



HOW SOCIAL NETWORKING EXPERIENCE RELATES TO SOCIAL PRESENCE AND ATTITUDE OF USING SNS IN EDUCATION

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Abstract

The purpose of this research is to explore the effects of students' social networking experience on social presence and attitude of using Social networking sites (SNSs) for educational purposes. As online learning has increased a number of researchers have focused on the need to integrate techniques to strengthen students' social presence in online learning. SNSs have been suggested as an effective tool to increase social presence. To investigate the effects of students' social networking experience on social presence and their perceptions of using SNSs for educational purpose, 82 students were surveyed. Results show that students use SNSs frequently and actively for various reasons in their daily life and they showed a positive perceptions of using SNSs for educational purposes. Results also revealed the intensity of using social networking experience does have a positive influence on students' perceptions of using SNSs for educational purposes.

Background and theoretical framework

Previous studies have demonstrated the impact of SNSs on social relations and outcomes. The benefits of SNSs, including the establishment of community and strengthening social connectedness, are associated with social presence as it is shaped and continuously changed through interaction and social connection with other people (Raacke & Bonds-Raacke, 2008; Scarce, Kasper & Grant, 2010). While technologies may have an innate impact on social presence, it has also been shown that individual learners can cultivate it (Gunawardena & Zittle, 1997; Richardson & Swan, 2003; Swan, Garrison, & Richardson, 2009). Our understanding of social presence has shifted from viewing it as a quality of medium to a perception of the participants in online communication (Gunawardena & Zittle, 1997; Swan et al., 2009). We can define social presence as "the degree to which a person is perceived as 'real' in mediated communication" (Gunawardena & Zittle, 1997; p.8), or more broadly, "one's perceptions of oneself and others" (Yamada & Goda, 2012; p.31).

It has been well documented that social presence has a considerable effect on interaction and learning outcomes in online learning (Hostetter & Busch, 2013; Picciano, 2002; Richardson & Swan, 2003; Swan & Shih, 2005). For example, Richardson and Swan (2003) reported that social presence of students has positive influences on both perceived learning and perceived satisfaction with instructor in online learning. Swan and Shih (2005) found that students who perceived high social presence showed higher satisfaction with online discussion, interaction,

and perceived learning than students who perceived low social presence. Hostetter and Busch (2013) also reported positive relationships between social presence in discussion boards and students' learning outcomes. Specifically, students that demonstrated higher social presence in discussions scored higher on written class assignments.

Several researchers have studied the relationship between SNSs and perceived social presence of learners to identify the benefits of SNSs as an educational tool. Dunlap and Lowenthal (2009) used Twitter as a supportive tool to enhance students' interaction and social presence. They reported that students' social presence and interaction were enhanced through the immediate and emotional conversation on Twitter. Choi and Kwon (2012) also demonstrated that Twitter can contribute to improve students' social-affective and cognitive presence. In addition, some educational institutions are looking to develop their own SNSs for learning (Tally, 2010).

Research has grown in the past few years to investigate how students' learning can benefit from SNSs. For example, Greenhow (2011) reported that SNSs have social learning functions including developing more creative ideas through the sharing of feedback with other users and receiving help and advice about class related tasks or school life in general. Mazer, Murphy and Simonds (2007) also suggested that instructors' use of Facebook can effect students' motivation and attitude about the teachers and their course positively through self-disclosures on Facebook. They found that after visiting the Facebook page of a teacher who provided photographs and personal information students showed higher levels of motivation and positive attitude about the teacher, course, and perceived classroom climate than participants in a low teacher self-disclosure condition. Additionally, SNSs can be an effective platform for personal and social learning by allowing students to collaborate and communicate with other students more easily than in traditional learning management systems (Dabbagh & Kitsantas, 2012). The results of previous research show a positive expectation that social networking activities and social networking sites can promote social communication and collaboration which would benefit learners.

Objectives/purpose

Despite the positive expectation that social networking activities and social networking sites can promote social communication and collaboration, little is known about students' prior experience with using SNSs and how their social networking experiences impact (a) their social presence and, (b) their perception of using SNSs for learning. To fill this gap, the following research questions were examined in this research:

1. How are students in online courses using SNSs?
2. Does students' intensity of use of SNSs influence their social presence in online learning?
3. What are students' perceptions about using SNSs for educational purposes?
4. Does the intensity of use of SNSs effect students' perceptions about using SNSs in educational environments?

Methodology

Data source

The data were collected from an online Masters' Program in Learning Design and Technology at a large public university. Eighty-two students participated in this study. Of the participants, 79% were female (n=65) and 21% were male (n=17). Participants ranged from 24 to 58 years of age. Most participants were experienced in online learning with 70 students having taken at least 5 online courses and 10 students having completed 2-4 online courses.

Data was collected through the survey which consisted of two parts: The Social Networking Use Survey and the Social Presence survey. The Social Networking Use Survey consisted of four sub-categories: (a) demographic items, (b) general information about the use of SNSs, (c) intensity of using SNSs, and (d) perceptions of using SNSs for educational purposes. Next, the social presence survey consists of 9 items and is one subsection of the Community of Inquiry (CoI) instrument (Cronbach's alpha = .91) (Arbaugh et al., 2008; Swan et al., 2008).

Data analysis

For RQ1 and RQ3, descriptive statistics (frequency, percent, mean, and standard deviation) were used to examine demographic information and students' use of SNSs and to identify students' perceptions of using SNSs for educational purposes.

For RQ2, before analyzing the correlation between the intensity of using SNSs and social presence, we examined how age and gender were related to students' social presence score to identify the potential possibilities that demographic factors influence students' perception of social presence. Next, we examined the intensity of use items in relation to students' social presence score and sub scores for the 3 social presence categories: affective expression, open communication, and group cohesion. For each analysis, Spearman's rho was used to calculate correlational values. For RQ4, we examined the relationship between the intensity of use of SNS items and students' perceptions of using SNSs in an educational environment by using Spearman's rho for analysis.

Results

RQ 1: How are students in online courses using SNSs?

According to the analysis result, 65.9% of students reported that they have used SNSs for at least 6 years. Only 3.7 % of participants had less than one year of experience. Facebook was selected as the most widely used SNS (95.1%). This was followed by LinkedIn (85.4%) and Twitter (46.3%). The most frequent purpose for using SNSs was keeping in touch with friends (90.2%). Career networking was also a common purpose (76.8%). We also identified students in this research use SNSs intensively in their daily life (see Table 1).

Table 1 Intensity of Students' Use of SNSs

Question	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	M (SD)
SNSs are part of my everyday activities	6/7.3%	5/6.1%	6/7.3%	30/36.6%	35/42.7%	4.01 (1.19)
I feel out of touch if I haven't logged onto my SNSs for a while	11/13.4%	15/18.3%	15/18.3%	27/32.9%	14/17.1%	3.22 (1.30)
I feel I am part of my SNS community	7/8.5%	9/11.0%	18/22.0%	31/37.8%	17/20.7%	3.51 (1.19)
I would be sorry if my SNSs were shut down	10/12.2%	12/14.6%	13/15.9%	30/36.6%	17/20.7%	3.39 (1.30)

RQ 2: Does the intensity of use of SNSs influence students' social presence in online learning?

Before addressing RQ2, we ran age and then gender in relation to students' social presence scores using Spearman's rho correlation. The result for gender was not statistically significant ($R_s = -.061, p > .01$) indicating that there is no difference for the mean score of social presence between males ($m=4.24, N=17$) and females ($m=4.18, N=65$). The correlational analysis for age and students' social presence scores was also found not to be significant ($R_s = .062, p > .01$).

Spearman's rho was then calculated to determine the association between items for students' intensity of use of SNSs and students' (a) social presence scores, (b) sub scores for social presence group cohesion items, (c) sub scores for open communication items, and (d) sub scores for affective expression scores. The sub scores for Social Presence were investigated to see if SNSs impacted specific social presence characteristics such as open communication in online courses. None of the intensity of use of SNS items was found to have a significant correlation to the scores.

RQ 3: What are students' perceptions about using SNSs for educational purposes?

Students agreed (using a 5 point scale) that SNSs can promote motivation for learning ($m=3.74$), increase connectedness to a learning community ($m=3.74$), and be effective as a means to communicate ($m=3.90$) and collaborate with peers ($m=3.56$), and using SNSs for educational purposes would be convenient ($m=3.79$). Of note is the finding for the item "I would feel more comfortable using SNS as a discussion tool in place of traditional course discussion boards ($m=2.91$)" indicating that while students felt positively about using SNSs for educational purposes, they would not necessarily feel comfortable going so far as to disrupt or replace more traditional online course techniques to do so.

RQ 4: Does the intensity of use of SNSs influence students' perceptions about using SNSs in an educational environment?

To address RQ 4, the relationship between three of the intensity of use of SNS items and students' perceptions of using SNSs in an educational environment was examined using Spearman's rho. Intensity items included "How many days per week do you use SNSs", "SNSs are part of my everyday activities", and "I feel I am part of a SNS community". The result showed that more intensive users of SNSs are more likely to have positive perceptions of using SNSs for educational purposes. Table 2 shows more detailed information about the result.

Table 2 Correlations for Students' Intensity of use of SNSs and using SNSs for educational purposes.

Question	How many days per week do you use SNSs	SNSs are part of my everyday activity	I feel I am part of a SNS community
Using SNSs for educational purposes would be convenient	.308**	.362**	.477**
SNSs could be used to support face to face learning	.292**	.379**	.468**
Using SNSs for class could promote motivation for learning	.294**	.247*	.423**
Using SNSs for class could make me feel more connected to my learning community	.318**	.253*	.396**
I would feel more comfortable using SNS as a discussion tool in place of traditional course discussion boards	-.119	-.277*	-.122
SNSs could be used effectively to share class materials	.270*	.319**	.304**
Using SNSs as an educational platform could promote better rapport with peers	.264*	.339**	.407**
SNSs could be an effective way to collaborate with peers	.380**	.293**	.410**
SNSs could be an effective way to communicate with peers	.382**	.373**	.412**
I feel that my privacy would be invaded if SNSs and my courses overlapped	-.224*	-.158	-.161
I don't care one way or the other about SNSs being used for educational purposes	.036	-.051	-.175

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Discussion and conclusions

We determined that most students in our particular sample are familiar with SNS environments and view SNSs as an integral part of their daily life. The results of this research are consistent with previous research reporting that SNSs have been integrated into students' daily lives (Pempek, Yermolayeva & Calvert, 2009).

Dohn (2009) stated that students' skilfulness and familiarity with using web 2.0 tools including SNSs can promote those technologies to be effectively integrated into various educational environments. The findings of this research showing that most students are accustomed to SNSs may imply that students can extend their use of SNSs to the educational setting without much difficulty or needing to learn the basics of SNS functionalities.

Next, the students indicated social relationships as their dominant purpose for using SNSs, but this research also demonstrated that students do consider SNSs as a place where they can also gather and share information more generally. Considering that sharing information is an important activity in learning, this implies that SNSs are likely to be an effective tool or environment for educational purpose as well as for social friendships. However, as we also found, students are not ready for SNSs to replace more traditional aspects of online courses such as discussion boards.

This study also identified positives correlation between the intensity of using SNSs and students' perceptions of using SNSs for educational purposes. This result is consistent with research by Alhazmi and Rahman (2013) which reported that students who have more experience with using SNSs have a more positive attitude using SNSs for academic purposes. This result shows that more experiences and familiarity with using SNSs are likely to be an important factor in students' positive perceptions of using SNSs for educational purposes. When we consider that most current undergraduate students are familiar with SNSs, the findings propose a positive expectation that current and future students may be open and ready to use SNSs for educational purposes on a technical level.

In addition, overall, the students revealed a positive attitude toward using SNSs for educational purposes, indicating it could increase motivation for learning, increase learning community intensity, and communication and collaboration with peers. This result coincides with the previous research which indicated that students revealed positive perceptions of using Facebook page as a supportive tool for learning (Irwin, Ball, Desbrow & Leveritt, 2012; McCarthy, 2012; Tower, Latimer & Hewitt, 2014). Similarly, Hamid, Waycott, Kurnia and Chang (2015) identified that students in higher education recognized benefits of SNSs for an educational purpose including promoting interaction with peer and instructor as well as improving their critical thinking and self-monitoring for learning. Understanding students' perceptions and attitudes about the academic use of SNSs is necessary prior to integrating SNSs into the educational context (Sánchez, Cortijo & Javed, 2014). The findings of students' positive perceptions are a meaningful first step to integrating SNSs for educational purposes.

Interestingly, no significant relationship was found between the intensity of using SNSs and students' perceived social presence. This contradicts what limited information is available relating SNSs and social presence, including the idea that the use of SNSs may have effects on students' social presence by enhancing the abilities of open communication or experiences of web community. The lack of significance may be attributed to the fact that survey items for social presence have focused only on students' perceptions about their social presence (Lowenthal & Dunlap, 2014). Lowenthal and Dunlap (2014) pointed out the possibilities of differences between what students actually *do* and what they *perceive*. They posited that the CoI social presence survey items need to be revised by combining what students actually *do* and what instructors and peers *do* and *say* about their presence with their self-perception.

Additionally, we believe there might be other reasons to explain the non-significant relationship between the intensity of using SNSs and students' perceived social presence scores. The identified non-significant correlations between the intensity of using SNSs and social presence score and sub scores for our participants contradicts previous research that says SNSs have psychological benefits that promote students' social and cognitive skills and meet the need for intimacy and social support in online environments (Tynes, 2007). Instead there may be the need for a different skill set in an academic or formal setting such as an online course. Kirschner (2015) would agree as he explains, "the users themselves, though often very experienced in using SNSs, are not fluent or accomplished in using them as tools to build on existing knowledge and create new knowledge" (p.624). In other words, while students may have the technical skills from previous SNS experience they may be lacking in the academic skills and how they would relate to SNSs. If the main purpose of SNSs is to maintain already existing relationships or develop purely social relationships, a SNS in an educational context would ask that students connect with others that they may not normally connect to and to conduct activities that may include not only building community but critiquing and relying on the work of others. As Kirschner (2015) clarifies, SNSs can narrow the social connections of students thereby limiting their affective connection and social bond within a specific group.

Together with previous research and our own results, it is safe to say that adopting SNSs for educational purposes is a real possibility as a means to overcome issues such as isolation or lack of community, given continued advances in SNSs capabilities. Yet the question remains if this also holds true for online learning environments as we originally set out to discover. The participants were from an online graduate program but further research is needed to determine if our learners' positive views of SNS for educational purposes is more of a general perception than specifically related to online learning.

References

1. Alhazmi, A. K., & Rahman, A. A. (2013). Facebook in Higher Education: Students' Use and Perceptions. *AISS: Advances in Information Sciences and Service Sciences*, 5(15), 32-41.
2. Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample. *The Internet and Higher Education*, 11(3), 133-136.
3. Choi, H., & Kwon, S. (2012). Students' Experience in Using Twitter for Online Learning: Social-Affective and Cognitive Perspectives. *Educational Technology International*, 13(1), 175-205.
4. Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and higher education*, 15(1), 3-8.
5. Dohn, N. B. (2009). Web 2.0: Inherent tensions and evident challenges for education. *International journal of computer-supported collaborative learning*, 4(3), 343-363.
6. Dunlap, J. C., & Lowenthal, P. R. (2009). Tweeting the night away: Using Twitter to enhance social presence. *Journal of Information Systems Education*, 20(2), 129-135.
7. Greenhow, C. (2011). Online social networks and learning. *On the Horizon*, 19(1), 4-12.
8. Gunawardena, C.N., & Zittle, F.J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8-26.
9. Hamid, S., Waycott, J., Kurnia, S., & Chang, S. (2015). Understanding students' perceptions of the benefits of online social networking use for teaching and learning. *The Internet and Higher Education*, 26, 1-9.
10. Hostetter, C., & Busch, M. (2013). Community matters: Social presence and learning outcomes. *Journal of the Scholarship of Teaching and Learning*, 13(1), 77-86.
11. Irwin, C., Ball, L., Desbrow, B., & Leveritt, M. (2012). Students' perceptions of using Facebook as an interactive learning resource at university. *Australasian Journal of Educational Technology*, 28(7), 1221-1232.
12. Kirschner, P. (2015). Facebook as learning platform: Argumentation superhighway or dead-end street? *Computers in Human Behavior*, 53, 621-625.
<http://dx.doi.org/10.1016/j.chb.2015.03.011>
13. Lowenthal, P. R., & Dunlap, J. C. (2014). Problems measuring social presence in a community of inquiry. *E-Learning and Digital Media*, 11(1), 19-30.
14. Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, 56(1), 1-17.

15. McCarthy, J. (2012). International design collaboration and mentoring for tertiary students through Facebook. *Australasian Journal of Educational Technology*, 28(5), 755-775.
16. Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227-238.
17. Picciano, A. G. (2002). Beyond student perceptions: Issues of interaction, presence, and performance in an online course. *Journal of Asynchronous learning networks*, 6(1), 21-40.
18. Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *Cyberpsychology & Behavior*, 11(2), 169-174.
19. Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7(1), 68-88.
20. Sánchez, R. A., Cortijo, V., & Javed, U. (2014). Students' perceptions of Facebook for academic purposes. *Computers & Education*, 70, 138-149.
21. Scarce, D., Kasper, G. & Grant, H.M. (2010). Working wikily: Social change with a network mindset. *Stanford Social Innovation Review*, 8(3), 30-37.
22. Swan, K., Garrison, D. R., & Richardson, J. (2009). A constructivist approach to online learning: the Community of Inquiry framework. In C. Payne (Ed.), *Information technology and constructivism in higher education: Progressive learning frameworks* (pp. 43-57). Hershey, PA: IGI Global.
23. Swan, K., Shea, P., Richardson, J., Ice, P., Garrison, D. R., Cleveland-Innes, M., & Arbaugh, J. B. (2008). Validating a measurement tool of presence in online communities of inquiry. *E-mentor*, 2(24), 1-12.
24. Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks*, 9(3), 115-136.
25. Tally, S. (2010, September 29). Mixable blends Facebook with academics to improve student success. [Blog post] Purdue University. Retrieved from <http://www.purdue.edu/newsroom/general/2010/100928BowenMixable.html>
26. Tower, M., Latimer, S., & Hewitt, J. (2014). Social networking as a learning tool: Nursing students' perception of efficacy. *Nurse Education Today*, 34(6), 1012-1017.
27. Tynes, B. M. (2007). Internet safety gone wild? Sacrificing the educational and psychosocial benefits of online social environments. *Journal of Adolescent Research*, 22(6), 575-584.
28. Yamada, M., & Goda, Y. (2012). Application of Social Presence Principles to CSCL Design for Quality Interactions. In J. Jia (Ed.), *Educational Stages and Interactive Learning: From Kindergarten to Workplace Training* (pp. 31-48). Hershey, PA: Information Science Ref.