ORIGINAL RESEARCH

Developing education for e-professionalism–Mixed methods evaluation of the impact of an evidence based educational tool for nurses

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ABSTRACT

Background and objective: Research literature has long suggested a need for educational tools that raise awareness of e-professionalism, promote reflective practice and skills to manage what is shared publicly in social media. This study aimed to evaluate the utility of an evidence-based educational tool (Awareness to Action, A2A) on the topic of e-professionalism, designed specifically to raise [personal and professional] awareness about the risks associated with social media platforms and the information that is shared within them.
Methods: Realist action research, collecting quantitative and qualitative data via the A2A quiz and focus groups.
Results: The A2A quiz was taken by n = 17 participants and n = 8 participants took part in the focus groups. Data showed that the tool was deemed as 'really' relevant to practice. Three main themes were found in the data 1) Defining and understanding e-professionalism, 2) The wider context of social media and e-professionalism and 3) The impact of the A2A tool.
Discussion and conclusions: Nurses and nursing students are aware of e-professionalism but less able to define it clearly, favouring practical examples of what they consider to be acceptable. The blurring of social-personal-professional boundaries is a challenge when using social media, as is the general nature of social media but the tool was deemed as helpful in navigating these challenges. Educational tools, such as the A2A tool can have a positive impact on nurses, students and - as it is free to access and easy to complete - potentially other healthcare professionals' behaviours online, fostering reflection and positively changing behaviours/perspectives.

Key Words: E-professionalism, Educational tools, Nursing, Mixed methods

1. INTRODUCTION

E-professionalism is 'the way you engage yourself online in relation to your profession, including your attitudes, actions and your adherence to relevant professional codes of conduct'.[1] Professional regulators such as The Nursing and Midwifery Council (NMC)[2] provide guidelines about professional behaviours in online social networks such as Facebook or Twitter. Healthcare organisations in the UK also have policies on the use of social media.

Engagement with social media potentially confers a range of benefits; it is a valuable resource to support healthcare professional and patient education[3,4] and can also support health and social well-being,[5] facilitate communication, networking and promote professional identity, values and

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behaviours.[6–8]

However, e-professionalism is an ongoing concern, not only in the UK but across the globe because using social media can depict unprofessional behaviour, threated confidentiality, blur professional boundaries and accountability leading to potential legal and disciplinary procedures.[9] For example, new and novel platforms such as TikTok and 'Kik' messenger have been implicated as tools used to facilitate inappropriate contact/behaviours relating to children in a small number of Nursing and Midwifery Council Fitness to Practise hearings.

A recent systematic review highlights that cases of unprofessional behaviours in the context of social media are on the rise.[7] There is also an emerging concept of cyber incivility which is, 'direct and indirect interpersonal violation involving disrespectful insensitive, or disruptive behavior of an individual in an electronic environment that interferes with another person's personal, professional, or social well-being, as well as one's learning'.[10] Assessment of Twitter posts in the United States of America and UK describes characteristics and instances of cyberincivility show that profanity, product promotion and aggressive or biased comments to other users, politicians and certain groups of people were evident.[11]

While there are studies that report nurses and nursing students being 'cautious' about the use of social media,[12] other studies report that there are still challenges relating to the blurring of personal-professional-social boundaries that the nature of social media pose.[13] The research literature identifies the need for more practical guidance, education and training.[9,14] In particular, nursing students need guidance around how they present themselves online to patients and the public,[15,16] the application of appropriate privacy settings[13,17,18] and a clear understanding of what 'is', and 'is not', allowed to be shared.[12,19] Finding practical approaches to promote e-professionalism across the nursing professional warrants attention.

1.1 Educational approaches & tools available

There are a range of reported educational approaches on the topic of e-professionalism such as reflection, vignettes or mixed methods models such as that presented in Ryan-Blackwell.[20] Video vignettes have also been used in training medical students about e-professionalism and found to be useful is generating student discussions about how to manage different scenarios that may occur on social media.[15] Small interactive group discussions have been reported as an approach for e-professionalism education but not fully tested.[19] Health communication models have also been theoretically applied (extended parallel process model) to the context of e-professionalism but also not tested for effectiveness.[21]

Internationally, there are educational tools on the use of social media which have been developed to either evaluate attitudes towards e-professionalism, or to support education and training on this topic. For example, a validated scale for measuring attitudes towards e-professionalism in medical and dental students was developed; the tool was found to be a reliable tool but focused upon individuals' attitudes rather than raising personal awareness about professional behaviours in the context of e-professionalism.[22]

A questionnaire to evaluate e-professionalism for medical scientists in Iran was developed, again the tool focused upon assessing e-professionalism rather than prompting personal reflection and awareness.[17] The measure was found to be reliable and valid for the assessment of levels of e-professionalism in Iran.[23] Foucault et al.[24] discussed an online judgement tool as part of instruction which did show a pedagogic relevance in fostering professional development, but this did not necessarily allow students to reflect on their own behaviours and settings.

Hence, while there are approaches and tools available to teach about e-professionalism, there are few that have been evaluated for their impact and the body of evidence consistently concludes that there is need for further research and evaluation of tools to educate and promote e-professionalism and also the evolving concept 'cybercivility'.

1.2 Aim of the study

This study aimed to establish levels of awareness of e-professionalism, evaluate an evidence-based educational tool (Awareness to Action, A2A) on the topic of e-professionalism, designed to prompt critical thought and reflection, raising [personal and professional] awareness about the risks associated with social media platforms and the information that is shared within them. In doing so, it sought to assess the potential utility and impact of the educational tool in the context of nurse education.

1.3 Research questions

1) What do pre-registration nurses/nurses understand by e-professionalism?
2) Are nurses aware of what they are sharing publicly on social media?
3) Is there a significant difference between age and/or stage of career and level of knowledge about the topics covered in the educational tool?
4) What is the impact of a free to access, evidenced based educational tool designed to raise [personal and professional] awareness of the risks associated with the use of social media

as a healthcare professional?

2. METHODS

2.1 Design

This study was conducted between the years 2019-2021 and employed a four-stage realist action research design: Plan, Act, Observe, Reflect (PAOR) to respond to the research questions outlined above.[25] Realist research has seven main assumptions (see Table 1). Ryan & Rutty[26] outline the value of realist action research in nursing, with many of the principles aligning well with the values of nursing practice; the research is done with and not 'to' people', seeking to improve practice and knowledge of existing situations.

Table 1. The assumptions of realist research adapted from references[26–28]

1) Reality can never be completely known, and there is one reality that may be seen differently depending on where you are situated. What we observe, feel, measure and analyse are simply representations of what this 'reality' is.
2) This 'one reality' may be viewed and interpreted by different people in different ways but the 'reality' they are experiencing is one single reality being seen from different 'angles' or 'perspectives' (a concept of modified objectivity)
3) Social systems are 'open', 'complex' and may continuously change. They can never be completely controlled and hence, can never be free from what positivists believe to be 'bias' (a concept of modified objectivity).
4) What we currently 'know' to be true is fallible. That is, knowledge evolves and progresses with time and what we believe to be fact now may be proven wrong or advanced upon in the future. (N.B. this reflects many professional standards of evidence-based practice in that nurses should use the 'best evidence available' at a given time).
5) Conversely, what might be shown as fact in one circumstance may not transpire in another (e.g. we can use the best evidence we have, evidence that has been shown to be 'fact' to educate a person but this will never work consistently for every single person in every circumstance). There are underlying mechanisms in 'reality' that we cannot ever control or see.
6) Knowledge should be generated from a range of sources and through a range of methods and we should aim to 'explain' (using theoretical frameworks, previous knowledge, research and primary data collection) what the 'most likely reality' is based on the 'best available evidence' we have at the given time and in the current circumstance.
7) Knowledge should be fit for purpose (i.e. it should be accessible, applicable, usable and relevant to the context for which it is intended).

2.2 Setting & sample

A convenience sample of participants was recruited through one Higher Education Institution in the United Kingdom via module discussion forums and professional networks such as social media groups. The A2A quiz was used to obtain data as described below, and to recruit focus group participants by expression of interest.

Inclusion criteria:

-Must be undertaking a pre-registration nursing or nursing associate programme or be a registered nurse or midwife with Nursing and Midwifery Council or other professional body for nursing;
-Provide informed consent.

Exclusion criteria:

-Does not have a Facebook/social media profile/account;
-Under the age of 18 years.

Participants were provided with a participant information sheet (PIS) for the A2A quiz and focus groups. The PIS sheet provided a link to the online quiz where participants were able to also express an interest in the focus groups. Focus group participants were also recruited without having completed the quiz by expression of interest via email to the lead researcher.

2.3 Intervention

The A2A education framework consists of an assessment that identifies current levels of 'awareness' and a second assessment that requires the user to assess 'actual' behaviours.[29,30] i.e. do the user's privacy settings reflect what they believe them to be? It intends to prompt thought and reflection about self-perceived behaviours and 'actual' behaviours in social media with a primary focus on Facebook.

Developed as part of a previous 42-month ethnographic study, the A2A tool is free to access online[31] (The original tool was published in the year 2020 and is now not 'live'. As a result of the findings of this study this reference refers to the improved interactive version of the tool).

Participants completed the preparatory reading and an activity in two stages,

•Preparatory reading provided a background to e-professionalism in the context of healthcare.
•Activity part 1 Awareness component: a list of questions they answer without having looked at their Facebook profile to establish 'what they think they do'. A score is calculated as a percentage but not shared at this point.
•Activity part 2 Action component: a repeat of the list of questions from part 1 while viewing their public Facebook profile where a second score (%) was calculated. The final

page gave the participant a 'risk' score based on the difference in part 1 and part 2 scores. It also identified where the 'risk' is, for example, by sharing their workplace publicly. There is then an optional 'action plan' and a 'reveal' discussion that provides information on Facebook functionality and how to change/amend privacy settings. All these resources were copyright cleared for use in this context.

2.4 Data collection and analysis

2.4.1 *A2A quiz*

Quantitative data was collected using Bristol Survey which included eligibility questions, demographic data, part 1 and 2 scores and several questions evaluating usability and relevance of the tool. Quantitative data was analysed using the statistical software SPSS 24.0, confidence levels were set to 95% with Wilcoxon signed rank used to test for statistical significance between part 1 and 2 scores (i.e. to assess whether participants were sharing what they thought they were sharing). Kruskill-Wallis was used to test if there was any significance between part 1 and 2 score difference based on age and stage of nursing (pre-registration and post-registration). There was the opportunity to add additional comments in an open question asking participants to reflect on their experience. The A2A quiz and additional questions were reviewed and tested by two academics and feedback sought from the HREC committee and three Student Research Project Panel (SRPP) members prior to use.

2.4.2 *Focus groups*

Three focus groups were conducted between June-October 2021 where the concept of e-professionalism and what the 'issues' really are, the impact of the tool, usability and relevance to practice were discussed. Focus groups were conducted online via Microsoft Teams, digitally recorded and transcribed. Focus groups were conducted following the A2A quiz to further build on initial findings. Qualitative data was analysed using qualitative analysis software NVivo 12.0 using thematic analysis as described in Stringer.[32] This approach involves i. categorising and coding, ii. reviewing the data, iii. unitising the data (sentences, words, phrases), iv. further categorising and coding (groups and categories), v. identifying themes, vi. organising a category system and vii. developing a framework.

2.5 Quality measures

Quality was assessed using the realist approach described by Ryan & Rutty,[33] transferability, accessibility, propriety, utility, purposivity, accuracy, specificity and modified objectivity (TAPUPASM). Bryman[34] and Lincoln & Guba[35] suggest two commonly known approaches to the measure of 'quality' typically used in positivist or interpretivist research (Table 2, columns one and two: validity and trustworthiness respectively) and table 1 illustrates how TAPUPASM aligns with these.

Table 2. Comparison of TAPUPASM with interpretivist and positivist approaches to quality in research

	Positivist	**Interpretivist**	**Post-positivist 'realism'**
Quality criteria	Reliability Are the results of the study repeatable and replicable?	Dependability Can the results be replicated and be relevant in other times/places?	Transparency Is the process of generating knowledge explicit and clear? Accessibility Does it meet the needs of those seeking the knowledge?
	Internal validity Construct validity Can the conclusions and relationships [causal factors] be trusted? Do measures do what they say they will do?	Credibility How believable are the findings?	Accuracy Are the claims made based on relevant information? Propriety Is the research legal and ethical?
	External validity Ecological validity Can the findings be generalized more widely, to a community or population? Can the findings be applied to natural social settings?	Transferability Can these findings be applied in other contexts?	Specificity Does the research generated consider and apply to source specific standards? Utility Is the research appropriate to the decision-making setting? Does it provide answers to the practical questions?
	Objectivity Consideration of bias	Confirmability To what level has the researcher allowed their own values to influence the process?	Modified Objectivity Does the research review a range of evidence and draw the most likely conclusions based on this?

2.6 Ethical considerations

Organisational ethical approval was secured, and valid informed consent was taken via an online form (HREC 2473). Participants were informed about withdrawal procedures. A separate Student Research Project Panel (SRPP) also reviewed and approved the project (Ref: 2021/1982).

3. RESULTS

Descriptive results are presented first, followed by quantitative and qualitative analysis findings.

3.1 Participant characteristics

Table 3 summarises the characteristics of survey participants (n = 17), Table 4 the focus group participants (n = 8). There were n = 20 survey participants but 3 were omitted from analysis due to replication (1 participant attempted to participate twice) and incomplete data (n = 2).

Table 3. Characteristics of survey participants

		n	Percentage (%)
Age (years)	16-24	2	12
	25-34	5	29
	35-44	6	35
	45-54	4	24
	55+	0	0
	Total	*17*	*100*
Stage of practice	Stage 1 (pre-registration)	2	12
	Stage 2 (pre-registration)	5	29
	Stage 3 (pre-registration)	9	53
	Post-registration	1	6
	Total	*17*	*100*
Gender	Male	1	6
	Female	16	94
	Total	*17*	*100*

Table 4. Focus group participant characteristics

		n	Percentage (%)
Age (years)	16-24	0	0
	25-34	2	25
	35-44	1	12
	45-54	3	38
	55+	2	25
	Total	*8*	*100*
Stage of practice	Pre-registration	5	60
	Post-registration	3	40
	Total	*8*	*100*
Gender	Male	1	12
	Female	7	88
	Total	*8*	*100*

Table 5 shows the paired part 1 and 2 scores for the survey participants. The maximum score of 100% was associated with the highest risk (i.e. sharing personal information publicly), therefore a negative difference in scores illustrates less awareness of what was being shared publicly.

Table 5. Part 1 and part 2 scores for survey participants

Part 1	Part 2	Difference
66	66	0
20	100	-80
46	46	0
55	62	-7
53	71	-18
46	46	0
46	37	9
60	69	-9
62	73	-11
87	73	14
90	97	-7
62	80	-18
64	66	-2
60	57	3
71	71	0
37	37	0
37	37	0

3.2 Quantitative analysis

Shapiro-Wilk tests for normality for the differences in part 1 and 2 scores indicated that data was not normally distributed, $p < .001$.

H1 There will be a significant difference in part 1 and 2 scores, indicating that participants were not aware of what they were sharing publicly.

A Wilcoxon signed rank test to compare means showed no significant difference between participants part 1 and 2 scores, $p = .119$. However, 10 of the 17 participants (60%) showed a change in part 1 and 2 scores, indicating that they were not fully aware of what they were sharing publicly (even if this may be less than they expected). The remaining 7 scored a difference of 0 which indicates that they knew what they were sharing. Several of these participants still indicated in their qualitative reflection that they would be or have changed their privacy settings following completion of the tool, for example, changing their name, profile picture, deleting old photos or removing friends they no longer have contact with.

There was no significance in the difference between part 1 and 2 scores based on age or stage of career.

3.2.1 *Additional usability questions*

An additional five questions were asked following the A2A quiz using a 1-10 Likert scoring system. Table 6 summarises participant responses.

Table 6. Responses to Likert survey questions

Question	Mean	Mode	Range
1. How much information in the tool was new to you? (1 – none, 10 – all)	6	5	8
2. Were you surprised about how much you shared publicly? (1 – not at all, 10 – completely)	4.56	6	7
3. For what purpose do you use social media (1 – only personal, 10 – only professional)	3.06	1	8
4. Did you share more or less than you wanted to? (1 – far less, 10 – a significant amount more)	6.69	8	8
5. How likely are you to recommend the tool to a colleague? (1 – not at all, 10 – absolutely)	7.25	10	8

Chi-squared tests were used to assess any significant differences in responses based on age and stage of career.

H1 There will be a significant difference between age and responses to survey questions in Table 6.

There was no significant difference across age to groups to any of the responses to questions in Table 5.

H1 There will be a significant difference between stage of career and responses to survey questions in Table 6.

There was a significant difference for question 1, $p = .041$ df 12, where those earlier in their career (stage 1) were more likely to say that the information was not new to them.

3.3 Qualitative analysis

There were three overarching themes identified through analysis of A2A quiz reflections and focus group transcripts, 'Describing e-professionalism', 'The wider contexts relating social media and e-professionalism' and 'the positive impact of using the A2A tool'.

3.3.1 *Describing e-professionalism*

Although it was apparent that participants were aware of and understood the importance of e-professionalism they were less able to articulate its definition, preferring to give examples of acceptable behaviour on their part compared to unacceptable behaviour of others,

'I suppose it's about, as a practitioner, your emotional intelligence and your self- awareness as well, isn't it, like when you're saying you post the bare minimum even on your own page, because you really do, as much, and obviously you should keep the two things, in my own opinion, separate, it can be hard and it is really, I suppose you leave everything at the door at the end of the work day, but really you still need to keep to a certain degree the professional head on, it's like a 24 hour 365 busy job.' (Focus Group (FG)1: Respondent (R)2)

The discussion tended to focus on the impact of public image and reputation of the profession along with what types of behaviours are and are not acceptable for a professional,

'I'm careful and I've been careful a long time not to have a cigarette in my hand on a photo, because I don't think it looks nice. It's unfortunate I was addicted to it, but actually you have got a right to do those things, it wouldn't be the end of the world, but it doesn't look professional.' (FG1:R3)

'I would say that's probably a professional stance, just as, like R3 says, maybe individuals have got patients on their social media, which I'd have to agree, I would say is pretty unprofessional just due to, again, the boundaries and obviously professional boundaries are very important in nursing.' (FG2:R1)

3.3.2 *Wider contexts relating to social media and e-professionalism*

There were clear references to the wider social-professional-personal context and how boundaries can become blurred easily due to the nature of social media and how the offline-online world interacts,

'. . . but when it comes to our pay and stuff like that, I feel we have every right to be politically active and demand our human rights. So, I don't know which areas, for instance, if like the COVID vaccines and you are an anti-vaxxer, you have your own, it's coming from you as an individual, that's fine, but if it's coming out as a person in a nursing profession people might take your advice as authoritative and not have the vaccine' (FG1:R3)

External factors that are emotive for healthcare professionals, such as COVID-19 were seen to have a significant influence on how people behave,

'It was difficult during COVID when the politicians were making decisions which maybe you might not have agreed with, but it's very careful, you know' (FG1:R1)

Conversely, the 'passage of time' and evolving nature of social media in society was seen as an influencing factor on

what and how people behave,

'But you can see many, many moons ago me on a night out, probably a few too many drinks, the glazed look in my eyes and I thought, oh my goodness! So, you're then having to go through and delete things and I've seen recently when it comes up, the memories, and it's older posts and I know it says that no-one sees them until you share them, but just the thought that anyone, I suppose, could go back on them and see what you were like 10, 12 years ago.' (FG2:R2)

Alongside this, there was a noted shift from e-professionalism and use of social media being negative with some individual, professional and socially positive uses being discussed,

'I have one of the, what do you call them, skins I think you call them on it and it does say that I'm a mental health student nurse and I think, for me, it's very important to promote positivity in mental health and I suppose the whole Be Kind movement and It's OK Not To Be OK and I think it's really important for me as a mental health student to promote these kind of things.' (FG2:R2)

But also, that this evolution of social media can make it more complicated to manage,

'because we use things like Twitter and LinkedIn to get messages out there, also to spread the good word, I think it does muddy the waters significantly.' (FG3:R1)

'every so often they [the employer] will actually put out an email and say, one of them in particular was, because I mainly work nights in my base role and there was a conversation about this. They said in an email for people to take selfies of the staff that had worked the night before Christmas and the picture was then sent to the Trust and the Trust shared these pictures... It was a thing of, yeah, they're saying you know in yourself you shouldn't be sharing pictures and that in uniform, but the Trust were doing it, so it was the professional body doing it…' (FG1:R3)

3.3.3 *The positive impact of using the A2A tool*

Participants spoke positively about the A2A tool and the impact it had on them and their behaviours, with most saying that they have changed their privacy settings or behaviours because of completing the activity,

'Although my profile picture wasn't of myself, my cover photo was of my children and because of the fact that I live in a town and the problems that I said before about that I would have friends who know me through, you know, it just made me think a lot of people would be able to identify me from my children alone.' (Quiz respondent (QR) 14)

'Yeah, I've checked it much more as well actually, even since doing that I think I've gone into it a couple of times just to see what can people see on my profile, could they see that picture I just put up.' (FG1:R1)

It also seemed to raise awareness of the potential 'unintended consequences' of what is shared despite having privacy settings in place,

'I didn't realise just how much you could find even from someone's profile that was already secured, because you can still, even though your profile's private, you can still make your posts public for all to see and I don't know if that differs on a post by post basis, but I've definitely been made a wee bit more aware of reading what I'm posting from different perspectives and how it may be construed by other people and how you could read it and could you read it in a different way, could it be taken maybe - I don't post much, to be fair, but what I do post is usually about family life, but could anyone read that and think, oh, I don't like the way she's doing that and I don't like this or I don't like that' (FG1:R2)

The tool was seen as relevant to professional practice, a much-needed tool to raise awareness, educate and put local policy and professional codes into context,

'So, a tool for something [like that] actually get's people thinking, I think, is really, really important, because I wouldn't have thought an awful lot about it as much until I was doing that… but I think it's a really good idea and I think definitely anyone in a healthcare setting should be really, really made aware of it, because I think in my role just now we are made aware of social media and what you shouldn't post, but it's very vague and I don't think they go as in depth as what they probably should.' (FG2:R3)

There were also various suggestions about how the tool could be developed to enhance its impact,

'I wonder if, in the context of a programme, it would be just very interesting to have a few examples, a few very borderline examples and have people really think and if there was a way of voting whether you thought this one was appropriate or not' (FG1:R2)

4. Discussion

There is a need for nurses to accept that there is a potential risk associated with the use of social media before they can truly understand and be aware of e-professionalism.[21] In this study nurses seemed to be aware of the concept of risk and e-professionalism but there was confusion about 'what is and is not allowed to be shared'. This finding is supported by others.[12]

It is also evident that, when describing their awareness of e-professionalism most take a 'them and me' perspective, providing examples of what other people do that is unacceptable and what they do that is acceptable.[19] However, despite the confidence of focus group participants and survey

respondents about what they share, almost all agreed that they have made amends to their privacy settings, changed or deleted items or posts and/or their behaviours because of participation in the A2A tool activities. So, not only did this have an explicit impact on their behaviours in relation to social media, the reflections as part of the tool clearly had an impact on perspectives and levels of awareness about what they were sharing online. These findings also suggest that 'awareness' of e-professionalism is not enough, there is a need for tools that prompt reflective thought and allow nurses to practically apply knowledge and skills,[12, 13, 21] which the A2A tool appears to do; allowing them to genuinely examine what they do and do not want to share in a meaningful way.

As discussed in this study and more widely in research literature, the general nature and wider [and evolving] context of social media creates challenges and opportunities particularly in relation to the blurring of boundaries across social-personal-professional domains.[9, 19, 36]

The participants in this study often described challenges associated with personal values and emotions, being a professional 24/7 As described in Ryan[36] and Henning et al.[19] conflict often arises between one's personal and professional identity. Despite being 'aware' of e-professionalism and being able to provide examples of acceptable and unacceptable behaviours, emotive subjects such as COVID-19, political concerns such as staff pay and the right to be a person with their own values can still pose a risk and these participants seemed to be aware of this and also the possibility of unintended consequences of seemingly innocent posts that can be misinterpreted by others or posts that are significantly old, when default privacy settings were non-customisable (i.e. all posts went out publicly by default) where they could be taken out of context. The A2A tool clearly played a role in encouraging participants to review their profiles in this context and make changes to privacy settings accordingly.

In the context of evolution and in comparison, to earlier research into social media and e-professionalism[37] which tended to focus on the risks associated with its use and what people were doing 'wrong' this study and more recent research documents a notable shift towards what the opportunities and benefits of social media can offer in a professional context. Participants viewed social media as a route to promote the profession, including positive health promotion activities and for their organisation to promote a positive image.[6, 38] O'Connor et al.[3, 39] further outlines the benefits of social media for the purposes of education and perhaps the A2A tool is an example where education and social media interact to produce positive learning experiences that can be practically applied in personal and professional practice. Furthermore, the A2A tool may begin to address the challenges of 'blurred boundaries' and 'what can and cannot be shared' by encouraged users to 'set those boundaries' by examining what they share and with whom, making amendments to privacy settings as required. For example, only sharing posts with a customised list of close family/friends.

Limitations & impact

This was a small-scale study based in the United Kingdom with mostly pre-registration nurses and it is recognised that survey responses were low in comparison to the number of people who completed the learning during 2020-2021 (Data from the online platform analytics showed over 340 people engaged with the resource). However, the transferability, utility and purposivity of this tool for nursing students, nurses and other healthcare professionals is noted in participant responses, from the focus groups in particular and in the wider context of education, especially as it is Open Access to anyone on its current platform. This is the first known research study to evaluate a free, open access educational tool for e-professionalism in nursing and sets good grounding for future research and practice.

Research evidence provides suggestions and guidance on what 'good' educational interventions might look like from an end user perspective including clear written or verbal guidance, practical demonstrations about privacy settings and small group work. From the findings in this study the A2A tool addresses the first two but has not yet been used in a group educational setting which requires further evaluation. Participants also wanted the addition of 'case scenarios', also proposed by Zalpuri et al.[15] and like that published in Ryan[29–31] and which have not yet been incorporated into the A2A tool and further evaluation is required to establish where this type of intervention can best be employed to achieve the most effective outcomes. The A2A tool demonstrates potential to contribute to multi-method approaches to education about e-professionalism such as the evidence-based framework presented in Ryan-Blackwell.[20]

5. Conclusion

This study showed that there is awareness of the need for e-professionalism in the context of social media, but even those who are aware of it are not always able to articulate what this means. With the best intentions they may still share things publicly that they do not wish to due to the nature of social media (for example, privacy settings changing, the 'sustained' nature of things that are shared), the potential lack of awareness of unintended consequences of seemingly innocent and well-intended behaviours and the influence of internal and external factors such as COVID and emotive

subjects along with the need for having their own personal views (i.e. 'I'm not only a nurse'). However, the evolving nature of social media means that there is increasing reference to the positive impact it can have for professionals, the profession and individuals so it is more about balancing the challenges with the opportunities; a method by which to do this is raising awareness.

The A2A tool had a positive impact on the participants, their behaviours on social media and is therefore a good basis for raising personal awareness and reducing risky behaviours for healthcare professionals. Further research should build on the work of this tool and based on the findings in the context of current research literature, the use of vignettes, education about privacy settings, unintended consequences and use of language for individual healthcare professionals and as part of group discussions in healthcare education.

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Dr Gemma Ryan-Blackwell was the lead researcher and lead author. Jessica Jackson was co-researcher and led on focus groups.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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