

# “Post or Perish”? An Early Career Researcher’s Guide to Using Social Media

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Social media usage has soared in the last decade, with the majority of adults having an account on at least one platform. Sites such as LinkedIn, X, and TikTok allow users to share content using different forms, for example, written or video, long form or short form. Social media can be used by researchers to forge collaborations, rapidly disseminate new research, and demonstrate societal impact. This opinion piece aims to highlight the value of social media, in particular for early career researchers, and offer suggestions on how early career researchers can strategically use social media to build a network and an online presence. We reflect on our own experiences of social media and include some of the reasons we have been deterred from it in the past, such as fear of making a mistake, being misunderstood, or painted as being an overconfident “know it all.” As the demonstration of impact and engagement becomes ever more important in grant applications and job security, social media competency is a powerful professional skill that will be important for all scientists.

**Keywords:** science communication, dissemination, networking

## Key Points

- This opinion piece discusses some of the key benefits and challenges of using social media as a scientist, specifically as an early career researcher, when interacting and sharing research with colleagues and the public.
- Social media can be used to demonstrate societal impact, connect with other scientists, and widely disseminate research findings.
- Content shared on social media should be evidence based and concise and catch the readers’ attention.

Annual findings from The Pew Research Center, a nonpartisan “fact tank,” illustrate the exponential growth of social media use by American adults, demonstrated by a >65% increase between the years 2005 and 2021.<sup>1,2</sup> Some of the most widely used social media platforms include Instagram, YouTube, and LinkedIn, with X (formerly Twitter) thought to be the most popular site among scientists.<sup>3</sup> Outside its typical use, social media has a host of benefits specific to researchers, including (1) the fast dissemination of research findings to both the general public and colleagues, (2) opportunities for collaboration (oftentimes breaking international borders), and (3) as a substantial information provider (ie, news on events/conferences, funding sources, and employment opportunities). Furthermore, for early career researchers (ECRs) in particular, social media can be used to build a personal brand and enhance public visibility. While being mindful that certain platforms are the Wild West with unregulated comments and trolling, for many researchers, social media can be a useful tool to contribute to the scientific community and broader conversation.<sup>4</sup> This piece will discuss the potential benefits, challenges, and pitfalls of using social

media. Specifically, we will review social media use for ECRs in the context of (1) interacting with the public, (2) sharing research with other academics, and (3) the social side of social media.

## Interacting With the Public

### Benefits


Given that many scientists are government funded and work on some of society’s biggest problems, it is imperative that findings are shared with the public to assist in the translation of research into practice. Research shared online has boundless potential for reach, engagement, and meaningful societal impact, as evidenced by #ThisGirlCan and #WomeninSTEM each reaching >500,000 X accounts in a single day ([tweetbinder.com](https://twitter.com/tweetbinder)).<sup>5</sup> Researchers with over 1000 followers are more likely to be followed by a diverse audience including educational organizations, media, the public, and policy-makers.<sup>6</sup> This is particularly important if the aim of sharing information on social media is to initiate policy change, evidenced by a successful case study in Hertfordshire, England, that used X to successfully change local physical activity health policy.<sup>7</sup>

Demonstrating how new scientific discoveries benefit broader society can support funding applications by evidencing impact. Oftentimes, it is difficult to capture this impact outside of traditional citation metrics as scientists are often unaware of when their work is picked up by alternative mainstream channels. Using

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platforms like [Altmetric.com](https://www.altmetric.com) can be a helpful tool for academics to monitor public engagement with research (eg, X discussions, Wikipedia, science blogs, and other news outlets), connect with potential collaborators, and provide examples of influence outside of typical scientific norms. Taken collectively, there is more recognition that social media can be effective in increasing research exposure, engagement, and impact.

## Challenges and Pitfalls

There are several challenges to consider when sharing science on social media. Given the sheer volume of information posted online every day, social media rewards and prioritizes content that is polarizing and sparks debate.<sup>8</sup> This can make sharing scientific content online difficult for researchers as there is little space to provide contextual information (eg, sample size, inclusion criteria, and methods used). Those who share polarizing viewpoints or findings without explaining the nuances and complexity of the research can potentially misinform the public, which can be particularly dangerous in health research. On the other hand, researchers who share balanced and impartial information can find that their content does not reach a wide audience, thus reducing the potential benefits of social media to increase dissemination and impact.

From the public's perspective, a major challenge when consuming research on social media is deciphering what information is evidence based versus what information is opinion based but *presented as* evidence based. This can be confusing for the public, particularly when a content creator has large numbers of followers or presents themselves as an expert. It can also be disheartening for scientists who see misinformation widely circulated online but struggle to share their own informed content in meaningful and engaging ways. To combat this, researchers may have to work harder to establish their credibility on social media and spend extra time dispelling misinformation while also creating their own evidence-informed content. However, in most cases, researchers are not trained on how to effectively use social media nor are they incentivized by their institutions. It can be a constant battle in the trade-off between time spent on social media versus time spent on tasks they are incentivized by or will be evaluated on. Furthermore, as social media is constantly changing (eg, from static image content on Instagram once being novel to the current trend of short-form video content on TikTok), time is required to learn new platforms and content creation techniques to maximize engagement. This can be a deterrent for many researchers who are already struggling to meet their work commitments.

## Recommendations

Although disseminating information on social media has the potential to improve the lives of many and inform policy, it is important to be realistic about the reach of our content. In most cases, it will be seen by few and cared about by fewer.<sup>9</sup> With this in mind, it can be useful to reflect on: (1) the purpose of sharing your work, (2) the amount of time you are willing to spend creating information for social media, and (3) the target audience (eg, 18- to 29-y-old adults are more likely to be on Instagram, whereas 30- to 49-y-olds are more likely to use LinkedIn).<sup>1</sup> Being aware of the motivation behind sharing work can further help in determining the types of content you want to share and the platforms you want to use. Figure 1, adapted from Bik and Goldstein,<sup>10</sup> can be useful for

researchers when deciding which type of media is likely to be most impactful.

In recent years, content shared on social media has evolved into very short, attention-grabbing formats, as demonstrated with the rise of TikTok and Instagram Reels. Researchers can learn techniques to entice audiences to view typically “unsexy” topics (eg, recycling or physical activity) by paying attention to how influential people use social media to engage with the public. Catchy titles and visuals can help hook readers' attention, and the rest of the piece can expand on specific details, resulting in increased engagement without sacrificing scientific integrity. Table 1 lists some of our favorite social media accounts that focus on explaining complex scientific concepts to the general public through easily digestible, engaging, and entertaining formats.

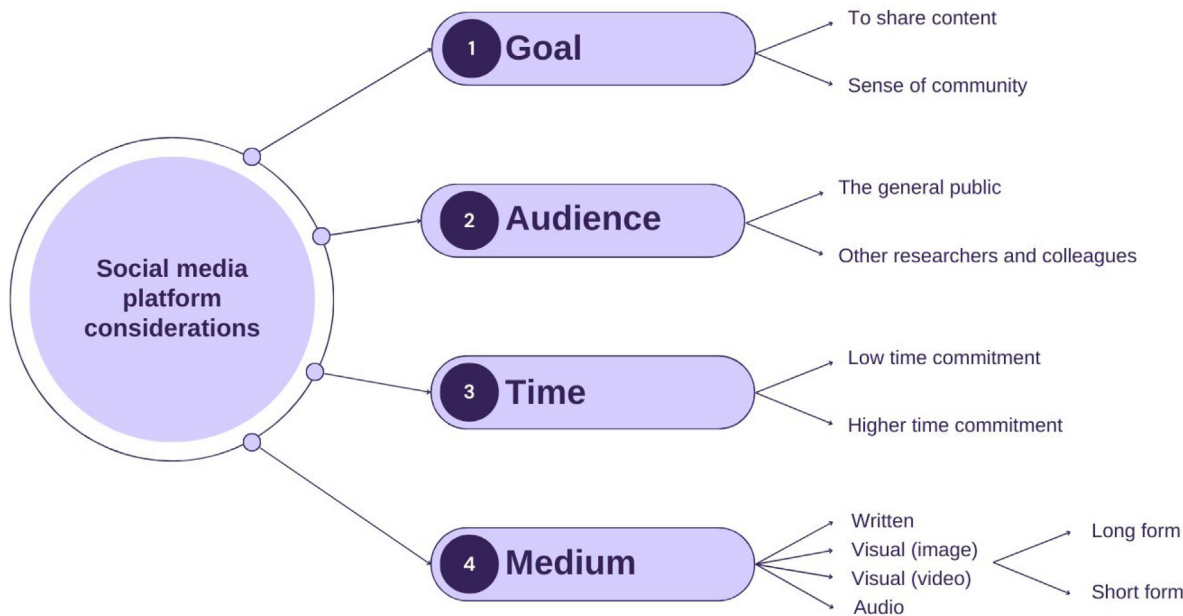
## Sharing Research With Other Academics

### Benefits

Sharing accepted or recently published research with other academics seems to be one of the most common ways scientists use social media. Advertising new publications online can increase awareness and readership, as demonstrated by a 2011 study that found that publications with strong social media coverage were 11 times more likely to be cited.<sup>11</sup> Today, many academic journals encourage social media coverage by offering authors an opportunity to include their X handle during the manuscript submission process. Journals that tweet news of recent publications can bring attention to the author and the article as some journals have thousands of followers: For example, the *British Journal of Sports Medicine* currently has over 97,000 X followers (as of December 2022).<sup>12</sup> Furthermore, with the growing trend toward open access and academic transparency, it is now easier than ever to directly connect with authors. Platforms such as ResearchGate and X encourage discussion, allowing followers to ask questions and offer feedback. This may be particularly helpful for ECRs, or more introverted scientists, who may not feel as comfortable engaging with other academics in person. In summary, some of the primary networking benefits of social media include the increased visibility of research and the subsequent potential of increased citations, engagement with other scientists, and collaborations.

### Challenges and Pitfalls

Seeing so many new publication posts on social media can be overwhelming, particularly to ECRs who are still developing their knowledge base and trying to keep up to date with new advances and trends. This is a never-ending battle, with the rate of journal articles published increasing each year, as demonstrated by Savage and Olejniczak,<sup>13</sup> who found a 36% increase in published social science journal articles between 2011 and 2019. It can also be challenging to see a constant stream of “success posts” from fellow academics, and at times, this has led us to compare ourselves with others. Imposter syndrome has started to creep in when our feed is flooded with publication acceptance letters, approved grant applications, and news of people moving to interesting academic positions. This can lead to feelings of low motivation and self-doubt, which can have negative effects on work performance and job satisfaction. Furthermore, when ECRs create and share scientific information on social media, this can be misinterpreted as overconfidence by more established academics, and it may be assumed that the ECR is outspoken or not open to further



**Figure 1** — Flowchart of questions researchers can consider when deciding what social media platform to use. ©Emma S. Cowley via [Canva.com](https://www.canva.com).

developing their knowledge base. Fear of being judged by other more senior academics can deter ECRs from sharing such information online.

**Recommendation**

To be more productive and purposeful with the time spent on social media, and to curate the content we consume, we use several tools, as outlined in Box 1. If you have also doubted your skills after

seeing the successes of your peers posted on social media, it is important to remember that we tend to share only the highlights of our life online, not usually the lowlights. Recently, there seem to be more people sharing their failures and rejections, and we have really appreciated this honesty—not because we are awful people who like seeing others fail but because academia can be a competitive and lonely place, particularly for an ECR. We are often pitted against each other and taught a scarcity mindset (eg, a colleague getting a publication accepted means there is less of a chance of

yours getting accepted). Instead, by sharing our trials and tribulations online, it can feel as though we are in this together, on the same team against the academic structural beast, whereby we can learn from each other, offer advice, and support others going through similar difficulties.

### Box 1: PERSONAL LEARNING OF USING SOCIAL MEDIA FROM THE PERSPECTIVE OF AN EARLY CAREER RESEARCHER

#### Logistical

- As an ECR, my institutional email address changes frequently as I move from PhD program to postdoc to faculty. Therefore, it has been helpful to link my X/LinkedIn on presentation slides if people want to get in touch.

#### Social

- I made friends! Social media has allowed me to connect with people in different institutions and labs, which have formed into real, in-person connections.
- Following someone I am interested in working for is useful as it gives me an insight into their personality. It is also helpful to get an idea of their lab culture, information that is not typically on the university website!

#### Engagement

- Thinking about *why* I am using social media has directed my usage; is it for a job? Is it to collaborate? Is it to connect with others? Is it to learn?
- Using social media has been good practice to help me understand what parts of my research are interesting to what audiences and what mediums/platforms are most engaging.
- Most people do not care when I tweet about a new publication. However, when I include numbers and visuals, have a catchy title, and avoid jargon, I tend to get more engagement (and hopefully that means more readers)!

#### Tools

- Some of my favorite social media assistant apps include Canva to create beautiful presentation slides, Pocket to store posts that I want to read later, and Thread Reader to “unroll” X threads in one block of text.

Some practical ways to reduce feelings of inadequacy and create a sense of belonging include building a support system both in and out of academia. Going out with family or friends who do not know or care about the pressure of tenure, H-index, or impact factors can be incredibly refreshing and helps to give some space between you and your work. On the other hand, little makes us feel more understood than having a good vent to our colleagues about grant and manuscript rejection letters. Furthermore, working with collaborators whose values and morals align with your own can help you feel supported and valued.

## The Social Side of Social Media

### Benefits

The coronavirus (COVID-19) pandemic demonstrated that social media is a highly effective way to promote and host virtual scientific events as scientific conferences moved entirely online.<sup>14</sup>

This allowed people from all over the world to join streamed oral presentations, digital posters, and chat-box question and answer sessions from home. Although many conferences have since returned to an in-person format, trends from the COVID-19 era have remained, for example, online journal clubs and seminar series<sup>15</sup> as well as hybrid conferences that offer both virtual and in-person attendance options. These opportunities allow academics, particularly ECRs, greater access to information, training, and networking without high travel cost, time commitments, and carbon footprints.

Platforms such as X and LinkedIn can also be a space for scientists to be themselves, free of academic confines. It is a place where the academy can be demystified, where we are able to share parts of our personalities that colleagues, collaborators, and the public might not otherwise be privy to. By following some of the researchers we admire and look up to on social media, we have learned that they are human too! They have incredibly cute children, idolize their pets, and a few even take salsa dance classes. Social media can break down barriers and help forge connections, which is especially important for those who are feeling lonely. The academic career path can often be isolating, with many of us having to move thousands of miles from home for employment or finding ourselves in universities with little diversity and inclusivity. Social media can provide virtual opportunities for us to find connections, and using hashtags can be a way to link into these online communities. #PhDChat can be useful for PhD students to feel reassured that other students are going through similar struggles, and #Black-inStem and #LGBTSTEM are among the numerous hashtags that celebrate, support, and give voice to underrepresented and minority groups in science. #ALTAC is a common hashtag that relates to life outside of academia (eg, using a PhD to find employment in industry). I have first-hand experience of how social media can be a fertile ground for scientific collaborations and even wonderful friendships. Some years ago, I made some international “Instagram friends” who were also interested in female health research. What started as liking each other’s photos has since flourished into published manuscripts, conference abstracts, and invited talks together.

### Challenges and Pitfalls

Perhaps one of the biggest pitfalls of social media is the vulnerability it brings to having one’s character attacked. Sharing personal thoughts, opinions, and life events on social media can move the focus away from your work and open your up for judgment as an individual person. Although these risks are also present when we discuss our thoughts and opinions offline in the real world, many social media platforms have hordes of anonymous accounts that thrive on leaving hurtful, insensitive, and, in some cases, unlawful comments. Furthermore, the very appeal of sharing information on social media to reach the masses is also its downfall. Without privacy settings, our content can be consumed and judged by individuals on the periphery of our social/professional circles and beyond, in some cases resulting in strangers leaving unsolicited advice and replies. One outcome of inappropriate responses and judgment is being fearful of making a mistake on social media. As an ECR, I am oftentimes afraid to share information in case I am wrong and, therefore, seen as incompetent. When someone makes a mistake in a lab group or meeting, it is easy to acknowledge, discuss, learn from it, and move on; however, along with widespread judgment, social media also brings an element of permanency (eg, Tweets cannot be edited once posted) and the

**Table 1 Example Social Media Platforms, Corresponding Pros and Cons of Each, and Example Accounts**

Platform	Description	Pros	Cons	Example
Instagram	Short-form photo and video sharing network site. Also has functionality to ask questions and polls.	Visuals useful to educate and entertain wide audience. Can show the more personal side of life through visual media.	Limited opportunity to have in-depth discussions.	A postdoc creating infographics to simplify complex women’s health topics— @periodoftheperiod
Blog	Long-format writing on a dedicated website like WordPress or Squarespace, usually focused on a particular topic.	Space to provide more detail on a topic without being limited by characters or medium. Can help to develop writing skills.	Requires more time commitment than other platforms and may have low public readership.	A popular blog about the life of PhD students through humorous comics— phdcomics.com
X	Social microblogging site where users can post 140-character “tweets.”	Way to connect with the public and other researchers to keep up to date with scientific news, jobs, and events.	Little space to elaborate on topics, unable to make edits, and huge volume of daily content.	An account posting tips on ways to improve academic writing— @writethatphd
Spotify/ Apple Music	Platforms to share audio podcasts.	Long-form conversations can provide background and more nuances to the discussed topic.	High resource commitment (time, equipment, and software).	30-min podcasts debunking fads and trends. Topics include DNA, nuclear power, and hypnosis— Science VS
LinkedIn	Professional networking site focused on medium/long-form written content and sharing links to other sites (eg, job vacancies).	Public space to advertise your job experience and skills. Potential to informally connect with future employers.	Can take time to build connections, and only the basic version is free.	Regularly writes articles on topics like preparing for postdoc interviews, choosing a mentor, and imposter syndrome— Samvit Menon
TikTok	Mobile app focused on sharing short-form, mobile-created video content.	Fun and creative way to share information using video.	Only video media, limited opportunity for discussion.	A research technician sharing funny and relatable content from the biochemistry lab— @lab_shenanigans
YouTube	Video sharing and viewing platform. Traditionally, videos are long form; however, “shorts” are now available (videos lasting <60 s).	Create detailed video content explaining complex topics. Can be rewatched and shared publicly or listed privately (eg, to share with students).	High resource commitment (time, equipment, and software).	A large library of videos teaching viewers how to use R software— @RProgramming101

possibility that the content has been screenshot. Furthermore, Twitter’s 280-character limit greatly reduces the researcher’s ability to provide context. This can further deter ECRs from posting in fear that others will think they do not know all the details surrounding the topic when they simply do not have enough space to discuss. Although we regularly gain new knowledge and perspective, social media can be unkind to people making mistakes or changing their minds on topics. Before posting anything on social media, we have found ourselves reflecting on what we want to say and ensuring that it is something we would feel comfortable saying to a colleague.

**Recommendation**

As a society, there is clearly a need to reflect on how we communicate compassionately online to fellow humans, and we can do that in our own practice by engaging in online conversations in respectful and constructive ways. Although an additional time burden, it might be useful to use different social media accounts to share different types of information. For example, you might decide to share more personal news on Facebook or Instagram if most people you interact with there are friends and family and use LinkedIn or X to network professionally and share academic news. It might also be useful to have a centralized social media account for a laboratory group, which shares news of recent publications, grants, and events. Finally, although our social media presence is a space for us to share aspects of our individuality and personality, it

is important to be mindful that we are representing not only ourselves but also the group we work with, the university, and, to some degree, the academy. Wrestling to find a balance between free speech and mandated policies can be difficult; however, due to the exponential growth of social media, many universities and funding providers now offer support to help academics navigate these waters.

**Conclusions**

Given that just 15 years ago, many of us were still playing Snake on our Nokia phones, it is clear to see how fast technology and the use of social media are evolving. The aim of this editorial was to highlight some of the ways scientists, in particular ECRs, can use social media to their advantage while avoiding the potential pitfalls. Whether you are a spectator who likes to keep up to date with new science and opportunities, or are an active user who regularly posted and interacts with others, social media can benefit all scientists. Depending on your interests, personality, and available time, there are different types of platforms and ways in which social media can be used to enhance your academic career. Through the lens of an ECR, social media can help to establish a niche, foster a sense of community, and help when searching for employment opportunities. Given the importance placed on demonstrating the academic and societal impact of our work, it can be anticipated that social media will become an even more integral tool to the dissemination of research and capturing evidence of impact.

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