Social media use, attitudes, behaviours and perceptions of online professionalism amongst dental students

P. Kenny[1] and I. G. Johnson*[1]

In brief

Highlights widespread regular use of social media amongst undergraduate dental students and the professional risks associated with it.	Demonstrates that undergraduate dental students are aware of risks associated with social media and share similar views of what constitutes professional and unprofessional behaviour online.	Reveals that the majority of undergraduate dental students have been exposed to unprofessional behaviour online.	Recommends that undergraduates receive training in the appropriate use of social media and managing risks online.

Use of social media has increased amongst health professionals. This has benefits for patient care but also introduces risks for confidentiality and professional fitness to practise. This study aimed to examine dental student attitudes towards professional behaviour on social media. The secondary aim was to establish the extent and nature of social media use and exposure to potentially unprofessional behaviours. A cross-sectional study was carried out in one dental school. Data were collected using questionnaires to examine social media use, perceptions and attitudes towards social media and professional behaviours online. Students who responded (N = 155) all used social media at least once per week; most used more than one platform. Students were aware of the relationship between social media use and professional practice. Posting drunken photographs and interacting with staff and patients online were widely considered as unprofessional. Security settings affected behaviour and most had seen inappropriate behaviours online. The study found that students use social media extensively.. Students are aware of the risks but there is a greater sense of safety in closed groups and many students are exposed to potentially inappropriate content online. This suggests that training should be implemented to help students manage these risks.

Introduction

Social media is defined as 'websites and applications that enable users to create and share content or to participate in social networking,'[1] and its use is increasing among young health professionals.[2] Social media includes social networking platforms including Facebook and Twitter and media sharing sites, for example, YouTube and Instagram. Platforms also include blog sites and micro-blogging sites. Evidence suggests that social media is now used extensively by health professionals, with up to 90% of practicing doctors now reporting that they use Facebook accounts for professional or personal use.[3]

[1]Cardiff University, Dental Public Health, Applied Clinical Research and Public Health, Heath Park, Cardiff, CF14 4XY
*Correspondence to: I. Johnson
Email: JohnsonIG@cardiff.ac.uk

Social media is a form of communication and has great potential for health improvement, for example, providing the public with real time information from emergency medical services.[4] It is a mechanism that the public can use for sharing their views about care[5] which can highlight quality issues for services.[6,7] It also has potential for health education in dentistry[8] and other professions to enhance learning.[9–11] This educational potential extends to patients and self-care, with platforms such as YouTube helping to increase knowledge amongst orthodontic patients.[12]

Ease of access and information content shared through social media platforms can generate professional and ethical challenges for healthcare professionals. For example, information shared on social media often includes personal information, views, and opinions. This mix of information blurs the boundaries between personal and professional lives in a way that has the potential to harm the dentist-patient relationship.[13,14]

Guidance for professional behaviour focuses on developing and sustaining trust[15] and the latest update of the United Kingdom General Dental Council (GDC) Guidance on Social Media states that dental team members have a responsibility to 'behave professionally and responsibly both online and offline,' including maintaining confidentiality, keeping appropriate boundaries with patients and complying with social media policies.[16]

In addition, GDC Standards for The Dental Team states that registrants 'must not post any information or comments about patients on social networking or blogging sites' and that those who 'use professional social media to discuss anonymised cases for the purpose of discussing best practice' are required to 'be careful that the patient or patients cannot be identified.'[17] Those failing to meet these standards risk being removed from GDC registers.

Many health professionals have rejected this regulation or scrutiny of their private lives. A

General Medical Council (GMC) poll found that 94% of doctors did not want the GMC to regulate doctors' lives outside of medicine.[14] There has also been reluctance amongst students to accept guidance for social media with a study of medical students suggesting that formal policies for posting information online were considered to be unnecessary, unwanted and intrusive.[18–20] While there is little perceived need for guidance or help, evidence suggests healthcare professionals and students struggle to behave appropriately online. Medical students have displayed confusion regarding the ethical, professional and legal implications of their online behaviour.[18,21] In addition, students' views of professionally appropriate behaviour online are different from those of faculty staff and the public,[3] which suggests varied opinions of what constitutes professional and unprofessional behaviour online.

It has been reported that the majority of healthcare students are aware of professional risks arising from their personal behaviour outside of the clinical environment;[20] however, the online environment appears to be considered differently when compared to other settings. Students feel they can 'switch off' their professional identity outside the clinical environment[19] and studies have that shown that students can become detached and 'disinhibited when they go online' because of a sense of anonymity.[22]

Evidence suggests that some students choose to make their Facebook accounts publically available[15] with their profiles often revealing personal information. In addition, some also elect to post photographs of students drinking alcohol, excessive alcohol intake and drunkenness. Few studies have examined dental student behaviours, but evidence from the literature indicates that many health and care students are unhappy with their online content. For example, studies have shown that medical students are often embarrassed by their Facebook photos[20] and nearly half of UK pharmacy students had uploaded content that they would not like future employers to see.[23] Professional risks can arise from revealing personal content though open groups, and the high profile case of 13 Canadian dental students who were suspended from University following misogynistic comments in private groups[24] suggests that these risks also exist when using private settings and closed groups.

This evidence suggests that while students often adopt professional behaviours for daily interactions, many fail to do this with social media.[25] There is a paucity of literature relating to dental professionalism online and few studies have examined dental students' online professional behaviours and their attitudes towards these behaviours. Therefore, this study aimed to examine attitudes towards professional behaviour on social media and online behaviour amongst dental students in a single University Dental School. The objectives were to examine attitudes towards a range of online behaviours and establish the extent and nature of social media use and exposure to unprofessional behaviours in this cohort.

Methods

The study was a cross sectional survey using a paper based questionnaire. The University Research Ethics Committee approved the study (Ref:15/19) which was conducted between May and December 2015.

The survey instrument was developed to identify social media platform use, attitudes towards social media behaviour and perceptions of a range of professional scenarios. Development of the questions was informed by previous studies.[3,15,26] The questionnaire included four items for demographic data and three items for the frequency of social media usage, with categorical scales. Eight items were used for attitudes towards social media behaviours and 16 descriptive statements were used to assess perceptions of online behaviours, measured with seven point Likert scales. The 16 descriptive statements were then used with dichotomous scales to indicate which behaviours participants had witnessed and which they had undertaken. The final part of the questionnaire included four items which asked participants to indicate whether or not they planned to make changes to their social media online profiles upon qualification. The questionnaire was piloted for relevance and face validity prior to distribution.

A convenience sample was selected, this comprised three consecutive year groups (years 2, 3, and 4) of undergraduate dental students from the 2014/15 cohort of a single dental school. There were no exclusion criteria. Data were collected between June and July in 2015 in University lecture theatres and laboratories following scheduled lectures or classes.

Year groups selected for the study were notified of the study by e-mail and announcements. Questionnaire completion was voluntary and anonymous. No personally identifiable information was collected. Participants were able to decline to answer questions and once completed, students placed questionnaires in a box, which was collected by the researcher at the end of the session.

Data were entered manually into SPSS by one researcher. Each questionnaire was numbered and data entry was verified at a later date by the same researcher. Social media use variables were collapsed into three categories in response to the distribution of data. Descriptive statistics were used to explore data and chi-squared tests were used to explore relationships between variables.

Results

Participants

A total of 155 responses were received; a 90% response rate from the total cohort of 172 students. The greatest number of responses were received from Year 2 (N = 60, 39%) and this reduced in Years 3 (N = 50, 32%) and 4 (N = 45, 29%). The mean age of participants was 21 (range 18–28) and the sample included more females (N = 88, 57%) than males.

All students reported using social media and the majority used more than one platform. Facebook was the most commonly used and was also the most regularly used of the platforms (N = 153, 98.9%, Table 1). YouTube was the second most commonly used platform (N = 6, 4% non-users) and Instagram was the second most regularly used platform (N = 85, 55% regular users). Twitter was the least popular platform with half of all students using

Table 1 Frequencies of social media use reported by dental students for different platforms				
All students	**Regular* users N (%)**	**Irregular** users N (%)**	**Non-users N (%)**	**Total**
Facebook	150 (97)	3 (2)	2 (1)	155
Twitter	48 (31)	31 (20)	76 (49)	155
Instagram	85 (55)	13 (8)	57 (37)	155
YouTube	79 (51)	70 (45)	6 (4)	155
* Once or more per day. ** Once or more per week.				

Fig. 1 Figure showing the proportion of students agreeing and disagreeing with professionalism behaviour statements
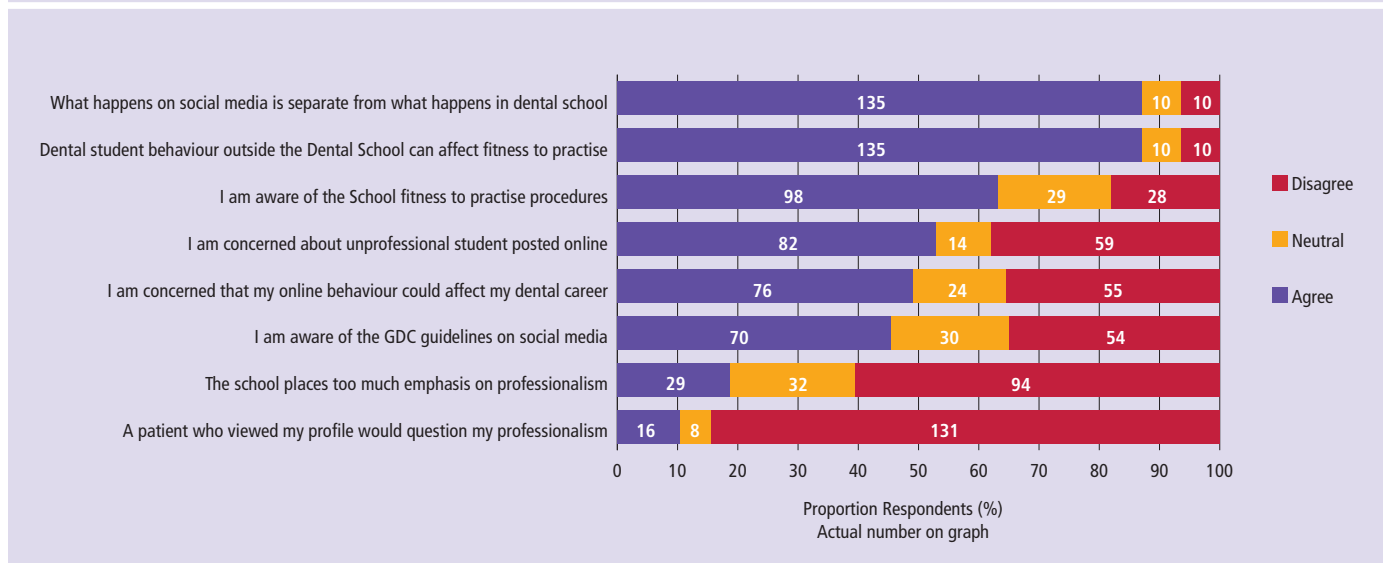
the platform. Students in lower years were more likely to use Twitter than those in the years above (X^2 [4, N = 155] = 10.319 P = <0.05). Females were more likely to use Instagram on a regular basis than males (X^2 [4, N = 155] = 15.882 P =<0.01). Males were more likely to report using YouTube regularly (X^2 [4, N = 155] = 10.889 P =<0.00).

Most used privacy settings for at least one platform. The majority of Facebook users reported having privacy settings to limit their audience (N=12 reported either open or unknown privacy settings). Twitter was the most common platform to be openly accessible to all (N = 41, 42% of Twitter users had open profiles). This was followed by YouTube and then Instagram. Gender and year of study had little influence on most privacy settings; however, female students were more likely to allow friends/followers to view their Instagram profile than males (X^2 [4, N = 107] = 13.076 P = <0.05).

The majority of students in the study reported using their real name on social platforms Facebook (N = 138/155, 89%), Twitter (N = 70, 45%) and Instagram (N = 84, 54%). Students were most likely to identify themselves as a student at the University (N = 69, 45%) or as a dental student (N = 64, 41%) on Facebook. A small number of Twitter and Instagram users identified themselves as either students at the University (N = 11, 7% and N = 8, 5% respectively) or as dental students (N = 12, 13% and 9, 6% respectively). Gender and year of study was not associated with how students choose to identify themselves on social media for most platforms with the exception of Instagram, with

males more likely to use an alias on this platform (X^2 [1, N = 102] = 4.140 P = <0.05).

Most students (N = 135, 87%) did not feel their social media behaviour was separate from dental school (Fig. 1) and the majority reported that they were aware of the dental school's fitness to practise procedures. Male students were more likely report that the school over emphasised professionalism than females X^2 [6, N = 155] = 10.889 P = <0.05). Half of the respondents were concerned about student social media content but most reported being confident their social media profiles would not generate questions about their professionalism.

Respondents reported that they did not consider publishing photographs identifying the University as being unprofessional (Table 2) but half (N = 83, 54%) felt that publishing photographs of students within a clinical setting was unprofessional. Two thirds (N = 99, 64%) reported that publishing photos online of students drinking alcohol was unprofessional, this rose to 92% for images of intoxicated students. Over half of all respondents indicated that they had posted images of students drinking (N = 85, 55%) and a third reported that they had posted images of intoxicated students (N = 45, 29%).

One third of students rated posting anonymised dental procedures as unprofessional (N = 50, 32%); a third reported having done this; however, over two thirds of students had seen this online (N = 118, 76%). Half of the respondents indicated that interacting with staff and tutors on social media was unprofessional and a small number of students reported that they had done this (N = 12, 8%). The majority of students reported that using closed groups

to discuss patients or staff/other students was unprofessional (N = 117, 76% and N = 124, 80%, respectively). The majority of students rated using open and public groups to discuss patients, staff or other students, interactions with patients via social media and making negative comments regarding people's characteristics as unprofessional. While few admitted to these behaviours, many more reported having witnessed these behaviours online (N = 18, 12% and N = 30, 19% respectively).

Year group did not influence student perceptions of professionalism towards the scenarios but gender differences were seen for responses to social media behaviours. Females were more likely to post photographs of students at social events (X^2 [1, N = 155] = 8.191 P = <0.005). Females were more likely to consider discussing staff (X^2 [6, N = 155] = 13.578 P = <0.05) and interacting with patients online (X^2 [5, N = 155] = 12.924 P = <0.05) as being highly unprofessional. They were more likely to have posted anonymised procedures (eg I just completing my first filling) than males (X^2 [1, N = 155] = 9.114 P = <0.005).

The majority of students intended to review (N = 64, 41.29%) or make minor changes (N = 58, 37.42%) to their social media profiles, with only 16 choosing to do nothing with their profiles once qualified. A small number of students (N = 17, 11%) intended to either delete their profiles or create separate professional online identities. Students in lower years were more likely to indicate that they would make changes their profiles, while Year 4 were more likely to indicate little or no intention to change to their profiles (X^2 [6, N = 155] = 12.919 P = <0.05).

Table 2 Online behaviours tabulated by the proportion of students: 1) rating each behaviour as unprofessional; 2) reporting having undertaken each behaviour; 3) reporting having seen each behaviour			
Dental student professional behaviour	N (%) rating this as unprofessional	N (%) who have done this	N (%) who have seen this
Photos			
Publish photographs that identify you as a [name of University] student eg sports team, societies	0 (0)	109 (70)	107 (69)
Publish photographs of students at social events (eg parties, sporting events, meals).	35 (23)	113 (73)	111 (72)
Publish photographs of students within a clinical setting eg in tunics, name badges	83 (54)	36 (23)	131 (86)
Publish photographs of students drinking alcohol at social events.	99 (64)	85 (55)	115 (74)
Publish photographs of students intoxicated at social events	143 (92)	45 (29)	120 (77)
Discussions			
Posts regarding anonymised dental procedures (eg 'I just completed my first filling')	50 (32)	45 (29)	118 (76)
Interaction with clinical staff and tutors via social media	82 (53)	12 (8)	60 (39)
Using closed/private groups to discuss patients	117 (76)	27 (17)	96 (62)
Using closed/private groups to discuss members of staff/other students	124 (80)	12 (8)	63 (41)
Using open/public groups to discuss patients	149 (96)	0 (0)	30 (19)
Using open/public groups to discuss members of staff/other students	151 (97)	0 (0)	23 (15)
Interaction with patients via social media	140 (90)	1 (1)	18 (12)
Made negative comments relating to people's characteristics (eg Gender race disability)	151 (97)	2 (1)	30 (19)

Discussion

This study found that all dental students at the University were using social media, with 98.71% using Facebook at least once a week. This widespread use of social media replicates findings in other studies of health professionals.[2]

Earlier studies of social media found that Facebook use declined through successive years of medical training,[25] but the finding in this study reflects those of more recent papers which suggest that students are using social media consistently throughout training.[27] It is possible that these findings reflect widespread use of smart phones amongst young adults, as most access platforms such as Facebook through their mobile phones.[28] It is also likely that use reflects patterns of adoption of new technologies.[29]

This study found that students were aware that their social media profile could affect their fitness to practise and most reported being aware of school fitness to practise procedures. This cohort of students had received teaching relating to GDC standards[17] and appropriate behaviour on social media in each year of study via lectures, interactive workshops and seminars, which may account for the level of awareness reported in this study. This teaching and the emphasis on behaviour and fitness to practise within School may also account for the number of students reporting that the school

placed too much emphasis on professionalism. This finding may also relate to those in other studies which indicate the students do not feel they need and do not want teaching in these areas;[18] however, this does not explain why male students were more likely to feel too much emphasis was placed on social media.

The GDC has set out guidance for the use of social media and digital professionalism applies to all dental professionals.[16] Students in the study were confident that their social media profiles were appropriate. However, most students intended to review or modify their profiles when they qualified which may reflect a sense of greater personal responsibility and exposure once qualified. It may also suggest feelings of using different rules for behaviour when online as a student.

Students in this study chose to use a range of privacy settings according to the platform, with the majority choosing to limit access to their Facebook profiles and some limiting access to other platforms. GDC Standards and guidance have described issues of patient confidentiality and content in relation to social media[16,17] and most students felt online discussions relating to patients, staff or students were inappropriate. However, some felt these discussions were acceptable in closed groups (with security settings to limit access to discussions) and a small number found this acceptable in open

groups. This feeling of safety in closed groups may increase the amount of information disclosed and shared. However, the way that social media is used, means that information shared within closed groups may not be truly private. For example, Henry and Molnar[27] found that 75% of students had limited access to their online profiles, but over half allowed non-friends to access their photographs, potentially disclosing private information. There are also risks to privacy from information storage locations and the ability to screenshot any information posted online. This can mean that online content is often available and can be shared despite security settings. The findings in this study therefore suggest that some students may be at risk of behaving inappropriately online from a sense of security, particularly in closed groups.

Students in this study most commonly admitted to publishing photographs that were widely considered to be appropriate, for example, identifying the name of the University or at social events. Female students appeared to find sharing the different types of pictures more acceptable than male students, which may relate to the finding that they were more likely to use image based social media (for example, Instagram).

Few students admitted to behaviours commonly deemed as unprofessional, for

example, posting photographs depicting clinical images, students drinking alcohol or students being intoxicated but most students had seen this content online. Students, therefore, appear to be exposed to a wide range of potentially inappropriate behaviours online, at this or other schools anywhere in the world. It is possible that students become desensitised to this behaviour because it is so widespread or that students develop a sense of anonymity and safety in relation to inappropriate online behaviour because others are seen to be doing the same.[14,22]

Making negative comments in relation to people's characteristics, such as gender or disability contravenes equality legislation and GDC standards.[17] Similarly, discussing patients or staff in open or closed groups without consent or full anonymity would be widely considered as inappropriate for professionals. A small number of students did not identify these behaviours as being unprofessional. This finding is similar to other studies which have found that students' views of appropriate behaviours were quite different to that of the general public and of staff.[3] These attitudes may put some students at risk of carrying out these unprofessional behaviours. Further work is indicated to explore ways of increasing awareness and attitudes towards managing online risks amongst the small number who appear unable to do this.

It therefore appears that most students are aware of and take action to ensure that they behave appropriately online but students may witness many lapses in professional behaviour. As most students appear able to identify inappropriate online behaviour, it may be possible for them to take action to alert their peers when they feel they are behaving inappropriately. This was not tested within the context of this study but may be an area for further research.

While this study provided detailed information about students reported behaviours, there were a number of limitations. This was a single point in time and relied on self-report and recall. These are sensitive and important issues with implications for fitness to practise for students and whilst data collection was anonymous, bias may have arisen because of social acceptability and reporting bias. This study also captured data on the number of students exposed to specific behaviours, but this study did not examine when, where or how often inappropriate social behaviours were seen. This study was also limited to a single dental school with training for students in this topic area, which may also limit the generalisability of the findings.

In conclusion, this study found widespread use of social media amongst students and awareness of the relationship between social media and professionalism. Most students shared similar attitudes and avoided behaviours deemed unprofessional. Results suggested a greater perception of safety when behaviours deemed to be inappropriate were within closed groups. A small number of students admitted to behaviours commonly considered inappropriate and nearly all students had been exposed to behaviours deemed as inappropriate whilst being online. This suggests that some dental students may not be behaving appropriately on social media and may be putting their careers at risk.

This study highlights the need for social media training for all dental undergraduates, as social media use is widespread. This training should include awareness and practical training in using professional standards, selecting appropriate behaviours, and managing professional risks online. It is recommended that further work is undertaken to explore the gaps between knowledge of appropriate professional behaviour online, online risks and actual behaviour in order to inform this training. Furthermore, additional work is also needed to examine the most effective way of teaching students to remain professional online.

1. Oxford University. Social media definition. Oxford University Press. Available online at http://www.oxforddictionaries.com/definition/english/social-media (accessed March 2016).
2. Osman A, Wardle A. Is it time for medicine to update its Facebook status? *BMJ* 2011; **343:** d6334.
3. Jain A, Petty E M, Jaber R M *et al.* What is appropriate to post on social media? Ratings from students, faculty members and the public. *Med Educ* 2014; **48:** 157–169.
4. Steele S, Adcock C, Steel A. Ethical, legal and professional issues arising from social media coverage by UK Helicopter Emergency Medical Services. *Emerg Med J* 2016; **33:** 57–60.
5. Rozenblum R, Bates D W. Patient-centred healthcare, social media and the internet: the perfect storm? *BMJ Qual Saf* 2013; **22:** 183–186.
6. Hawkins J B, Brownstein J S, Tuli G *et al.* Measuring patient-perceived quality of care in US hospitals using Twitter. *BMJ Qual Saf* 2016; **25:** 404–413.
7. Greaves F, Ramirez-Cano D, Millett C, Darzi A, Donaldson L. Harnessing the cloud of patient experience: using social media to detect poor quality healthcare. *BMJ Qual Saf* 2013; **22:** 251–255.
8. Oakley M, Spallek H. Social media in dental education: a call for research and action. *J Dent Educ* 2012; **76:** 279–287.
9. Knosel M, Jung K, Bleckmann A. YouTube, Dentistry, and Dental Education. *J Dent Educ* 2011; **75:** 1558–1568.
10. Neville P, Waylen A. Social media and dentistry: some reflections on e-professionalism. *Br Dent J* 2015; **218:** 475–478.
11. Smith T, Lambert R. A systematic review investigating the use of Twitter and Facebook in University-based healthcare education. *Health Educ* 2014; **114:** 347–366.
12. Al-Silwadi F M, Gill D S, Petrie A, Cunningham S J. Effect of social media in improving knowledge among patients having fixed appliance orthodontic treatment: A single-center randomized controlled trial. *Am J Orthod Dentofacial Orthop* 2015; **148:** 231–237.
13. Shore R, Halsey J, Shah K. Report of the AMA Council on Ethical and Judicial Affairs: professionalism in the use of social media. *J Clin Ethics* 2011; **22:** 165–172.
14. McCartney M. How much of a social media profile can doctors have? *BMJ* 2012; **344:** e440.
15. MacDonald J, Sohn S, Ellis P. Privacy, professionalism and Facebook: a dilemma for young doctors. *Med Educ* 2010; **44:** 805–813.
16. General Dental Council. Guidance on using social media. GDC. http://www.gdc-uk.org/Dentalprofessionals/Standards/Documents/Guidance%20on%20using%20social%20media.pdf (accessed September 2016).
17. General Dental Council. Standards for the Dental Team. GDC. Available online at http://www.gdc-uk.org/Dental-professionals/Standards/Documents/Standards for the Dental Team.pdf (accessed January 2016).
18. Chretien K C, Greysen S R, Chretien J-P, Kind T. Online posting of unprofessional content by medical students. *JAMA* 2009; **302:** 1309–1315.
19. Finn G, Garner J, Sawdon M. 'You're judged all the time!' Students' views on professionalism: a multicentre study. *Med Educ* 2010; **44:** 814–825.
20. Garner J, O'Sullivan H. Facebook and the professional behaviours of undergraduate medical students. *Clin Teach* 2010; **7:** 112–115.
21. Von Muhlen M, Ohno-Machado L. Reviewing social media use by clinicians. *J Am Med Informatics* 2012; **19:** 777–781.
22. Greysen S R, Kind T, Chretien K C. Online professionalism and the mirror of social media. *J Gen Intern Med* 2010; **25:** 1227–1229.
23. Hall M, Hanna L-A, Huey G. Use and views on social networking sites of pharmacy students in the United kingdom. *Am J Pharm Educ* 2013; **77:** 9.
24. CBC News. Dalhousie suspends 13 dentistry students from clinic amid Facebook scandal. Nova Scotia: CBC News, 2015. Available online at http://www.cbc.ca/news/canada/nova-scotia/dalhousie-suspends-13-dentistry-students-from-clinic-amid-facebook-scandal-1.2889635 (accessed 15 Jan2016).
25. Thompson L A, Dawson K, Ferdig R *et al.* The intersection of online social networking with medical professionalism. *J Gen Intern Med* 2008; **23:** 954–957.
26. Bosslet G T, Torke A M, Hickman S E, Terry C L, Helft P R. The Patient–Doctor Relationship and Online Social Networks: Results of a National Survey. *J Gen Intern Med* 2011; **26:** 1168–1174.
27. Henry R K, Molnar A L. Examination of Social Networking Professionalism among Dental and Dental Hygiene Students. *J Dent Educ* 2013; **77:** 1425–1430.
28. Ha A. More Than Half A Billion People Access Facebook Solely From Mobile. Tech Crunch. 2015. Available online at http://techcrunch.com/2015/01/28/facebook-mobile-only-2/ (accessed March 2016).
29. Morrison K. Snapchat Is the Fastest Growing Social Network. SocialTimes. 2015. Available online at http://www.adweek.com/socialtimes/snapchat-is-the-fastest-growing-social-network-infographic/624116 (accessed January 2016).