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RESEARCH ARTICLE

Professional Identity

'My doctor self and my human self': A qualitative study of physicians' presentation of self on social media

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Abstract

Introduction: When using social media, physicians are encouraged and trained to maintain separate professional and personal identities. However, this separation is difficult and even undesirable, as the blurring of personal and professional online presence can influence patient trust. Thus, it is necessary to develop policies and educational resources that are more responsive to the blurring of personal and professional boundaries on social media. This study aims to provide an understanding of how physicians present themselves holistically online to inform such policies and resources.

Methods: Twenty-eight US-based physicians who use social media were interviewed. Participants were asked to describe how and why they use social media, specifically Twitter (rebranded as 'X' in 2023). Interviews were complemented by data from the participants' Twitter profiles. Data were analysed using reflexive thematic analysis guided by Goffman's dramaturgical model. This model uses the metaphor of a stage to characterise how individuals attempt to control the aspects of the identities—or *faces*—they display during social interactions.

Results: The participants presented six faces, which included professionally focused faces (e.g. networker) and those more personal in nature (e.g. human). The participants crafted and maintained these faces through discursive choices in their tweets and profiles, which were motivated by their audience's perceptions. We identified overlaps and tensions at the intersections of these faces, which posed professional and personal challenges for participants.

Conclusions: Physicians strategically emphasise their more professional or personal faces according to their objectives and motivations in different communicative situations, and tailor their language and content to better reach their target audiences. While tensions arise between these faces, physicians still prefer to project a rounded, integral image of themselves on social media. This suggests a need to reconsider social media policies and related educational initiatives to better align with the realities of these digital environments.

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1 | INTRODUCTION

Physicians increasingly use social media for multiple reasons, ranging from professional development[1] to providing timely, accurate health information to the public.[2–4] For example, in 2021, a group of physicians and health professionals across Illinois banded together to use social media to amplify evidence-based health approaches to protect individuals and communities statewide.[2] On an individual level, physicians are leveraging social media to engage directly with patients, to promote their clinical practice, and to connect with fellow physicians and other health-care providers.[4]

This online engagement with social media can become a component of physicians' *professional identity*[5,6]—their 'representation of self, achieved in stages over time, during which the characteristics, value, and norms of the medical profession are internalized, resulting in individual thinking, acting and feeling like a physician'.[7] Identity development has been conceptualised in many different ways, but is broadly understood as a dynamic, two-way process that depends on an individual's internally focused conceptions of self as well as their externally focused beliefs about how others perceive them.[8] Through this lens, social media platforms can be understood as contributing to physicians' professional identification by providing spaces for them to express their own ideas about who they are and reflect on how other users perceive them.

Physicians and medical students are encouraged and trained to maintain and present separate personal and professional identities on social media.[9–11] Yet, maintaining this separation is not always possible in practice, as physicians and medical students note that 'doctors cannot be doctors all of the time' in these digital spaces.[12] Specifically, the public nature of many social media platforms can make it challenging for users to control the content that is shared about them and to whom it is visible (e.g., a friend may post a photo of a physician depicting irresponsible behaviour without asking for permission, which may then be viewed by colleagues or patients).[13,14] Moreover, many of these platforms prioritise short, bite-sized communication, meaning critical nuance can be lost. This uncontextualised content can, in turn, be shared more widely and rapidly than is possible in most face-to-face contexts—and with far less control—meaning that any given social media post could reach a vast audience it was never intended for.[15] Such *context collision* has created an 'online identity crisis' for physicians, with negative implications for their well-being,[16] their professional reputation,[17] and, potentially, the public's perception.[14] For example, a photo in which a physician appears intoxicated—even if shared with the intention of reaching only friends—could be seen by a patient, damaging their trust in the physician.[14] Negative consequences of context collision may be even greater for physicians with minoritised identities, who more frequently face harassment on social media.[18]

At the same time, the blurring of personal and professional identities that can take place on social media has the potential to benefit the patient–physician relationship when performed with care,[16] as experts who appear warm and personable are also perceived as more trustworthy,[19,20] and physician narratives have been shown to improve the perceived effectiveness of public health recommendations on social media.[21] Yet, despite these potential benefits and the 'operationally impossible' task of preventing context collision entirely,[14] most existing policies and educational initiatives encourage physicians to practice complete professionalism on social media.[22–24] To develop policies and educational resources that are more responsive to the blurring of boundaries that is inescapable online and guide physicians in navigating it effectively, it is important to first understand how physicians present themselves on social media.

Bearing in mind that social media platforms are not a 'neutral stage of self-performance—they are powerful tools for consciously reconstructing multiple selves',[25] this study aims to describe physicians' presentation of self on Twitter (now known as 'X'), including the aspects of their personal and professional identities they choose to present. We focus on Twitter, as it is one of the most popular with physicians[26] and provides opportunities for dynamic, interactive identity presentation.[15] Specifically, it allows users to post and respond to short messages that are freely available on the platform, enabling them to share multiple aspects of their personalities to a potentially broad audience.[13]

To describe physicians' self-presentation, we selected Irving Goffman's dramaturgical model, which uses the metaphor of a stage to characterise how individuals attempt to present themselves by controlling different aspects of the identities—or *faces*—they display during social interactions.[27] In this way, individuals 'perform on multiple stages, creating a face for each interaction and developing faces for a variety of situational contexts'.[28] The faces individuals display, and the *impression management* strategies they use to maintain them, are shaped by their beliefs about the audiences who are watching and what those audiences expect, as well as the feedback they receive in response to their 'performances.'

Goffman's model is inscribed in a sociological tradition that privileges the study of microsocial phenomena rather than macrosocial structures of power. Although it was originally conceived in relation to face-to-face interactions, it has been found relevant for describing identities in social media contexts,[29] including among physicians.[3] Researchers have expanded the theory beyond its original focus on the active performance of faces to also consider static elements (e.g., photos, curated lists, etc.) that individuals curate to leave a particular impression on their audiences.[30] This paper considers both participants' *performances* (i.e. their Twitter activities) and *exhibitions* (i.e. their Twitter bio statement and images) with the aim to provide a more holistic picture of physicians' online self-presentation and to help address the need to develop policies and educational resources that are more responsive to physicians' practices. To do so, we consider both physicians' self-reported self-presentation strategies and their reflections on their social media audiences' perceptions and expectations, reflecting both internal and external aspects of identification.[8]

2 | METHODS

We conducted an interview study guided by a constructivist paradigm, which means we conceptualised knowledge as socially constructed between individuals (e.g., participants, researchers) and

society.[31] Iterative engagement with participants' Twitter profiles and descriptions of their social media activities was used to co-construct an understanding of how physicians present their identities on Twitter. By taking this constructivist approach, our backgrounds and experiences informed this study, including data interpretation and analysis. To provide multiple viewpoints on the topic, the research team included expertise in science communication (LC, AF), health professions education and scholarly communication (LM), and clinical medicine and social media (RR). RR is also an emergency medicine physician knowledgeable about and active on social media and is a member of the Illinois Medical Professionals Action Collaborative Team (IMPACT), which leverages social media to combat misinformation.[2] The Uniformed Services University ethics board reviewed this study, including all related study procedures and materials (e.g., interview guide, recruitment emails). The study was declared exempt by the Uniformed Services University Institutional Review Board as it was deemed to present no more than a minimal risk to participants (Case # DBS.2022.427).

Data were collected between October 2022 and May 2023, and analysed from November 2022 to August 2023. During the study period, Twitter was a key platform for sharing credible, COVID-19-related information—including by physicians[32]—and also for circulating pandemic-related disinformation.[33–35] In addition, the platform was purchased by Elon Musk in October 2022,[36] which resulted in changes to Twitter's blue check verification system (April 2023) and the rebranding of the platform as 'X' (July 2023).

2.1 | Participants and recruitment

The physicians who used social media were eligible to participate. We focused on US-based physicians so that participants would share a similar health-care landscape and because this population was feasible for sampling. Initial recruitment was targeted towards physician members of the Association for Healthcare Social Media (AHSM) and IMPACT. The participants were recruited by email and direct messages on Twitter. We used snowball sampling[36,37] to identify additional physicians active on Twitter by asking participants for suggestions during the interviews. The decision to end recruitment was based on information sufficiency, the point at which we felt that we had captured enough data to satisfy our research aim[38,39] Based on our ongoing conversations, we determined that we had reached data sufficiency after interviewing 24 participants. However, we interviewed four additional participants to be certain, yielding a final sample of 28 participants.

2.2 | Data collection

Data were collected using one-on-one interviews and supplemented with information from each participant's Twitter profile (e.g. hashtags and photos). The interviewers did not have previously established relationships with the participants. On 3 May 2023, each participant's number of followers and tweets, geographic location, account start date, and bio statement were recorded.

Interviews were guided by a semi-structured interview guide based on a review of the literature and shaped by Goffman's model, in particular, his observations about the presentation of self.[27] We piloted the interview guide with two physicians who provided feedback on the content and structure, and then slightly modified the interview guide. The interview guide also evolved over the study based on researcher conversations and events related to Twitter (e.g., Musk's purchase of the platform) Although we designed our initial interview guide to capture how and why participants use social media in general, our focus eventually shifted to Twitter, as this was the platform participants used most (Appendix S1).

Interviews lasted between 40 and 60 min on average and were conducted by LM and LC using Zoom or Google Meet. Zoom interviews were transcribed by a transcription service and Google Meet interviews via its built-in transcription feature. LM and LC deidentified all transcripts and checked them for accuracy. Throughout the interviews, LM and LC met bi-weekly to discuss the transcripts, identify relevant codes, modify the interview guide as needed, and determine whether additional participant recruitment was required.

2.3 | Analysis

We analysed the transcripts using reflexive thematic analysis[40,41] because of its alignment with our constructivist paradigm and its flexible nature and usefulness in facilitating the identification, examination, and reporting of patterns.[42] Analysis was guided by Braun and Clarke's six steps of thematic analysis.[40] LM and LC began by independently reading the transcripts and bio statements line-by-line, and then generated initial codes. While coding, they were sensitised to seek content aligned with Goffman's model, specifically the presence of 'faces,' and also remained open to other codes. Codes were compiled into a working codebook that included preliminary code definitions and example quotes. LM, LC, and AF met frequently to discuss, reflect on, and refine the codebook. Once the codebook was agreed upon, LM and LC independently applied the codes across the transcripts using Dedoose, a qualitative data analysis software. Generated themes were shared with RR, a co-author who was not involved with the coding but had access to all transcripts. All authors participated in the discussion, refinement and naming of emergent themes. We also engaged in discussions in which we compared the self-reported, self-presentation data from the interviews with participants' actual bio statements to identify alignment. In these discussions, RR provided critical scrutiny of the results and sparked conversations about how the team's own identifies and values may have informed our interpretations. By using reflexive thematic analysis, we recognised that the researchers' identities, experiences, and subjective perceptions are an inevitable and illuminating part of the research process. Nevertheless, to verify the trustworthiness of our findings, member checking was conducted[43] by presenting the participants a summary of results and asking them if the findings resonated with their experiences.

3 | RESULTS

The 28 physicians interviewed ($n = 18$ women) represented 10 clinical specialties, with paediatrics and emergency medicine being the most common. While all participants held MD or DO (doctor of osteopathic medicine) degrees, five also had master's degrees (e.g., in public health, business administration) and one a PhD. Twenty participants held appointments at academic health centres.

All participants had Twitter accounts and 25 had a presence on additional platforms (e.g., TikTok and Facebook). At the time of data collection, the participants had a total of 646 328 Twitter followers (Mean = 23 083), with individual follower counts ranging from 518 to 115 800. Together, the participants tweeted 1 054 660 times (Mean = 37666.4), with the number of tweets per participant ranging from 296 to 286 600 tweets over the lifetime of their accounts. Before Twitter transitioned to a subscription-based verification system in April 2023, 15 participants had verified profiles (i.e. featuring the blue checkmark); only a single participant retained this status post transition.

We identified six faces (see Table 1 for a listing) presented by the participants, which resonated with those who responded to our member checking request. All participants engaged in impression management, which is the process of attempting to influence how others view an individual, through three related factors across the faces: language choices, motivations and audiences.

The participants constructed and maintained these faces through discursive choices in their tweets and bio profiles, which were closely related to their motivations for engaging with different audiences on Twitter. In addition, the participants were keenly aware of the heterogeneity of their potential audiences and worked hard to project faces that fitted the image they hoped to convey to the audiences they believed were watching their 'performance.' One participant

TABLE 1 Faces identified in physician interviews ($n = 28$) with sample quotes.

Face	Sample quotes
Physician	A lot of my professional identity is being a pediatric physician and caring for children, and so that is a big part of where my identity lies, being a pediatric physician. And so I work really hard to highlight and advocate for children and that, I think, is a reflection of my professional and personal identity on the Internet or on social media. (P26) I think without listing MD I felt like you wouldn't necessarily know I'm a physician, so that's sort of why I put it there [Twitter profile]. (P20)
Academician	Initially when I was doing it [tweeting], I was actually doing it to amplify my own work and my own research and any publications that I had, because that was what had been recommended to me. (P2) Twitter has given me a lot of opportunities that I wouldn't have otherwise had in terms of connecting with other researchers or people that are still serving as mentors today" (P1).
Networker	People have contacted me asking if I want to write a paper or even for jobs and things like that. Then I usually point them to other sources or boost other people. And like I mentioned, reporters have contacted me and those kinds of things. So it definitely helps. Just expand your range within your professional community and beyond that. (P14) So, I've interacted with various legislators on the state and federal level and use it as a way to help tag what issues are important in the pediatric community. […] There's definitely been other legislators who've reached out to me or who I've reached out to and was able to secure a meeting with or probably reach them in a different way, when calling or emailing them didn't work. (P7)
Advocate	It's a form of advocacy for me … I want to also share the message of climate change and how dire it really is and that people don't realize how bad it is, and that I want to – without taking away hope, but still conveying that this is actually something that's worth looking into, doing something about. (P4). I also use it as an opportunity to highlight the challenges of gender equity and medicine. The challenges of just any sort of identity equity in medicine. There are a lot of underrepresented people in medicine, or undervalued people in medicine, and I try to use it as an avenue to showcase how to increase value or how to highlight the value of certain groups of people. (P26)
Public educator	One of the things that I try to do with my account is counter any misinformation that I see and put forward a perspective that's grounded in my own expertise. (P13) I find that from a medical standpoint if I'm able to influence people's health decisions, I think I've made a huge mark on the world […] if I can make a dent in that as one person I think I've made an even broader impact than just being a private practice physician. (P9)
Human	This is me. I'm a physician. I'm a woman. I'm a mother. (P27) I feel like I should feel free to be myself as well. Because I feel like we are raising a generation of physicians who are terrified to have a life outside of medicine to be a person and that is what leads to such high rates of burnout, anxiety, suicide, among healthcare professionals and I refuse to contribute to that. And so I try very hard on what I include both in my profile, and in what I post to be a very real person to share the triumphs and hardships in medicine, but to share life outside of medicine. Because I am setting an example, for all the people that are following me, that life is not medicine. Medicine is a job, it's an amazing one, but it is not my life … mainly on my profile and I think that it's a blend of saying, Yeah, I'm a doctor and that's important to me and that's also reflected in the content that I post, but I'm a person and you can be a person too, and that's why I've chosen the pictures and the information that I have featured. (P19)

described: 'I am deliberate in the language that I choose depending on who the audience is' (P5). When describing their imagined audience, one participant said: 'Honestly, I think it's the world. I mean, anything that you put out there, anybody can see it' (P22).

We now describe the six faces, as well as the overlaps and tensions that arose at their intersections. For each face identified, we highlight how participants described their motivations, considered their imagined audiences, and selected their language to leave a particular impression (Table 2).

3.1 | Physician

All participants presented a *physician face* in their online interactions: 'when I interact with other people on Twitter, I do it as a physician' (P1). Most participants identified as an MD in their bio statement or handle (e.g. @ParticipantMD) and indicated their clinical specialty. Listing these credentials enabled the participants to establish themselves as legitimate members of the medical community and as reliable experts to patients and the public. Aware of this dual audience (i.e. colleagues/peers, patients/public), the participants attempted to align their *physician face* with their professional identity and practices. One participant noted: 'I'm using [Twitter] in a way that is congruent with who I am as a person but also what kind of physician I want to be'. (P7).

Publicly putting on a *physician face* online was not without risks. As Participant 22 stated: 'You can say 10,000 things right on social media. But if you say one wrong thing, it can end your career'. Therefore, the physicians were motivated to don the *physician face* to present themselves as medical professionals who comply with the social media practices expected of a responsible physician, including self-imposed 'rules of thumb' and explicit guidelines prescribed by employers or patient privacy laws.

The physician face was sensitive to the participants' relationship with their institution or organisation, as well as their patients. This was visible in disclaimer language in their bio statements (e.g. 'Tweets my own/not employers' (P7), Tweets≠medical advice (P21)) and in descriptions of impression management strategies from their interviews. For example, Participant 23 said they relied on their 'Grandma Rule,' meaning they avoided posting anything they would not want their grandmother reading. Another noted: 'I am mindful of the fact that a patient's parent could see what I'm saying' (P13).

The need to perform the *physician* face is related to internalised ideas of 'how you should behave' (P26) on social media, which were shaped by tacit and explicit rules and stances at participants' institutions and professional associations (e.g. rules prohibiting physicians from tagging employers in tweets about controversial topics). The participants at supportive institutions reported experiencing positive recognition for their active social media presence, with some noting their institutions had even created specific social media positions for physicians. However, other institutions frowned upon physicians tweeting, as Participant 19 described: 'I've been told that until I develop better, professional judgments, basically get off Twitter, I will not be promoted.' Physicians in private practice cited greater autonomy, underscoring the power of institutional context in participants' self-presentation: 'I have a certain degree of liberty to just sort of figure it out for myself and do it as I please, because I'm in private practice and I'm one of the partners in the practice. And so, I'm my own boss and I don't have to worry about offending any higher-ups.' (P13).

This variability in institutional approaches caused a tension, leaving the participants acutely aware of their responsibilities as physicians to both patients and employers. They had to think carefully about the language, content, and tone of their tweets, to avoid ire from employers and patients. For many participants, these impression management strategies were also important for protecting their academic careers, such that the *physician face* became entangled with the *academician face*.

3.2 | Academician

The participants considered promotion of scholarship to be an extension of their academic and professional practices. They donned their *academician face* in their Twitter profiles, often by including their academic role (e.g. 'professor of paediatrics') and a link to their institutional profile. When putting on this face, the participants both produced and engaged with biomedical scientific content with an intended audience of peer health professionals and scientists. Consequently, when the participants described the language of their tweets, they tended to be more technical, including links to journal articles. Hashtags used (if any) were specific to the topic in question or the specialist circle addressed.

The participants were motivated to use the *academician face* to promote their own and other's scholarship, with many describing this potential for promotion and, ultimately, academic success as what motivated them to join Twitter. As Participant 18 noted,

> […] everything is, let's face it, currency for your self promotion. It's largely based on how visible your public figure is. […] you might be a fantastic researcher. But if your only readers are going to be people that actually are subscribed to the journal that you wrote your publication to, then that's not going to have the same impact. And so there is a little bit of serving and self-promotion in this and trying to make your brand visible.

Parallel to this focus on self-promotion, some physicians used this face to promote medical students and residents (e.g. by sharing co-authored publications and tweeting trainee publications to boost visibility). The physicians described this aspect of the *academician face* as an extension of their offline mentorship responsibilities: 'I'm in the position where I don't need that much help myself because I'm in a senior position but I feel, like, how to give back and that's what I do. I mentor a lot of people at all different levels, starting from undergrad

TABLE 2 Faces identified in physician ($n = 28$) interviews as aligned with their intended audience, motivation and examples of language choices.

Face	Imagined audience	Motivations	Language selection examples
Physician	Colleagues and peers; patients; general public; employers; and institutions	Asserting legitimacy within the medical professional community; establishing expertise and professionalism; showing compliance with good/professional/legal social media practices	I use my profession as a lens for how I decide what to post and the ideas I share. (P4) Whenever I'm at the urge to post something, the first thing I think about is, is this professional? It doesn't violate any rule. I'm not going to post something nasty, I'm not gonna post something that would hurt a patient or another person intentionally. I'm not gonna post something that's gonna violate HIPAA. (P19)
Academician	Colleagues and peers	Promoting scientific research and scholarly achievements	If I'm tweeting out to a technical audience, then I would probably choose something that is, you know, more at their speed of technical paper. (P11) I also use it [Twitter] just to share my own work and as an opportunity to collaborate with other people that might be in similar subjects. So when I see articles that are important and relevant that I think that other colleagues of mine might want to see, I'll retweet, re-share. (P18)
Networker	Colleagues and peers; journalists, policy makers, and advocacy groups	Creating connections for professional opportunities and academic collaborations	I think networking on Twitter plays out by connecting people, just like you connect people in real life. You can connect them by, you know, highlighting them in your posts or things like sharing the work, creating collaboration. (P26) My bio statement I've changed a few times, and I honestly can't right now even recall what it says, but I've changed that a few times to sort of reflect the scope of my interests, knowing that Twitter is a facilitator for networking too, and I've engaged with a lot of folks through that, knowing you never know who's gonna look at your profile, and that's like a great way to convey what your interests are, that might not be reflected in your tweets or retweets. (P20)
Advocate	General public; policy and decision makers; journalists	Advancing and engaging with social causes	So after meeting in DC with the American Academy of Pediatrics Legislative conference, I started looking at using Twitter, seriously, as a form of connecting with other advocates. So, through their registered hashtag I was able to form a lot of connections with them and really work with the whole scope of pediatricians trying to advocate for similar things for our patients. (P7) We kind of use this expression in advocacy, "the data writes the policy but anecdotes get the votes". And so, you know, if you can state the fact and say, you know, in my experience, I've seen this as well or I will never forget the case of whatever that can be helpful. (P11)
Public educator	Patients; general public	Educating the public on health issues by sharing reliable information	We totally change how we talk, the words we use, the amount of words we use, you know, not the repeat signs of the people, but explaining complex medical things to people with understanding versus someone with no understanding of the context is a totally different ballgame. (P6)

(Continues)

TABLE 2 (Continued)

Face	Imagined audience	Motivations	Language selection examples
			In one message I might write about, you know, Ventricular fibrillation and how that can lead to being treated with the defibrillator that might be more for a scientific community versus when your heart stops, you know, you should do hands-only CPR and kind of describe that. So, I do change a little bit the language … because it's going to be different if I'm talking to a colleague about something that was published in a medical journal. Then I might just post the actual medical journal versus trying to get that information made to the public. Then I might use a news article, or a more lay piece, or maybe a blog post or something I think might be easily understood by the general public. (P18)
Human	Colleagues and peers; general public	Role modelling a relatable and grounded identity beyond the professional physician role	There's a great worry in the physician community about making sure you look professional and that patients can see us, and, you know, we're doctors, this is very serious. And yes of course but you can still be very professional and say "Look how cute my dog is in this picture". (P11) What you see there is sort of an amalgamation of my doctor self and my human self. I post a lot about food and running and my kids. So I don't limit myself to just posting stuff as a physician and part of that is very much by design, to sort of demonstrate that physicians are human beings and have foibles like everyone else. And so I'm very intentional in sort of mixing my personal life with the fact that I'm a physician on Twitter." (P5)

to medical students to residents' (P14). This mentoring aspect of the *academician face* relied heavily on projecting a positive disposition towards networking, both for professional gain (e.g. reaching potential collaborators) and social connection. The *academician face* therefore closely connected to the *networker face*.

3.3 | Networker

The participants were primarily motivated to use the *networker face* to connect with colleagues and peers in order to secure professional opportunities and collaborations. When successful, this networking was described as highly rewarding:

> I think the connections that I've made through this sort of community on Twitter have definitely helped me professionally. I got an editorial fellowship that *I don't know if I would have gotten otherwise*, and just have gotten other good opportunities that I feel pretty strongly came from those connections on Twitter. (P17, emphasis added).

We found no explicit descriptions of how participants tailored their language to perform this face. Yet, the participants did note the importance of projecting a certain disposition (e.g. as resourceful, approachable and friendly). In addition, the participants described actions such as retweeting, tagging and direct messaging specific individuals or professional associations as ways to display their openness to networking.

Interestingly, *refraining* from these actions was also described as important for projecting a *networker face*, at least in the early 'scenes' of the performance. Many participants said that they encourage physicians who are new to Twitter to spend time just 'lurking' on the platform before engaging professionally with others. In this sense, each participant's *networker face was* gradually built according to their individual interests, needs and motivations at different stages of their professional trajectories.

While colleagues and peers were the primary audiences of the *networker* face, physicians also performed this face with other social agents in mind, including journalists, policymakers, and advocacy groups. The *networker* face, therefore, enabled physicians to build a platform that supported their performance of the *advocate face*.

3.4 | Advocate

The participants donned their *advocate face* when advocating for social causes or 'passions,' often through linguistic choices in their bio statements (e.g. hashtags such as #DiversityInMedicine or #WIM [Women In Medicine]StrongerTogether). Physicians deployed the *advocate face* when taking a public stand on issues characterised by some level of social disagreement or controversy (e.g. climate crisis, police violence), most often those that related to social aspects of medicine (e.g. reproductive rights and access to health care):

> I'm not afraid to shy away from some of those opinions because I know a lot of people are wanting to know where I stand on those things […] they know that I'm actively invested in this endeavor to help educate people and also from a humanistic standpoint. I talk about social justice issues as well (P9).

The participants also advocated for change within medical professions, such as reducing race, gender, or class inequities among medical students or increasing diversity among physicians or researchers. Some also used Twitter as a channel for communicating about their participation in activities such as protests and campaigns (e.g. a rally for gun control). The participants described this advocacy as important to them on a personal level and also for the medical profession generally:

> I have advocated for disabled students. And it's really very effective, it turns out, because you get a wide audience, and organizations are, in a way, forced to respond to the concerns you bring. You can really amplify the cause you're pushing. Because of what I've tweeted or something, reporters for example have contacted me to do interviews (P14).

Because the *advocate face* often related to contentious sociopolitical issues, some participants described this face as being in tension with their *physician face*, especially in relation to their employer audience. One participant recollected that 'a couple of times they've [the social media office] contacted me to say, "You know, the optics of this are not what we would prefer. If you would not mind, would you change the wording or take something down?"' (P7).

While other medical professionals are one possible audience of the *advocate face*, the participants also engaged society more broadly (e.g. promoting issues to the media and making a hashtag go viral), including interacting in a public forum for addressing and engaging with politicians. The participants described the public aspects of their *advocate face* as having been particularly important during the COVID-19 pandemic, describing their efforts to combat mis/disinformation as a form of advocacy. Thus, the pandemic created a situation in which physicians' *advocate face* blurred with another face: that of the *public educator*.

3.5 | Public educator

The participants were highly motivated to use Twitter to educate the public on health issues and thus put on the *public educator face*. This face was, in part, an extension of their daily patient interactions, as seen in comments such as, 'I do think that my role has to extend beyond the bedside. That I should take advantage of the platform that I have to try to counteract misinformation and to provide good reliable information.' (P18). Thus, physicians tweeted to share curated information that complemented, expanded or filled in what they perceived to be gaps in patients' understanding of medical topics. 'A lot of the time I pick what I'm gonna write about or tweet about or make a video about according to what is coming up in the office. What is the most confusing thing for my patients?' (P21).

Yet, the participants also recognised that social media significantly expanded their audience to include virtually anyone. Thus, they performed the *public educator face* to educate their patients, and also to inform a wider public: 'I feel like it's part of my job. It's part of what I signed up for as being a physician to educate my communities. And my communities are much larger than what they used to be.' (P2). This awareness and perceptions of these larger communities, in turn, shaped how participants drafted their tweets:

> If I'm going to tweet [to] the general population, I just keep in mind what kind of message I want to convey, what kind of tone I want to convey it in, what my goal is with that. […] I do use my credentials in there because I want people to know where this information is coming from, but I might use slightly different language talking to people who are not in the medical field versus the medical field. Just like I would in the hospital. (P7)

Many participants had experience communicating health information on Twitter before the pandemic. During COVID-19, these physicians capitalised on their expertise and connections to reach and, in many cases, expand their follower base, as they turned from sharing specialised or general medical educational content to disseminating quality information related to the new and unknown virus. While a thorough analysis of the *public educator* face during the pandemic is beyond this paper's scope, the participants described some aspects of their performance that appeared to be unique to the crisis context, including sharing graphical material (e.g. infographics); posting recommendations and practical information; and practicing special care when sharing claims about controversial topics (e.g. masking).

> I know if I post this, I'm gonna get like a million people saying terrible things about me, but then I kind of realized, well, is there benefit to that post? Is it an educational post? Is it gonna help somebody if it is? All

> right, then we'll take one for the team [...] At the end of the day, if we can still get good information out and somebody is seeing it and getting benefit from it, then keep doing it (P11).

Descriptions of personal experiences treating patients with COVID-19 were another common way in which participants performed the *public educator face* during the pandemic. In this sense, the participants opened up online by showing their *human face*.

3.6 | Human

The physicians performed the *human face* by disclosing details about their personal identities. This included tweeting about experiences of failure, emotions or mental health; commenting on family life; describing their race and sexual orientation; or sharing light-hearted content on topics such as sports, music, or hobbies. The participants also displayed their *human face* visually, posting casual headshots as their profile pictures and nature photographs, memes, or cartoons as their background banners. Multiple participants included their pronouns in their bio statements, whereas others mentioned marital status or family members (e.g. 'Dad of 4,' 'Mom and wife'). Bios also described interests or identity traits, including statements such as 'Loves baseball' and 'Proud Iranian/American.'

The participants donned their *human face* for fellow physicians and trainees to encourage a healthy approach to balancing personal and professional responsibilities. As P27 explained, 'I want to role model that I'm a physician with a life. A physician with a life and roles and identity outside of work, and I can't just turn one role off and turn on the other. They intersect day in and day out.' The participants also performed this face with patients and the wider public in mind with a goal of appearing more relatable:

> I think I get credibility for demonstrating humanity, honestly. I think it allows people to see me as me. And I think that once they sort of know who I am as a human, I like to think that it, I hope, makes them more likely to listen when I say something medically. (P5)

While the participants believed performing the *human face was* important, they acknowledged that doing so could create tension with the *physician face*. For example, P21 believed that, 'it's important to show your humanity' on Twitter, but noted that many trainees tweet about content that is 'way more personal' than they would be comfortable sharing themselves (P21). Other participants described experiencing employer pushback:

> It's become more personal to me. I'm not gonna lie, that's got me in trouble at work. Even when I don't post things that are at all inappropriate, I've been told that it is unprofessional and shows poor judgment to post dog pictures several times a day because physicians should not be doing that. I've been told a physician should not admit that they have their own health problems online because patients wouldn't want to see a doctor who's not perfectly healthy. (P19)

Although the participants noted that presenting the *human* and *physician face* simultaneously could be challenging, they also saw it as important: 'I want [social media] to be like a true representation of who I actually am. I don't want to create this persona that's divorced from how I actually am' (P13). Perhaps for this reason, the participants maintained only one Twitter account as opposed to separate professional or personal accounts. The *human* face thus recurred throughout the participants' profiles and content, incorporating an element of authenticity and relatability into the other faces they presented:

> You paint yourself as a person, which I try to do, you know, as a dad, as a dog lover, as a photographer. And I think that grows you as a physician, as a practitioner, and it shows who you are to the community and to your patients and to your colleagues. It's sort of an extension of who you are as a person (P22).

3.7 | Overlaps and tensions

While we have presented each of the six faces in their own right for analytical purposes, we also observed overlap between them. When transitioning between face sections, we highlighted one instance of overlap, which we felt to be particularly pronounced. However, there were multiple possible overlaps between faces, some of which the participants described as beneficial. For example, we identified a positive synergy between the networker face and advocate face, because the contacts made by enacting the former allowed for greater influence and dissemination of the causes dear to the latter. The advocate and human face also reinforced each other, as physicians' involvement with certain social issues often derived from their personal identity traits (such as gender, race, ethnicity, class, etc.) or lived experiences (such as medical school, parenthood, or participation in critical events, such as the COVID-19 pandemic or managing gunshot victims). However, despite these positive outcomes, the overlaps between faces also had drawbacks. For example, the way in which the advocate face overlapped with the physician face was often described as causing or having the potential to cause tension between them and their employer. This resulted in participants consciously not tagging their employers in certain tweets or self-censoring, such that they did not address certain topics they felt might be controversial. We observed that these tensions most often arose between the highly professional faces (i.e. physician, networker and academician) and the more personal ones (i.e. human, educator and advocate). Often, these tensions were closely tied to participants' beliefs about how they would be seen by the different audiences of each face.

4 | DISCUSSION

We used Goffman's model to explore how physicians navigate the complexities of identity expression on Twitter—a platform that allows users to share multiple aspects of their personal and professional selves but offers little control over who ultimately witnesses these acts of self-presentation.[13,15] The participants overwhelmingly embraced this opportunity for dynamic self-expression, performing multiple roles, or faces, simultaneously on the Twitter stage. Some of these faces, such as those of the *physician*, *academician* and *networker*, were more closely tied to physicians' professional roles—motivated by a need to assert medical legitimacy, promote scholarly achievements or increase career opportunities. Others, such as the *public educator face*, expanded physicians' professional duties (i.e. to inform and educate) but expanded the target group of those duties from patients to a wider, less defined, digital public. Still others, such as the *advocate* or *human face*, allowed physicians to share more personal aspects of their identities, such as their passion for social causes, mental health struggles and hobbies.

Physicians saw the ability to openly display their more intimate experiences and characteristics as an advantage of Twitter, as it enabled them to role model a healthy relationship to personal identity that they felt would benefit peers and trainees. This desire is understandable given medicine's history of occupational distress,[44] which is linked to physician burnout[45] and suicide.[46] This use of the Twitter stage also aligns with recent calls for new approaches to wellness that encourage physicians to blend their personal and professional lives and, ultimately, shift medical culture away from perfection and towards vulnerability and self-compassion.[47] While these calls were not necessarily drafted with social media in mind, the participants' embrace of the personal on Twitter could potentially support this new approach and improve physicians' quality of life.

As physicians donned their different faces, they strived to engage diverse audiences—including peers, trainees, journalists, policymakers, patients, and the general public—and carefully crafted their tweets and profiles to portray the traits they thought would be most appropriate for each group. Simultaneously, they recognised that the nature of the digital 'stage' on which they are performing made doing so impossible, as the publicness of the platform meant audiences who were never intended to witness particular acts of self-presentation could easily end up with a front-row seat.[13,15] The physicians developed impression management strategies to mitigate the negative consequences associated with such context collapse, for example, by noting in their bios that their tweets reflect their own views only, and not their employer's, or self-censoring content with the potential to violate patient's privacy or harm patients.

Yet despite physicians' best efforts, considerable overlap between their faces nevertheless took place, at times causing challenges but at others supporting physicians' efforts to present their holistic selves. Social media guidelines recommend that physicians separate personal from professional expressions of identity as much as possible,[16] but such separation was perceived as unrealistic—or, in many cases, even undesirable—by participants. This suggests a need to reconsider these 'best' practices or policies, such as those implemented by employers, professional associations, and governing bodies, for using social media to better align with the realities of these digital environments. For example, an analysis of major medical governing bodies' social media policies found that they focused primarily on the risks of engaging with social media, with very limited practical guidance on how to use it as a health professional.[48] We propose that future policies should address the risks of physicians' social media use, which are not inconsequential (e.g. threats to patient privacy, the reputation of health systems and clinical practices, and individual physicians), as well as the physical safety of physicians.[11] However, these policies should also provide guidance for use of social media aligned with the reality of how physicians are and want to engage with these platforms—that is, as spaces where professional and personal aspects of their identities often co-exist.

Moreover, medical educators must ensure that educational initiatives embrace these realities and tailor training accordingly. Many participants reflected on their own lack of communication training, referring to their use of social media as 'self-taught', 'trial and error', or 'on-the-ground learning.' At the same time, they valued the fact that more and more educational options on this matter are becoming available, and that medical schools are increasingly incorporating health communication, including social media communication, as part of their formal curricula.[49,50] The institutionalisation and proliferation of these educational opportunities would indeed be an opportunity for those physicians who already have a strong social media presence and for future health professionals to become aware and critical of their own online practices and presentations of self, and also of the algorithmic logic of social media platforms and its influence on information flows.

Revising social media guidelines to encourage—rather than prohibit—thoughtful expressions of nonprofessional identities could also prove beneficial for the public, as previous research has revealed that experts are more trusted when they are perceived as warm and personable,[19,20] and that public health messaging is more effective when it includes physician personal narratives.[21] Indeed, physicians in this study believed that exhibitions of humility and humanity—exemplified in the *human face*—could help patients and the public better relate to them. They took advantage of Twitter's affordances to display this face, and also to inform the public and combat misinformation. This *public educator face* led physicians to share reliable health evidence in ways that non-experts could use and understand and was seen as an extension of their offline professional responsibilities. The subjects in this study felt strongly about this role. This commitment to public education via social media is encouraging, given that physicians remain one of the most trusted sources of health information among the public[51] but face concerning levels of harassment on social media.[18] As online health misinformation proliferates,[33] physicians can take advantage of the increasing availability of social media platforms to inform and protect the public.

4.1 | Limitations

Our study findings are context specific and may be limited in generalisability outside of its context. More specifically, while our findings may be meaningful to those outside of the United States, only US physicians were included; thus, they may not directly apply to other populations. Most participants are also affiliated with academic medical centres, which may have impacted our findings, especially in relation to the *academician* and *public educator faces*. This study also focused on physicians' self-presentation on Twitter—now 'X'—a platform which, like all of social media, is rapidly evolving. Paired with the pandemic context in which this research was conducted, this focus means that our findings may not apply to current realities on the platform, nor to other platforms or different time periods. Future research could thus build on our results by examining physician self-presentation on other platforms, during other crisis (or noncrisis) contexts, among other groups of physicians, and within other world regions. In addition, this study focused on only one side of the communication circuit. In order to complete the analysis of the participants of social interactions in Goffman's dramaturgical model, future studies could examine how audiences receive and interpret the faces physicians and other health communicators perform on social media. The interviews analysed in this study represented participants' descriptions of how they perceive their engagement with social media, which may have influenced our findings. However, we triangulated these self-perceptions with participants' Twitter bio statements and found alignment. Future researchers might consider analysing the content of physicians' social media posts using an approach like critical discourse analysis in order to directly observe physician engagement on social media through a critical lens. In such critical approaches, researchers could also investigate dynamics in relation to power differentials such as those we observed in physicians' attempts to modify behaviour to align with their employer's policies and suggested practices.

5 | CONCLUSIONS

This study delved into physicians' self-presentation on Twitter and identified six faces they performed on Twitter. Each of these was motivated by different communicative objectives and required a particular kind of impression management to be maintained. To bring each face to the stage, the participants tailored the language and content of tweets to the specific audiences they imagined were watching.

Social media, and Twitter in particular, present physicians an opportunity to express elements of their identity that they are generally not encouraged to reveal in professional daily interactions. These findings reveal that physicians are aware of the potential risks posed by this more personal presentation of self, yet still find it more rewarding than reducing their use of social media to the maintenance of a purely professional face. By not detaching their personal and professional identities, but instead strategically choosing when to emphasise each of their faces, they challenge traditional representations of the way in which physicians should present and conduct themselves. 'It's a blend of saying, Yeah, I'm a doctor and that's important to me and that's also reflected in the content that I post, but I'm a person and you can be a person too' (P19).

AUTHOR CONTRIBUTIONS

Lauren A. Maggio: Conceptualization; funding acquisition; writing—original draft; methodology; writing—review and editing; formal analysis; data curation. **Lucía Céspedes:** Conceptualization; writing—original draft; methodology; writing—review and editing; formal analysis; data curation. **Alice Fleerackers:** Conceptualization; funding acquisition; writing—original draft; methodology; writing—review and editing; formal analysis. **Regina Royan:** Conceptualization; writing—original draft; writing—review and editing; formal analysis.

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The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

This protocol was deemed exempt by the Human Research Protection Program at the Uniformed Services University of the Health Sciences (Case # DBS.2022.427).

DISCLAIMER

The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University of the Health Sciences, the U.S. Department of Defence, or the U.S. Government.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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