

Using SAS to Examine Social Networking Difference between Faculty and Students

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ABSTRACT

Social networking is very important for nursing students and faculty. There are many social networking websites, such as Twitter, Yammer, LinkedIn, and Facebook. Facebook is by far the most popular and perhaps most well known social networking website. The purpose of this presentation is using SAS to examine if there was a difference on social networking beliefs and practice between faculty and students. A survey was developed and sent electronically to all nursing students and faculty members at a university based college of nursing located in the southeastern United States. PROC FREQ and T-TEST were used to examine the difference by group. The data showed some differences on social networking beliefs and practices between students and faculty.

Keywords: SAS, Social Networking, Nursing

University of South Carolina, College of Nursing.

INTRODUCTION

Many people including nursing students and faculty use social networking. There are many social networking websites for example, Twitter, Yammer, and LinkedIn, and Facebook. Facebook is the most popular and well known social networking website. Nurses use social networking as do other professionals. However, the problem within the nursing field is that there have been instances of misuse by nurses and nursing students resulting in the unintentional or intentional violation of patient privacy. Some of the misuse of social networking could be a result of a lack of knowledge of the ethical issues that we now face as a profession due to social networking. Additionally, nursing schools and hospitals may not have policies and procedures in place to regulate the ethical use of social networking in their programs.

PURPOSE

The purpose of this presentation is using SAS to examine if there was a difference on social networking beliefs and behavior between faculty and students.

BACKGROUND

A survey was developed and sent electronically to all nursing students (undergraduate and graduate) and all faculty members at a university based college of nursing located in the southeastern United States. The study was approved by the Office of Research and Institutional Review Board at the university. All faculty members agreed to have students contacted through the online portal for their course. Survey Monkey was used to collect online data. Two surveys (student and faculty) were sent electronically to over a thousand nursing students and faculty members. Inclusion criteria for student participation included current enrollment as an undergraduate or graduate student at the university and the ability to read and write English. Faculty criteria required a current faculty position at the university, ability to read and write English and current licensure as an RN. The survey included a brief 22 question survey to better understand how the respondents used and perceived social networking. The questions include Likert scales and open ended questions (Figure 1).

DATA ANALYSES

All data analyses were performed using **SAS/STAT**® statistical software, version 9.3 (SAS, 2008). Two data sets (student and faculty) were combined (attachment A: SAS syntax). PROC MEAN and FREQ used to describe the data. PROC FREQ and T-TEST were used to examine the difference on social networking by group.

RESULTS

Table 1 indicates the frequency distribution of social media questions by group (student and faculty). The Chi-Square result indicates that there were associations with the group between the use of social media ($p=0.0006$), social media site used ($p=0.0012$), average times per week the social media site is used ($p=0.0001$), if they received/ provided

guidance on social media etiquette and ethics ($p=.0345$), if social networking etiquette was discussed in class ($p=.009$), if social networking policies should be made in schools of nursing ($p=.028$), and if a policy should be made at the individual school of nursing where the study was conducted ($p=.0005$). Table 2 Table 2 indicates mean, standard deviation, and minimum-maximum for social media questions by group. T-test results revealed there were significant differences between students and faculty for average of policies are desirable ($p=.0127$), policies and discipline ($p=.0315$), and policy at the school where the study was conducted ($p=.0013$).

CONCLUSION

PROC FREQ and T-TEST used to examine social networking questions difference by students and faculty. There were some difference between students and faculty on social networking. However, both students and faculty who participated in this study supported the development of a social networking policy.

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On average, how often do you use your social media networking account?

- Once weekly
- Two-three times a week
- Four-five times a week
- At least once daily
- I do not have a social media networking account

It is acceptable to “friend” a patient that I have taken care of.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Don't know what this means

It is acceptable to “friend” a patient that I have taken care of if I built a really good relationship with them and felt a strong bond between us.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Don't know what this means

As a nursing student and future professional registered nurse, I should be held to a higher standard as to what I post on my social media networking account.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

I have seen things posted by nurses and/or nursing students on social media websites that I considered to be unprofessional.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

I believe that social media networking policies in schools of nursing and healthcare facilities are a good thing and would better educate nursing students and nurses on proper etiquette for social networking.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

I believe that a social networking policy needs to be adopted by State Boards of Nursing.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Figure1. Sample of Questions Social Networking survey

Table of Group by q2			
Group	q2(use social media)		
Frequency Percent Row Pct Col Pct	No	Yes	Total
Student	26 8.70 9.77 72.22	240 80.27 90.23 91.25	266 88.96
Faculty	10 3.34 30.30 27.78	23 7.69 69.70 8.75	33 11.04
Total	36 12.04	263 87.96	299 100.00
Frequency Missing = 7			

χ^2 P Value =.0006

Table of Group by q3g				
Group	q3g(social media site used)			
Frequency Percent Row Pct Col Pct	No social media account	Facebook	Other	Total
Student	17 5.61 6.30 68.00	213 70.30 78.89 91.81	40 13.20 14.81 86.96	270 89.11
Faculty	8 2.64 24.24 32.00	19 6.27 57.58 8.19	6 1.98 18.18 13.04	33 10.89
Total	25 8.25	232 76.57	46 15.18	303 100.00
Frequency Missing = 3				

χ^2 P Value =.0012

Table of Group by q12			
Group	q12(etiquette talk for nurses)		
Frequency Percent Row Pct Col Pct	No	Yes	Total
Student	130 43.92 49.06 93.53	135 45.61 50.94 85.99	265 89.53
Faculty	9 3.04 29.03 6.47	22 7.43 70.97 14.01	31 10.47
Total	139 46.96	157 53.04	296 100.00
Frequency Missing = 10			

χ^2 P Value =.0001

Table of Group by q4g				
Group	q4g(average times per week)			
Frequency Percent Row Pct Col Pct	No social media account	once two four times a week	At least once daily	Total
Student	18 6.04 6.72 69.23	60 20.13 22.39 81.08	190 63.76 70.90 95.96	268 89.93
Faculty	8 2.68 26.67 30.77	14 4.70 46.67 18.92	8 2.68 26.67 4.04	30 10.07
Total	26 8.72	74 24.83	198 66.44	298 100.00
Frequency Missing = 8				

χ^2 P Value =.0345

CONTINUED

Table of Group by q13g			
Group	q13g(etiquette topic in class)		
Frequency Percent Row Pct Col Pct	Never/Very rarely/Rarely	Some/Freq/Very Freq	Total
Student	186 63.05 70.19 93.00	79 26.78 29.81 83.16	265 89.83
Faculty	14 4.75 46.67 7.00	16 5.42 53.33 16.84	30 10.17
Total	200 67.80	95 32.20	295 100.00
Frequency Missing = 11			

χ^2 P Value =.009

Table of Group by q16g			
Group	q16g(make policies in schools)		
Frequency Percent Row Pct Col Pct	Don't care/Not important	Yes/very important	Total
Student	48 16.49 18.53 97.96	211 72.51 81.47 87.19	259 89.00
Faculty	1 0.34 3.13 2.04	31 10.65 96.88 12.81	32 11.00
Total	49 16.84	242 83.16	291 100.00
Frequency Missing = 15			

χ^2 P Value =.028

Table of Group by q21g			
Group	q21g(policy and SITE nursing)		
Frequency Percent Row Pct Col Pct	Disagree/Strongly Disagree	Agree/Strongly Agree	Total
Student	97 33.80 37.89 97.98	159 55.40 62.11 84.57	256 89.20
Faculty	2 0.70 6.45 2.02	29 10.10 93.55 15.43	31 10.80
Total	99 34.49	188 65.51	287 100.00
Frequency Missing = 19			

χ^2 P Value =.0005

Table1. Frequency distribution for social media by group

Group	Variable	Label	N	Mean	Std Dev	Minimum	Maximum
Student	q5	friend a patient	266	1.58	0.62	1.00	3.00
	q6	friend a patient with a bond	266	1.91	0.72	1.00	4.00
	q7	talk about clinical experience	266	3.23	0.71	1.00	4.00
	q9	social media post and HIPPA	265	2.75	0.84	1.00	4.00
	q10	RN standards and media post	265	3.18	0.71	1.00	4.00
	q11	unprofessional posts	263	2.84	0.85	1.00	4.00
	q17	policies are good ^a	258	3.05	0.66	1.00	4.00
	q18	policies and discipline ^b	258	3.04	0.69	1.00	4.00
	q19	policies and patients	257	3.16	0.72	1.00	4.00
	q20	policy and state boards	258	2.72	0.82	1.00	4.00
	q21	policy and SITE nursing ^c	256	2.67	0.88	1.00	4.00
	q22	college and Facebook	257	2.81	0.75	1.00	4.00
Faculty	q5	friend a patient	33	1.76	0.75	1.00	4.00
	q6	friend a patient with a bond	33	1.79	0.82	1.00	4.00
	q7	talk about clinical experience	33	3.36	0.86	1.00	4.00
	q9	social media post and HIPPA	32	2.88	0.91	1.00	4.00
	q10	RN standards and media post	32	3.31	0.59	2.00	4.00
	q11	unprofessional posts	26	3.12	0.71	2.00	4.00
	q17	policies are good	32	3.34	0.60	2.00	4.00
	q18	policies and discipline	31	3.32	0.60	2.00	4.00
	q19	policies and patients	32	3.19	0.74	1.00	4.00
	q20	policy and state boards	30	2.73	0.94	1.00	4.00
	q21	policy and SITE nursing	31	3.19	0.54	2.00	4.00
	q22	college and Facebook	32	2.91	0.86	1.00	4.00

a. T-Test P value=.0127, b. P value=.0315, c. P Value=.0013

Table2. Descriptive Statistics for Social Media Scale by group

ATTACHMENT A

SAS Syntax

FORMATTING VARIABLE

proc format;

```
    value q1f 1="Freshman"
              2="Sophomore"
              3="Junior"
              4="Senior"
              5="Graduate student" ;
    value q2f 1="No"
              2="Yes" ;
    value q3f 1="No social media account"
              2="Facebook"
              3="Myspace"
              4="Twitter"
              5="LinkedIn"
              6="Other" ;
    value q3gf 1="No social media account"
               2="Facebook"
               3="Other" ;
    value q4f 1="No social media account"
              2="Once weekly"
              3="Two to three times a week"
              4="Four times a week"
              5="At least once daily" ;
    value q4gf 1="No social media account"
               2="once two four times a week"
               3="At least once daily" ;
    value q5f 1="Don't know"
              2="Strongly Disagree"
              3="Disagree"
              4="Agree"
              5="Strongly Agree" ;
    value q7f 1="Strongly Disagree"
              2="Disagree"
              3="Agree"
              4="Strongly Agree" ;
    value q7gf 1="Disagree/Strongly Disagree"
               2="Agree/Strongly Agree" ;
    value q13f 1="Never"
               2="Very rarely"
               3="Rarely"
               4="Sometimes"
               5="Frequently"
               6="Very Frequently" ;
    value q13gf 1="Never/Very rarely/Rarely"
                2="Sometimes/Frequently/Very Frequently" ;
    value q15f 1="Not familiar"
              2="In class"
              3="Nursing journal"
              4="Professional nursing organization"
              5="The internet" ;
    value q16f 1="Don't care"
              2="Not important"
              3="Yes,somewhat important"
```

```

4="Yes,very important" ;
value q16gf 1="Don't care/Not important"
2="Yes,somewhat/very important" ;
Value groupf 1="Student"
2="Faculty" ;

```

```

DATA ONE;
set smp.stud;
run;

```

STUDENT DATA

```

data stud (keep= group q2-q13 q15-q22) ;
set one;
array items q0001-q00022;
array itemsb q1-q22;
do over items;
itemsb=items;
end;
Group=1; STUDENT
run;

```

FACULTY DATA

```

data fact (keep = group q2-q14 q16-q22) ;
set smp.faculty;

array itemf q0001-q0013 q0015-q0021;
array itemfb q2-q14 q16-q22;
do over itemf;
itemfb=itemf;
end;

group=2; FACULTY
run;

```

MERGING BOTH DATA

```

data all;
set stud fact;
format group groupf. q2 q8 q12 q14 q2f. q3 q3f. q4 q4f. q5 q6 q5f. q7 q9 - q11 q17 - q22 q7f.
q13 q13f. q16 q16f. ;
run;

```

```

data two;
set all;

array itemb q5 q6;
do over itemb;
if itemb=2 then itemb=1;
if itemb=3 then itemb=2;
if itemb=4 then itemb=3;
if itemb=5 then itemb=4;
end;

```

```

array itemc q7 q9;
do over itemc;
itemc = 5 - itemc;
end;

```

```

tsm = mean (of q5 q6 q7 q9 q10 q11 q17 q18 q19 q20 q21 q22);

```


COLLAPSING LEVELS:

if q3 = 1 then q3g=1;
else if q3=2 then q3g=2;
else if 2<q3<7 then q3g=3;

if q4 = 1 then q4g=1;
else if 1<q4<5 then q4g=2;
else if q4=5 then q4g=3;

if q5 = 1 or q5=2 then q5g=1;
else if q5=3 or q5=4 then q5g=2;

if q6 = 1 or q6=2 then q6g=1;
else if q6=3 or q6=4 then q6g=2;

if q7 = 1 or q7=2 then q7g=1;
else if q7=3 or q7=4 then q7g=2;

if q9 = 1 or q9=2 then q9g=1;
else if q9=3 or q9=4 then q9g=2;

if q10= 1 or q10=2 then q10g=1;
else if q10=3 or q10=4 then q10g=2;

if q11 = 1 or q11=2 then q11g=1;
else if q11=3 or q11=4 then q11g=2;

if q13 = 1 or q13=2 or q13=3 then q13g=1;
else if q13=4 or q13=5 or q13=6 then q13g=2;

if q16 = 1 or q16=2 then q16g=1;
else if q16=3 or q16=4 then q16g=2;

if q17 = 1 or q17=2 then q17g=1;
else if q17=3 or q17=4 then q17g=2;

if q18 = 1 or q18=2 then q18g=1;
else if q18=3 or q18=4 then q18g=2;

if q19 = 1 or q19=2 then q19g=1;
else if q19=3 or q19=4 then q19g=2;

if q20= 1 or q20=2 then q20g=1;
else if q20=3 or q20=4 then q20g=2;

if q21= 1 or q21=2 then q21g=1;
else if q21=3 or q21=4 then q21g=2;

if q22= 1 or q22=2 then q22g=1;
else if q22=3 or q22=4 then q22g=2;

label

q2 = " use social media"

q3 = " social media site used"

q3g = " social media site used"

q4 = " average times per week"

q4g = " average times per week"

q5 = " friend a patient"

q5g = " friend a patient"

```

q6 = " friend a patient with a bond"
q6g = " friend a patient with a bond"
q7 = " talk about clinical experiance"
q7g = " talk about clinical experiance"
q8 = " use other patient's id"
q8g = " use other patient's id"
q9 = " social media post and HIPPA"
q9 = " social media post and HIPPA"
q10 = " rn standards and media post"
q10g = " rn standards and media post"
q11 = " unprofessional posts"
q11g = " unprofessional posts"
q12 = " etiquette talk for nurses"
q13 = " etiquette topic in class"
q13g = " etiquette topic in class"
q0014 = " know NCSBN white paper"
q16 = " make policies in schools"
q16g = " make policies in schools"
q17 = " policies are good"
q17g = " policies are good"
q18 = " policies and discipline"
q18g = " policies and discipline"
q19 = " policies and patients"
q19g = " policies and patients"
q20 = " policy and state boards"
q20g = " policy and state boards"
q21 = " policy and SITE nursing"
q21g = " policy and SITE nursing"
q22 = " college and Facebook"
q22g = " college and Facebook"
tsm = " average/ total social media scale"
;
RUN;
ods rtf;
ods listing close;
proc freq data=two;
    tables    group *( q2 q3g  q4g  q5g q6g q7g q8 q9g
                        q10g q11g q12 q13g q16g    q17g q18g q19g q20g q21g q22g) /fisher;
    title ' frequency tables / chi-square ';
    title2 'Social Media policy / Student & Faculty';
    run;
ods rtf close;
ods listing; quit; run;

ods rtf;
ods listing close;
proc means data=two maxdec=2;
    var  q5 q6 q7 q9 q10 q11 q17 q18 q19 q20 q21 q22 tsm;
    title ' means/ ' ;
    title2 'Social Media policy / Student & Faculty';
    run;
proc means data=two maxdec=2;
class group;
    var  q5 q6 q7 q9 q10 q11 q17 q18 q19 q20 q21 q22 tsm;
    title ' means/ by group' ;
    title2 'Social Media policy / Student & Faculty';

run;
ods rtf close;
ods listing; quit;run;

```

```
ods rtf;
ods listing close;
%macro ttest (q);
proc ttest data=two plots=none;
  class &q;
  var  tsm q5 q6 q7 q9 q10 q11 q17 q18 q19 q20 q21 q22 ;
  title ' ttest ' ;
  title2 'Social Media policy / Student & Faculty';
run;

%mend ttest;
%ttest (group);
run;

ods rtf close;
ods listing; quit; run;
```