend.

Demographics of Faculty

Because of the popularity of FB, not only are dental and dental hygiene students engaging in FB use, but there is also a high likelihood their faculty members have FB profiles as well. In the past, little was known about dental health professions educators' FB practices. One recent study in 2012 conducted by Arnett et al. surveyed 443 full-time faculty members at five North American dental schools to better understand dental educators' use of SNS, including FB.⁵ Of the 221 full-time faculty that responded, 33% (n=73) reported not using any type of social media platform. Fifty seven percent (n=126) of faculty reported having a FB account. Reasons identified for using various social media platforms (including FB) were connecting/communicating with friends (52%, n=115), family (47.5%, n=105) colleagues (29%, n=64), students (15.4%, n=34).⁵

Faculty Practices

Over the past few years, various health professions administrators and educators have begun to form practices and opinions regarding the appropriateness of mutual relationships with students on FB. Popular media demonstrates there is an ongoing dialogue on the part of both faculty and students regarding the potentially fraught nature

of the SNS relationship between the two groups. Much of the dialogue includes whether or not relationships between the groups on social media platforms are appropriate⁶. Other concerns include the blurring of lines that may occur through such relationships, and the ethical dilemmas that may arise when inappropriate content is discovered on each other's profiles.⁷⁻¹²

In a 2010 cross-sectional study conducted at four Ohio pharmacy colleges, 183 faculty were surveyed, with 95 responding.¹³ Of the 46% (n=44) of faculty with FB profiles, only 21% (n=19) were FB friends with current students. The majority of respondents who received "friend requests" from students either deleted or ignored the request, sometimes accepting the request after the student graduated. All respondents reported that they would not initiate a "friend request" to a current student. Sixty-three percent of faculty (n=60) with a FB profile indicated their faculty position presented a conflict with social networking with students, citing the desire to maintain a line between professional and personal relationships. The author concluded that online social networking between faculty and current students raises questions pertaining to appropriate boundaries for faculty/student relationships and that further work should be done to assist faculty members in gaining a consensus of appropriate social networking interactions with students.¹³

Further consensus on appropriate and inappropriate FB boundaries was identified by Schneider et al. In 2011, sixty-nine pharmacy faculty at four private and two public colleges were interviewed.¹⁴ Scenarios presented in a focus group setting were used to question faculty about appropriateness of online relationships with students. Irrespective

of gender or age, 87% (n=61) of respondents considered initiating the online relationship by “friending” students a violation of boundaries. The author concluded that it was not advisable for faculty and students to interact with each other on FB since it focused on one’s personal rather than professional life, but that the interaction would be more acceptable if the student initiated the interaction.¹⁴

There seems to be some consensus regarding the inappropriateness of initiating friend requests with undergraduate students. In 2011, Chetien et. al examined faculty’s attitudes toward the appropriateness of friending medical students were investigated.¹⁵ Eighty-two faculty completed the survey. Twenty six percent (n=21) of those faculty had used SNSs. Of those faculty who received friend requests from a current student, only 19% (n=4) accepted the request. This percentage differed significantly from the 48% (n=12) of faculty who accepted a friend request from a post-graduate resident, suggesting faculty view the relationship of undergraduate vs. post-graduate students differently. Some faculty, not comfortable with being friends with undergraduate students that maintain a relationship with enrolled graduate students, cited they are more like collaborators than undergraduate students.¹⁶

Faculty also recognized that using FB to stay in touch with students once they graduate may provide opportunities for mentoring and enhanced alumni relations. A 2009 study conducted at Lee University in Tennessee demonstrated differing findings from previous articles, raising the question of whether or not the ethos and mission of each particular college influences faculty interactions with current students. Lee University focuses on the importance of faculty involvement, availability to students and

connectedness with the students as part of its overall academic mission. More than 75% of faculty were “friends” with students on SNSs.¹⁷ Just over 50% of faculty members interviewed, who originally created a FB profile to stay in touch with families, now recognize academic uses for the site, demonstrating progressive thinking about the use of social media platforms in higher education. More than 90% of the interviewed faculty members mentioned the open line of communication with students that FB had provided; 75% percent of faculty agreed that, on some level, FB aided in student perception of faculty approachability. While these faculty members see the value of FB, over 75% of faculty members also mentioned concerns about balancing the “dual relationship” of being a teacher vs. being a friend to their students. Within the same study, student respondents felt they had a closer connection with faculty and were more likely to communicate with their faculty members if they already knew them through an online relationship. This may explain the large percentage of faculty members at this university being open to using FB to connect and engage students, with the goal of demonstrating the overall mission of the university.

While some students and faculty may expect and enjoy interacting with each other on FB, others may be concerned about privacy and how personal “friendships” with each other on SNSs may influence the faculty-student professional relationship. In 2006, a study was conducted at the Georgia Institute of Technology to examine students’ concerns with faculty presence on FB.¹⁸ Of the 176 students surveyed, 79% (n=106) had FB accounts; 19% (n=20) were “friends” with their professor. Sixty-six percent (n=67) felt that faculty presence on FB was acceptable; the remaining 33% (n=35) of students

felt it was inappropriate, citing privacy concerns. Although course evaluations of faculty ratings were unaffected by faculty interaction with students on FB, some students reported a positive impact of faculty interaction on FB. While some students enjoyed interacting with faculty, qualitative data also showed that students were aware that faculty's perceptions of a student might be "unfairly skewed" after viewing a student's FB. Students also commented they should not have to worry that faculty might view personal content on their FB page. Many students felt that FB "blurred the lines" between faculty and student and the professor-student relationship should remain professional and not become personal.¹⁸

In 2009, 299 incoming pharmacy students at a Midwest research university, a southern public university and a southern private, faith based university were surveyed regarding FB online image, information disclosed and nature of the relationship between students and faculty.¹⁹ Almost 61% (n=148) of respondents who had a FB profile did not want faculty to initiate a "friend" request. Pharmacy students in the private school setting were significantly more likely to want faculty as friends on FB ($p < 0.001$) than students at the public institution.¹⁹ This may indicate that students seeking programs at smaller universities may be specifically looking for opportunities to connect and know faculty on a more personal level, whereas students at larger universities do not expect or desire such a personal connection. The author also points out the current disconnect between the original purpose of FB (social interaction and fun) and secondary purpose of judging a student's or faculty member's character and professionalism.¹⁹

In 2011, a qualitative study was conducted by Bongartz et al. at the University of Iowa, a public university and Shenandoah University, a private university.²⁰ Focus groups of pharmacy students were created to investigate student-perceived appropriateness of boundaries between faculty and current students. Questions examined the attitudes of pharmacy students regarding social interactions with faculty members. Almost 79% (n=15) of students at the University of Iowa were uncomfortable receiving a “friend request” from a faculty, compared to 56.3% (n=18) at Shenandoah University. Fewer students saw it as a boundary violation when the faculty member was older, suggesting that students were more comfortable interacting with older faculty members. Almost 50% (n=21) surveyed in all groups felt a boundary had been crossed if a student initiated the friendship. Responses from students regarding why they felt it was a boundary violation included concerns about consequences regarding faculty perception of them formed from FB content, preferential treatment, ulterior motives and obligations to accept the faculty’s friend request. This study suggested students felt online social networking with faculty may threaten the relationship between faculty and student. Bongartz et al. concluded that, while there are students who desire to be “friends” with faculty, students are concerned about possible consequences of faculty viewing their FB content.

Academic Uses

As with any popular web-based technology, FB presents an opportunity to engage technology-driven students in other avenues of learning. Now in its formative stages as an educational tool, FB is being examined to determine whether or not it has

academic advantages.⁵ Some administrators and faculty view FB as a platform to model professionalism. Others feel it demonstrates the pitfalls of placing personal information on Facebook.^{16,21,22} In 2007 Mazer et al. examined if students viewed the teacher's desire to connect on FB as an attempt to be more transparent and culturally connected to their students, thus lending itself to open doors of learning and communication in the classroom.²³ The influence of faculty's self-disclosure to students on FB was measured by student motivation, levels of affective learning and classroom climate. Randomly selected undergraduate students (n=133) were assigned to one of three groups who viewed a professor with differing levels of self-disclosure on FB. Students viewing the lowest self-disclosure page reported lower levels of motivation, lower levels of affective learning and lower positive perception of classroom climate when compared to students assigned in the moderate and high level self-disclosure groups.

Qualitative data revealed student concerns regarding the professionalism of faculty on FB, which included being uncomfortable with the content on faculty's page that may be posted by faculty or by others. Students believed that FB should not be the only way for students to access their professor and that giving out too much personal information might give students reasons to make fun of or dislike the professor. Students also expressed concern that faculty's access to the student's FB page might create biases and impact academic outcomes for the student. These findings demonstrate that faculty who do interact with students on FB should consider the amount of personal material posted and accessible to students. The author also posed the question: Will teachers violate student expectations of proper behaviors and run the risk of violating

their credibility if they utilize FB for disclosing their own improper behaviors and attitudes? Mazer concluded that teachers should proceed with caution when disclosing personal information on FB.²³

Some faculty members are attempting to utilize FB in courses to enhance in-class activities, learning, student-connections and research.^{16,24,25} Students also seem to be aware of academic advantages in using FB, such as becoming better acquainted with classmates and faculty members and as an avenue for alternate communication with both faculty and classmates regarding class topics.¹⁸ A study in 2010 by Estus described how a FB page was created for pharmacy students enrolled in a geriatric pharmacotherapy elective course at the University Of Rhode Island College Of Pharmacy.²⁶ This class FB page, open only to those students enrolled in the course, was used to prompt further discussion beyond regular course meeting hours. The professor also posted questions that generated insightful discussions. While posts were not graded, participation points were awarded. At the end of the course, students' perceptions of the value of the FB activities were evaluated using a 5 point Likert scale. Ninety-three percent (n=28) of students surveyed valued the FB activities and 67% (n=19) felt it was easier to discuss topics on FB compared to discussing in class. Students valued the ability to use FB for alternative purposes and faculty observed opportunities for students to help shape appropriateness of content on each other's profiles during the course.²⁶

A study of 128 pharmacy students conducted in 2011 at the University of Kentucky by Cain et al. used FB as an extension of the core content of a pharmacy management course, meant to expose students to further ideas and concepts beyond what

took place in the context of the classroom.²⁷ Over 78% (n=100) of students joined the optional FB group. Twenty-five percent (n=25) of participants read at least three-quarters of the posts made to the FB page. Thirteen percent (n=13) indicated the activity was very valuable, whereas 64% (n=64) indicated the activity was somewhat valuable. Students perceived the activity as “enjoyable,” thought it was a “novel idea,” liked the “extra learning opportunities” it provided and felt it was “beneficial to learning.” Course directors observed that the FB activity served not only as a platform to expose students to ideas and insights beyond the scope of the course but also increased face-to-face time with several students outside of class.²⁷

In 2012, a study of 119 pharmacy students at Northeastern University by DiVall et al. showed that FB was successfully used as a helpful source of study tips and suggestions.²⁸ Students agreed that posts and ensuing discussion benefitted their learning. Eighty-six percent (n=102) of those surveyed found FB in the course was beneficial. Students also reported they were more likely to post comments, see comments and read comments on FB as opposed to Blackboard. Discussions involving faculty following this survey led faculty to see the possibilities in using their already existing FB account as a tool to enhance learning. Those faculty without a FB account felt creating and integrating a FB page into their course increased their workload and were unsure of the professional ramifications of using FB.²⁸

Differing results were found in 2010 when students in an ambulatory care elective course at the Purdue University College of Pharmacy were surveyed.²⁹ Each week, some students were assigned as moderators on the FB discussion page created

specifically for this course. Those not assigned as moderators were expected to contribute to the discussion. Although enrollment in the course dropped during the first week of the semester, and the course was cancelled, students were still surveyed. Ninety-one percent of students listed FB as part of the course they liked the least, citing FB is more for social interaction and not appropriate for a professional setting.²⁹

In 2014, Henry and Pieron surveyed 321 dental hygiene program directors to discover how social media applications were being used in dental hygiene program admissions.³⁰ Thirty-one percent (n = 48) of respondents indicated their educational institution had a social media policy. Thirty-five percent (n = 54) of dental hygiene programs had a social media policy. Twenty percent of programs had a FB page, with 4% utilizing FB to learn more about potential applicants. The authors indicated more research needs to be done to fully examine the need for guidance in how to handle social media policies within the program.³⁰

Universities and SNS Policies

While some social media policies and best practices currently exist, most pertain to e-professionalism and patient interaction in medical and allied health education.³¹⁻³³ Minimal guidelines are in place to steer faculty and students in their relationships on social media platforms, creating a potential ethical minefield. Best practice guidelines for using social media are being discussed at some institutions during new student orientation.²¹ Further discussion indicates that students may want a policy for interaction between them and faculty.²⁰ While many may feel that policies may be too restrictive, guidelines and best practice education may help give both groups strategies

for interaction that will limit liability, making the most of online presence and relationships.

Summary

As more of the population uses Facebook, it is important that dental hygiene programs consider the implications of its use between faculty and students. Limited research has been done to assess faculty use of FB and the extent of FB interactions between dental hygiene faculty and students. The purpose of this study was to assess the influence of online social networking on relationships between current undergraduate dental hygiene students and dental hygiene faculty by answering the following specific research questions:

- 1) How do age, gender and teaching experience influence dental hygiene faculty attitudes and practices on FB?
- 2) What is the extent of interactions between dental hygiene faculty and current undergraduate students on FB?
- 3) How are dental hygiene faculty using FB interactions for teaching?
- 4) Do dental hygiene faculty feel that FB interactions bias the faculty/student relationship?

It is hoped that this survey will help dental hygiene faculty clarify current trends not only in how and to what extent faculty are using FB to interact with students, but potential future opportunities for use. This survey will also gauge whether or not social media policies are already in place and the perceived need for such policies by dental hygiene educators. Understanding attitudes and experiences of faculty will help build consensus in guiding social media interactions and developing best practices for teaching and learning.

CHAPTER II

METHODS AND MATERIALS

Sample Selection

The target population of this study was all 258 dental hygiene faculty members from all 33 dental hygiene programs in Texas, Oklahoma and New Mexico. Each dental hygiene program was contacted and email addresses verified by a staff member unrelated to the study. Of the initial target population, 232 email addresses were collected, verified and entered into a Microsoft® Excel spreadsheet. Email addresses were imported into SurveyMonkey®. An administrative assistant unconnected with the research performed verification of email addresses to ensure anonymity.

Instrument

A 57 item online survey had the following sections: 1) Demographics, 2) Faculty Use- Practices, 3) Faculty Use- Opinions, 3) Academic Uses- Practices, 4) Academic Uses- Opinions, 5) Ethics- Practices, and 6) Ethics- Uses. Using a five point Likert-type scale, faculty were asked to indicate their level of agreement with 56 statements. One final open-ended question allowed participants to add any additional information they felt would relate to faculty-students interactions on FB.

The survey instrument was reviewed by a committee with survey design expertise. After approval from the Institutional Review Board at Texas A&M University Baylor College of Dentistry (IRB# 2013-0613-BCD-EXP), the survey was pilot tested by 10 dental hygiene faculty members at the Caruth School of Dental Hygiene, Texas

A&M University Baylor College of Dentistry in Dallas, Texas. Based on feedback from the pilot study, no changes were made to the survey instrument.

Survey Administration

All 33 dental hygiene programs were contacted and 232 email addresses were verified. Each subject received a pre-notice email in January 2014, explaining the purpose of the survey. One week later, an initial email with a personalized survey link was sent to each recipient's school email address. Instructions for survey completion were obtained once the recipient clicked on the Survey Monkey® link. Consent was assumed upon submission of the survey. Over the course of four weeks, three follow-up emails with links were also sent to non-responders. A final email was sent to respondents thanking them for their participation. One respondent was chosen by random selection through IBM® SPSS and received a \$100 Visa gift card incentive for participation in the study.

Data Analysis

The survey data were imported into IBM® SPSS software (version 22) program for statistical analysis. Descriptive statistics, including frequencies and cross tabulations, were used to identify attitudes and experiences of FB use among dental hygiene faculty. Kruskal-Wallis and Mann Whitney tests were used to detect differences among and between groups, respectively. Spearmans correlations were used to detect any associations among faculty demographics and their practices and opinions. In order to protect against Type I errors when running multiple tests, the alpha level was set at $\alpha=0.001$. The three 5-point Likert scales measuring opinions were collapsed into 3 point

scales. The three 5-point Likert scales measuring practices were collapsed into 4 point scales. Comments were transcribed and analyzed for themes.

CHAPTER III

RESULTS

Demographics

A total of two hundred and thirty-two dental hygiene faculty were surveyed. An overall response rate of 41% (n=95) was obtained. Complete data was obtained from 94 respondents. Table 1 illustrates the demographics of the participants in the study. Of the respondents, 94.7% (n=90) were female and 5.3% (n=5) were male. Age ranged from 24-60+ years, with a mean of 50.11 years and a standard deviation of 10.31 years. The majority of respondents were employed as Clinical Instructors (24.2%, n=23) and Assistant Professors (24.2%, n = 23), followed by Associate Professors (12.6%, n=12). The majority (72.6%, n=69) were full-time faculty. The majority (53.7%, n=51) held a Master's Degree, followed by a Bachelor's degree (33.7%, n=32).

Table 1. Demographics of Participants

	Total	
	#	%
Gender		
Male	5	5.3
Female	90	94.7
Total	95	100.0%
Age		
21-30	3	3.6
31-40	16	16.7
41-50	27	28.3
51-60	3	35.7
60+	15	15.7
Total	95	100.0%

Table 1. Continued

Years as Faculty		
0-5	26	27.4
6-10	15	15.8
11-15	20	21.1
16-20	13	13.6
21-25	7	7.3
26-30	6	6.3
31-35	7	7.4
36-40	0	0.0
40+	1	1.1
Total	95	100.0%
Title		
Clinical Instructor	23	24.2
Assistant Professor	23	24.2
Associate Professor	12	12.6
Professor	18	19.0
Director/Chair/Dean	15	15.8
Other	4	4.2
Total	95	100.0%
Employment Status		
Full-time	69	72.6
Part-time	26	27.4
Total	95	100.0%
Highest Degree		
Associates	6	6.3
Bachelor's	32	33.7
Master's Degree	51	53.7
Ed.D/Ph.D	2	2.1
DDS/DMD	4	4.2
Total	95	100.0%

Faculty Use

As seen in Tables 2, just over 84% (n=80) of faculty have had or currently have a FB account, reporting a mean of 251 friends (SD 10.31 years.) Over half of respondents spent less than one hour a week on FB. In Table 3, the overwhelming initial reason

reported for joining FB was to connect with family (71.3%, n = 57). Other reasons for using FB included: 1) reconnecting with people, (2) professional networking, and (3) belonging to special interest groups.

Of the faculty surveyed, 53.7% (n = 51) worked for an institution that prohibited faculty - student interactions on FB. Twenty percent (n = 19) worked for an institution that prohibited such interactions, while 3.2% reported their institution encouraged interactions between the two groups. Just over 22% (22.1%, n = 21) did not know what their institutional expectations were for faculty – student interactions on FB.

Table 2. Faculty Use of Facebook

	Total	
	#	%
FB Account		
Yes	80	84.2
No	15	15.8
Total	95	100.0%
Time Spent Per Week		
< 1 hour	51	63.7
1-4 hours	25	31.2
5-9 hours	3	3.8
10+ hours	1	1.3
Total	80	100.0%
FB Friends With Students		
Yes	10	12.5%
No	70	87.5%
Total	80	100.0%

Table 3. Faculty Reasons for Using FB

	#	Total %
Initial Reason for Joining FB		
To connect with family	57	71.3%
To re-connect with people	7	8.7%
It was the new fad	6	7.5%
Pressure from others	4	5.0%
Professional networking	4	5.0%
To connect with students	2	2.5%
Belong to special groups	0	0.0%
Total	80	100.0%
Current Reasons for FB Use		
To connect with family	73	
To re-connect with people	21	
Professional networking	13	
Belong to special groups	8	
To connect with students	5	
It was the new fad	1	
Pressure from others	1	
I am no longer on FB	1	
Other:		
SADHA group only	1	
Follow my children	1	
“Like” advertisers	1	
Share photos	1	

Student/ Faculty Interactions - Opinions

As seen in Table 4, there was a strong consensus regarding faculty/student interactions on FB. Just over 69% (n = 65) of faculty disagreed with the statement, “it is appropriate for faculty and current students to interact on FB.” Almost 78% (n = 73) worked hard to keep their personal life separate from their personal lives. An overwhelming majority of faculty (83%, n = 78) felt it was inappropriate for faculty to share personal information with students on FB and that the line between faculty and

students is blurred because of FB use (68%, n = 64). Just over 54% of faculty (n = 51), felt a separate page for interactions with students was warranted. An overwhelming majority of faculty (79.3%, n = 74) agreed that institutions should have guidelines in place for faculty interaction with students.

Table 4. Student/ Faculty Interactions – Opinions

Question	Response: “Strongly Disagree” or “Disagree”	Response: “Neutral”	Response: “Agree” or “Strongly Agree”	Total
<i>Please indicate your agreement with the following statements</i>				
It is appropriate for faculty and current students to interact on FB.	65 (69.1%)	20 (21.3%)	9 (9.6%)	94 (100%)
Faculty should use a separate FB page for interactions with students.	15 (15.9%)	28 (29.8%)	51 (54.3%)	94 (100%)
I work hard to keep my personal life separate from my professional life.	5 (5.3%)	12 (12.8%)	73 (77.6%)	90 (95.7%)
It is appropriate for faculty to share personal information with students via FB.	78 (83%)	14 (14.9%)	2 (2.1%)	94 (100%)
Institutions should have guidelines for faculty interactions with students on FB.	8 (8.3%)	12 (12.4%)	74 (79.3%)	94 (100%)
I feel the line between faculty and students is blurred because of FB interaction.	12 (12.7%)	18 (19.2%)	64 (68.1%)	94 (100%)

Student/ Faculty Interactions - Practices

Of the ten faculty who answered they were friends with current undergraduate students on FB, four proceeded to answer the remainder of the questions. Table 5 gives

insight to the extent to which this small subset of respondents are interacting with students on FB. All faculty “sometimes” received friend requests from students but never initiated the friendship by sending a friend request to an undergraduate student. Responses varied as to whether faculty accepted friend requests from current undergraduate students. Three out of four faculty “almost always” or “always” accepted friend requests once students graduate. All faculty commented on students posts/pictures/status updates “sometimes,” and three of the faculty reported that students comment on faculty posts “some of the time.” Sending and receiving private messages regarding personal matters between faculty and students was reported by only one faculty member. All faculty admitted not having a separate “professional” FB page for interactions with students. Because students had access to the faculty’s personal FB page, faculty censored personal information on some level knowing that students could view it.

Table 5. Student/ Faculty Interactions - Practices

Question	Response: “Never”	Response: “Sometimes”	Response: “Fairly Often”	Response: “Almost Always” or “Always”	Total
<i>Please indicate the level of interaction you have or have had with current undergraduate students with Facebook.</i>					
I receive friend requests from students.	0	4	0	0	4
I accept friend requests with from students.	1	1	0	2	4
I accept friend requests after students graduate.	1	0	0	3	4

Table 5. Student/ Faculty Interactions - Practices Continued

I send friend requests to students.	4	0	0	0	4
Students comment on my posts, pictures and status updates.	1	3	0	0	4
I comment on student's posts, pictures and status updates.	0	4	0	0	4
I send private messages to students on FB about personal issues.	3	1	0	0	4
I receive private messages on FB from students regarding personal issues.	3	1	0	0	4
I censor personal information on FB knowing students can view it.	0	0	1	3	4

Academic Uses- Practices

None of the participants reported using FB for academic purposes as seen in Table 6. Only one faculty “sometimes” used FB to privately message students regarding class or clinic issues, while two faculty reported that students “sometimes” messaged them with an issue related to class or clinic.

Table 6. Academic Uses - Practices

Question	Response: “Never”	Response: “Sometimes”	Response: “Fairly Often”	Response: “Almost Always” or “Always”	Total
<i>Please indicate how often you have encountered the following scenarios</i>					
I use FB for academic purposes.	4	0	0	0	4
I post academic information on FB for students to view and interact with.	4	0	0	0	4
I message students privately on FB related to class/clinic.	3	1	0	0	4
Students message me privately on FB related to class/clinic.	2	2	0	0	4

Academic Uses - Opinions

As illustrated in Table 7, three faculty remain neutral as to whether or not there are academic advantages to being friends with undergraduate students or whether being friends with them on FB makes them more approachable. All faculty preferred using other web-based forms of communication to communicate with students over FB.

Table 7. Academic Uses – Opinions

Question	Response: “Strongly Disagree” or “Disagree”	Response: “Neutral”	Response: “Agree” or “Strongly Agree”	Total
<i>Please indicate your agreement with the following statements</i>				
Being friends with student has academic advantages.	0	3	1	4
I feel more approachable to students if I am friends with them on FB.	0	3	1	4

Table 7. Academic Uses – Opinions Continued

I believe students are more open to learning because we are friends on FB.	2	2	0	4
I prefer communicating with students through FB over other forms of web-based communication.	4	0	0	4

Ethics - Practices

Table 8 shows all respondents “sometimes” observed student behavior on FB that called into question the student’s professionalism. While one faculty member had considered “unfriending” a student over content on his/her FB page, no faculty members had actually “unfriended” a student. While none of the faculty discussed content on a student’s page with another student, three “sometimes” discussed a student’s FB content with another faculty member. Faculty unanimously believed they never graded a student more leniently or more harshly than the student deserved based on content on the student’s FB page.

Table 8. Ethics – Practices

Question	Response: “Never”	Response: “Sometimes”	Response: “Fairly Often”	Response: “Almost Always or Always”	Total
<i>Please indicate how often you have encountered the following scenarios</i>					
I have discussed one student’s FB content with another student.	4	0	0	0	4
I observed student behavior on FB that calls into question their professionalism.	0	4	0	0	4

Table 8. Ethics – Practices Continued

I have discussed a student's FB content with another faculty member.	1	3	0	0	4
I have graded a student more harshly than they deserve because of content on their FB page.	4	0	0	0	4
I have graded a student more leniently than they deserve because of content on their FB page.	4	0	0	0	4
I have considered "unfriending" students due to the content on their FB page.	3	1	0	0	4
I have "unfriended" students due to content on their FB page.	4	0	0	0	4

Ethics - Opinions

As Table 9 demonstrates, all faculty disagreed that content on a student's FB page caused them to question students' ability to treat patients. Three were neutral when reporting whether or not they felt they knew too much personal information about students because of FB interactions and two were neutral in regards to their comfort level of students posting on the faculty's page. While one faculty was neutral, three reported that they never scrutinized a student's work more closely, or never thought more or less favorably of students because of content on their FB page.

Table 9 Ethics – Opinions

Question	Response: “Strongly Disagree” or “Disagree”	Response: “Neutral”	Response: “Agree” or “Strongly Agree”	Total
<i>Please indicate your agreement with the following statements.</i>				
I feel I know too much about the personal lives of students because of FB interactions.	1	3	0	4
I am/ was comfortable with students posting on my FB page	1	2	1	4
Content from a student’s FB page has made me scrutinize their work more closely.	3	1	0	4
Content from a student’s FB page has made me see them in an unfavorable light.	3	1	0	4
Content from a student’s FB page has caused me to think more favorable of them.	3	1	0	4
Content from a student’s FB page has caused me to question their ability to treat patients.	4	0	0	4

Factors Associated with Student-Faculty Interactions on FB

Spearman correlations revealed several highly significant associations between attitudes about the faculty-student relationship and appropriateness of using FB.

Specifically, faculty who tended towards strongly agreeing that they work hard to keep their personal life separate from their professional lives also tended towards strongly agreeing that it was inappropriate to interact with students on FB ($\rho = -.366, p \leq 0.001$). Similarly, those who worked hardest to keep their personal life separate from their professional lives felt it was least appropriate to share personal information with students ($\rho = 0.542, p \leq 0.001$). In Table 4, where the five possible responses have

been collapsed into three (agree, neutral and disagree), one can see that the majority of faculty are uncomfortable using FB for personal interactions with students: 54.3% (n = 51) believed that faculty should use separate FB pages for interacting with students, 77.6% (n = 73) wish to keep their personal and professional lives separate, 83% (n = 78) believe that it is inappropriate to share personal information with students via FB, 79.3% (n = 74) would like faculty guidelines for FB use with students, and 68.1% (n = 64) feel that the line between faculty and students is blurred by FB interactions. No significant relationships were found between responses on questions concerning appropriateness of interactions with students on FB with factors such as age ($\rho = -0.038$), gender ($\rho = 0.066$), teaching experience ($\rho = -0.055$), highest degree earned ($\rho = 0.214$) or title ($\rho = -0.175$).

Open-ended Comments

Of the 95 respondents, 53 provided comments regarding faculty interaction with current undergraduate students (Table 10). Four common themes emerged: (1) there was potential for a blurring of lines when interactions occur between faculty and students (2) interactions were acceptable following graduation, (3) faculty desired institutional guidelines (4) concerns about inappropriate content posted on student's FB timeline.

Some faculty viewed FB as an acceptable way to quickly disseminate school-related information. Faculty also commented that FB lends itself as a method to track graduates and their job placements, as well as provide an avenue to foster alumni relations and announce alumni events and CE opportunities.

In terms of the educational process, faculty commented, “FB is called *social* media and education is not a social event”, “Interaction between the groups interferes with the educational process” and “respect is lost when students are friends with faculty on FB.”

Specific ethical dilemmas and concerns were also reported. One faculty member reported being caught in an ethical dilemma when he/she accidentally accepted one friend request from a student and wanted to “unfriend” the student but “felt it would be rude to do so.” Another faculty raised concerns of grading biases saying, “Faculty cannot be objective - I have seen grading biases and favoritism created in the clinic.” Another faculty member felt that since social media is permanent, faculty should stay away from FB all together and such interactions between faculty and students should not be allowed. Other faculty members found it acceptable to interact with students as long as there was a social media policy in place. In regards to best practices, faculty reported that both students and faculty should censor content when posting on FB, knowing that each other had access to view it.

Table 10. Open-ended Comments

Dominant Themes	Sample Comments
Blurring of the lines (n = 12)	<p>“It is an important part of professional education to maintain boundaries and these boundaries are crossed with both groups are friends.”</p> <p>“Students may think of faculty as friends and respect is sometimes lost.”</p> <p>“Faculty can be ‘too friendly’ on FB and the lines do get blurred [in the area of] on respect.”</p> <p>“If faculty shares too much of their personal life with students, students can confuse the relationship and this could interfere with the educational process.”</p> <p>“There needs to be separation between faculty and students.”</p> <p>“Students do not need to know my personal business while they are students.”</p> <p>“A relationship with students might make it hard to not be partial when grading students.”</p> <p>“Faculty should maintain on a professional level with students- FB is not the place for it.”</p> <p>“Interactions have created issues with inaccurate clinic information, gossip about course directors and favoritism.”</p> <p>“May be an abuse of position if the faculty member ‘friends’ the student.”</p> <p>“Personal life should be kept separate from professional life.”</p>
Acceptable after graduation (n = 12)	<p>“I am friends with students once they graduate. It’s very important to have a clear distinction between faculty and students.”</p> <p>“There is always time to be friends with students once they graduate and become colleagues.”</p> <p>“I wish I had not accepted friend requests from students but feel rude to delete them.”</p> <p>“ There should be a 3-5 year moratorium on being FB friends with students after graduation”</p> <p>‘Even after graduation, I limit what students can know about me on FB.’</p>
Institutional Guidelines Desired (n = 7)	<p>“We need better overall guidelines for ALL social media [use] between faculty and students.”</p> <p>“Interactions should be regulated by the institutions.”</p> <p>“In my opinion, there should be institutional policies regarding this. We have had harmful instances occur at our university.”</p>

Table 10. Open-Ended Comments Continued

Inappropriate Content (n= 6)	“Students need to understand the permanent nature of electronic communications.” “A professional demeanor should always be upheld regardless of student status.” “We encourage students to consider carefully what they post on FB.” “Professionals should consider posting on FB only information that reflects who you are as a professional.” “[A FB relationship] may work out well if there are certain boundaries outlined.” “Institutions should not tell faculty what to do- it should be personal choice based on the comfort level of the individual.”
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CHAPTER IV

DISCUSSION AND CONCLUSION

This study showed that, while the majority of faculty have a FB account, very few interact with students on the social media site. Faculty also felt it was inappropriate to interact with students on FB. Major themes identified in the qualitative data were a concern over the potential for the blurring of lines between faculty and students, becoming friends with students only after they graduate, a need for institutional guidance, and concern over content posted on FB's page. Faculty who interact with students on FB reported not using a separate FB page exclusively for student interactions, never initiating a friend request, their evaluations of students not being influenced by FB relationships, and seeing content on the students' timeline call into question the students' professionalism. Only a quarter of faculty worked for an institution that provided social media guidelines regarding faculty student interactions, and the majority of faculty believed institutions should provide guidelines to help faculty navigate gray areas of social media interaction with students.

The finding that a large percentage of faculty have FB accounts but few use it for student interactions is similar to the Metzger et al. and Arnett et al.^{5,13} The top two reasons faculty use FB is to stay in touch with family and friends. Faculty in this study also used FB for professional networking and belonging to special interest groups.

In regards to appropriateness of interactions, the majority of faculty felt it was inappropriate to interact with current undergraduate students on FB. These findings differ from the Sturgeon and Walker study. This study found a large majority of faculty interacted with students on FB. Contrary to findings in Chretien et al. where faculty under age 45 were less likely to view FB interactions with students as inappropriate,¹⁵ no statistically significant relationship existed in this study between age, gender and teaching experience and interactions with students on FB. As younger dental hygiene faculty who feel more comfortable using social media fill vacant faculty positions, more social media applications may be used in the academic setting.

Statistically significant relationships were found among several variables. Faculty who worked hard to keep their personal lives separate from their professional lives also felt it was inappropriate to both interact with students and to share personal information with students on FB. This is not surprising since FB is a highly personal social networking site, where much of a person's life is shared in a very public forum.

Concerns surfaced in this study that interactions between the two groups may "interfere with the educational process" citing that FB was originally created for social purposes. Another faculty concern was the potential for "legal fall out" if certain online conversations between faculty and students were made public. Citing the seriousness in the potential breach in the faculty-student relationship, one faculty member advised that "all faculty should avoid this social network."

In this study, dental hygiene faculty reported they used FB for program related purposes. These included quickly disseminating school-related information, a closed

group page for the Student Chapter American Dental Hygienists' Association, tracking job placements of graduates, alumni outreach, and advertising CE courses. While FB may not be best suited for use in academia because of its social and personal nature, it can be a vehicle to disperse information for groups such as current classes or alumni.

Both qualitative and quantitative data in this study point to congruency of opinions among dental hygiene faculty and other health professions educators who consider “friending” students inappropriate.¹³⁻¹⁵ Faculty across all disciplines feel “friending” students is inappropriate, increasing the risk for an abuse of position. It may also place the student in the awkward position of feeling obligated to accept the friend request.²⁰ As with other health care professions, there seems to be consensus with dental hygiene faculty members that it is much more acceptable to be “friends” with a student once they graduate and become colleagues.¹⁵

Researchers in this study sought to investigate whether or not grading biases were created due to content on students' FB pages. Faculty admitted they viewed “inappropriate” content on students' FB page, which is consistent with previous literature.^{18,19,34} Although no biases were reported, it is difficult to know if that is because no grading biases exist or if faculty cannot objectively assess if they grade students differently because of FB interactions. Faculty are also aware that students have access to the faculty member's personal FB page and faculty chose not to post certain personal information to ensure their professionalism was not called into question.

In order to maximize benefits and minimize harms, dental hygiene programs should consider educating both students and faculty in best practices to frame

expectations for social media use and interaction. Guidelines should address areas such as professional content on SNSs, privacy settings, HIPAA compliance, and appropriateness of relationships between both groups. By setting forth guidelines, both groups may be better prepared for the opportunities and pitfalls associated with social media practices.

Limitations and Future Research

One limitation of this study was the response rate. It did not represent the majority of the dental hygiene faculty in the states surveyed. The sample size was initially broadened to three states with the intent of capturing enough subjects for each group. Unbeknownst to the researchers, very few faculty have been or were currently friends with students at the time of survey. This left a very small group (n =10) that had actual experience with undergraduate students on FB.

Selection bias may be a second limitation of this study. The number of faculty interacting with students on FB may be higher than what was reported. Knowing FB interactions may be a controversial topic, faculty who interacted with students may not have completed the survey or answered honestly.

Future research could survey a larger population of dental hygiene faculty to capture a broader look into the actual experiences of faculty interacting with students on FB. Second, investigating which areas of social media interaction that most concerned faculty may give insight to developing best practices. Developing best practices to guide interactions between both faculty and students may prove to be beneficial for both groups navigating the gray areas of interaction on social media platforms.

Conclusion

While this study demonstrated only a small percentage of dental hygiene faculty use FB to interact with undergraduate students, faculty had concerns about the implications of interactions with students. Furthermore, dental hygiene faculty see FB being best utilized for social purposes and not as a platform for academic use. Finally, the majority of faculty desired institutions to provide best practice guidelines, assisting them in navigating the gray areas of social networking relationships. As social networking continues to evolve and dominate in the future, future research is necessary so that dental and dental hygiene educators are better equipped to meet the demands of this growing trend.

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APPENDIX A
SURVEY

Demographics

1. What is your gender? <input type="checkbox"/> Male (1) <input type="checkbox"/> Female (2)
2. What is your age? _____
3. How many years have you been a dental hygiene faculty member? <input type="checkbox"/> 0-5 (1) <input type="checkbox"/> 6-10 (2) <input type="checkbox"/> 10-15 (3) <input type="checkbox"/> 16-20 (4) <input type="checkbox"/> 21-25 (5) <input type="checkbox"/> 26-30 (6) <input type="checkbox"/> 31-35 (7) <input type="checkbox"/> 36-40 (8) <input type="checkbox"/> 40+ (9)
4. What is your title? <input type="checkbox"/> Clinical Instructor (1) <input type="checkbox"/> Assistant Professor (2) <input type="checkbox"/> Associate Professor (3) <input type="checkbox"/> Professor (4) <input type="checkbox"/> Director/Chair/Dean (5) <input type="checkbox"/> Other (6)
5. Check your employment status: <input type="checkbox"/> Part-time (1) <input type="checkbox"/> Full-time (2)
6. What is your highest degree earned? <input type="checkbox"/> Associate's (1) <input type="checkbox"/> Bachelor's (2) <input type="checkbox"/> Master's Degree (3) <input type="checkbox"/> Ph.D (4) <input type="checkbox"/> DDS or DMD (5)
7. My institution: <input type="checkbox"/> Prohibits faculty interaction with current students on FB (1) <input type="checkbox"/> Encourages faculty interaction with current students on FB (2) <input type="checkbox"/> Neither prohibits nor encourages faculty interactions with current students on FB(3) <input type="checkbox"/> I don't know (4)

Faculty Opinions

Please indicate your agreement with the following statements.	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
8. It is appropriate for faculty and current students to interact on FB.					
9. Faculty should use a separate FB page for interactions with students.					
10. I work hard to keep my personal life separate from my professional life.					
11. It is appropriate for faculty to share personal information with students via FB.					
12. Institutions should have guidelines for faculty student interactions on FB.					
13. I feel the line between faculty and students is blurred because of FB interaction.					

Faculty Practices

14. Do you currently have a Facebook (FB) account? <input type="checkbox"/> Yes (1) <input type="checkbox"/> No (2) (If no, skip to question 56)
15. Which best describes how often you access your FB account? <input type="checkbox"/> Never (1) <input type="checkbox"/> Less than once a week (2) <input type="checkbox"/> Weekly (3) <input type="checkbox"/> 1 time a day (4) <input type="checkbox"/> 3-5 times a day (5) <input type="checkbox"/> 5+ times a day (6)

Faculty Practices continued

16. In the course of a week, how much time do you spend on FB?
 less than one hour
 1-4 hours
 5-9 hours
 10+hours

17. What was your **initial** reason for joining FB? (Choose 1)
 to connect with family and friends (1)
 pressure from others (2)
 it was the new “fad” (3)
 to re-connect with people from my past (4)
 to connect with students (5)
 to belong to special interest groups (6)
 for professional networking/self-promotion/ (7)
 other (8) _____

18. What are your **current** reasons for using FB? (check all that apply)
 to connect with family and friends (1)
 pressure from others (2)
 it is the new “fad” (3)
 to re-connect with people from my past (4)
 to connect with students (5)
 to belong to special interest groups (6)
 for professional networking/self-promotion/ (7)
 other (8) _____

19. How many FB friends do you currently have? _____

20. I am friends with current undergraduate students on FB.
 Yes (1) If yes, how many? _____
 No (2) If no, skip to question 56

21. Do you have a separate FB account used exclusively for student interaction?
 Yes (1)
 No (2)

Student/ Faculty Interactions Practices

Please indicate the level of interaction you have with current undergraduate students on Facebook.	Never (1)	Sometimes (2)	Fairly Often (3)	Almost Always (4)	Always (5)
22. I receive friend requests from students.					
23. I accept friend requests from students.					

***Student/ Faculty Interactions
Practices continued***

24. I accept friend requests after students graduate.					
25. I send friend requests to students.					
26. Students comment on my posts, pictures and status updates.					
27. I comment on student's posts, pictures and status updates.					
28. I send private messages on FB to students about personal issues.					
29. I receive private messages on FB from students regarding personal issues.					
30. I censor personal information on FB knowing students can view it.					

***Student/ Faculty Interactions
Opinions***

Please indicate your agreement with the following statements.	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
31. I am comfortable receiving friend requests from current undergraduate students.					
32. Students are comfortable with faculty presence on FB.					
33. I like knowing more about the personal life of students through FB.					

Academic Uses

Practices

Please indicate your level of FB interaction for academic purposes.	Never (1)	Sometimes (2)	Fairly Often (3)	Almost Always (4)	Always (5)
34. I use FB for academic purposes.					
35. I post academic information on FB for students to view and interact with.					
36. I message students privately on FB related to class/clinic.					
37. Students message me privately on FB related to class/clinic.					

Academic Uses

Opinions

Please indicate your agreement with the following statements.	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
38. Being friends with students on FB has academic advantages.					
39. I feel more approachable to students if I am friends with them on FB.					
40. I believe students are more open to learning because we are friends on FB.					
41. Communicating with students through FB is as effective as other web based forms of communication (i.e. Blackboard, email).					

Academic Uses

Opinions continued

42. I prefer communicating with students through FB over other forms of web-based communication.					
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Ethics

Practices

Please indicate how often you have encountered the following scenarios on FB.	Never (1)	Sometimes (2)	Fairly Often (3)	Almost Always (4)	Always (5)
43. I have discussed a student's FB content with another student.					
44. I observe student behavior on FB that calls into question their professionalism.					
45. I have discussed a student's FB content with another faculty member.					
46. I have graded a student more harshly than they deserved because of content on their FB page.					
47. I have graded a student more leniently than they deserved because of content on their FB page.					
48. I have considered "unfriending" students due the content on their FB page.					

Ethics

Practices continued

49. I have “unfriended” students in the past due to content on their FB page.					
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Ethics

Opinions

Please indicate your agreement with the following statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
50. I feel I know too much about the personal lives of students because of FB interactions.					
51. I am comfortable with student posting on my FB page.					
52. Content from a student’s Facebook page has made me scrutinize their work more closely.					
53. Content from a student’s FB page has made me see them in an unfavorable light.					
54. Content from a student’s FB page has caused me to think more favorably of them.					
55. Content from a student’s FB page has caused me to question their ability to competently treat patients.					

56. I once maintained a FB relationship with undergraduate students but no longer do.
___yes (1)
___no (2) If no, skip to #58.

57. If you once maintained a FB relationship with current undergraduate students but are not currently connected, what is the reason? (Rank the top two with 1 being the highest and 2 being the second highest.)
___I do not have time to interact with students on FB (1)
___I closed my FB account for personal reasons (2)
___I do not want my students to know about my personal life (3)
___I found it difficult to treat students fairly once I saw the content on their Facebook page (4)
___I do not want to know what students do outside of school (5)
___I felt the line between student and faculty became blurred (6)
___I did not want students to be uncomfortable with my presence on FB (7)
___Other (8) (please describe)

58. Is there anything else you would like to add about practices, opinions and experiences regarding the use of FB between faculty and current undergraduate students?
