

EDITORIAL

Innovation via social media – The importance of Twitter to science

1 | THE FACTS

Social media ecosystems, fostered by online platforms such as Twitter, provide an environment where a wide range of individuals (experts and otherwise) can easily share, discuss, and engage with science. Its usage is a testament to the value that Twitter brings to researchers. One 2017 study reported that 1%–5% of Twitter's 187 million users are active scientists.^{1,2}

From the individual scientist's point of view, one benefit of an active online presence, particularly on Twitter, is that it aids in the dissemination of your work. Your followers (and often their followers) will see your tweets, and Twitter's algorithm increases visibility further. Therefore, it is easy to understand how a tweet you craft could end up on the timeline of scientists in various fields, thus contributing to your reach.³ This spread is not restricted to academia—in one study, followers of scientists on Twitter tended to have diverse nonacademic demographics.⁴ With the growing call to include patients and other nonacademic parties in planning scientific research, this becomes increasingly important to consider.⁵ The reach of social media has also contributed to the fast spread of knowledge across the world regarding the emergence of coronavirus disease 2019.⁶

Wider distribution of your research can also increase its impact. This is why scientists strive to publish in the highest-profile journals. Twitter can further amplify your reach and impact. Information you or others post about your work may grab the attention of someone who is planning their next experiment or writing their next manuscript or grant. A paper's Altmetric Attention Score is a good indicator of how widely a paper has been seen online, and it is no surprise that higher Altmetric scores are associated with greater numbers of citations.⁷ Moreover, randomized studies have demonstrated that papers shared on social media have higher Altmetric scores and citation counts than papers that are not shared.^{8,9}

Finally, a social media presence promotes conversation; it allows collaboration, networking, exchange of ideas, and constructive criticism. Surprisingly, a recent survey of researchers around the globe conducted by *Nature* found that Twitter was not the most popular platform used by scientists—13% of survey participants actively used it compared to just under 50% for ResearchGate.¹⁰ However, the survey revealed that Twitter was the most popular for those who

want to share their work, follow the discussions of others in their field, and converse with colleagues.¹⁰ Much like interactions at scientific conferences, this ability to receive direct feedback on your work from friends and strangers alike can only improve and advance the science and your career.

2 | THE DATA

Through our open-access, virtual platform at *Research and Practice in Thrombosis and Haemostasis (RPTH)*, we aim to harness the power of social media to grow as a journal and help authors and readers, including the lay public.^{11,12} We intend that our posts, tailored to increase engagement with followers, promote discussion about the science.

At *RPTH*, our social media associate editor has a primary focus of fostering our online image and brand through disseminating published work. This allows us to continuously monitor and engage the thrombosis and hemostasis community. The vision has been provided previously.¹² As such, *RPTH* longitudinally tracks Twitter analytics to compare year after year to ensure that we meet our goals.

Table 1 shows *RPTH* Twitter results for 2019 and 2020, with over 50% increases for different metrics. In 2020, *RPTH* crafted and posted 648 tweets. These tweets landed on Twitter users' timelines over 1.6 million times ("impressions") and garnered over 54 000 meaningful interactions ("engagements"; ie, the sum of the number of comments, retweets, likes, link clicks, and viewings of images). A majority of *RPTH* tweets summarize science and always includes a link to allow users to easily and quickly access the research. In addition, a figure accompanies each tweet, highlighting findings for easy consumption on a Twitter timeline from the comfort of one's phone. In 2020, Twitter users clicked on links supplied in *RPTH* tweets 9381 times, compared to 3201 link clicks for tweets throughout 2019 (Table 1). It is difficult to know how many of these article visits would have been obtained without Twitter, but one could argue that seeing a link as one scrolls their timeline increases the likelihood of that person reading the paper. In fact, as evidence of success, 7.5% of traffic to the *RPTH* website last year was initiated from Twitter alone, higher than most journals we are aware of.

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TABLE 1 Twitter Analytics for @RPTHJournal

Twitter Metrics	2019	2020
Tweets	506	648
Impressions	916 899	1 639 007
Average impressions per tweet	1812	2529
Total engagements	24 516	54 683
• URL clicks	• 3201	• 9381
• Media views	• 10 693	• 20 903
Average engagements per tweet	48	84

3 | THE BRAND

Since its inception, *RPTH* has crafted its image as the leader in “disseminating and consuming science differently.” With the help of dedicated associate editors,¹³ we have branded ourselves as being at the forefront of developing innovative illustrated materials: Illustrated Review articles, infographics, Coag Capsules, and animated GIFs. The impact of these novel publishing formats can be gauged by their citations and their social media reach. For instance, the Illustrated Review article type is the most cited article type at *RPTH*, emphasizing its value to the scientific community. These materials are also

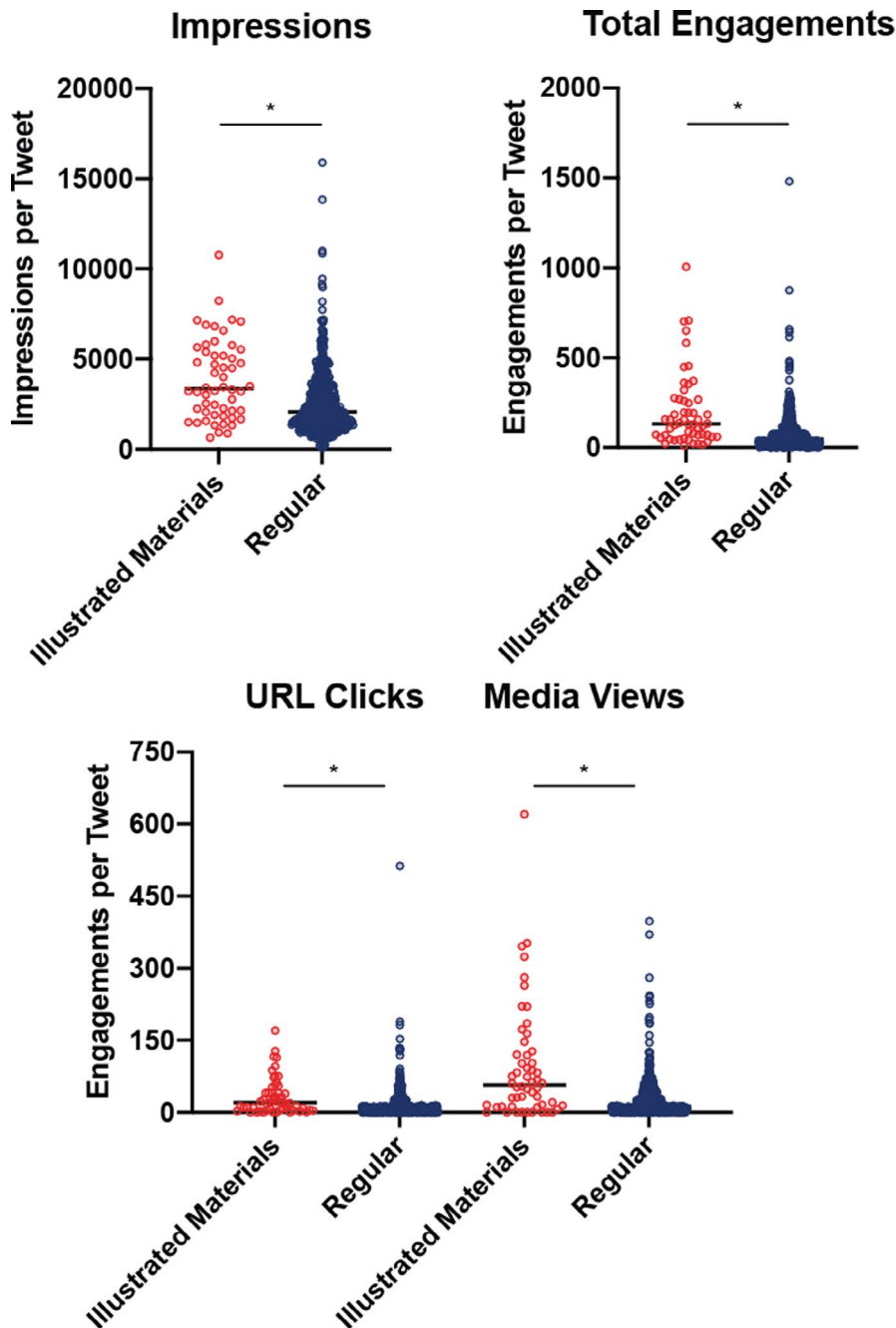


FIGURE 1 Twitter analytics comparing tweets about illustrated materials versus regular articles. Tweets that were part of the 2020 ISTH Congress live tweeting of the State of the Art Illustrated Review¹⁴ or nontypical tweets (ie, comments and replies) were excluded from the analysis to reduce bias. Medians are shown, and differences were tested using Mann-Whitney U tests. * $P < 0.0001$. Note the differing scales of the y axis across plots

consistently popular on Twitter: four of the top five articles in 2020 ranked according to their Altmetric score were illustrated materials. We analyzed the impact of our Twitter activity in 2020 comparing 54 tweets about illustrated materials to 471 tweets about other article types. We excluded the virtual ISTH 2020 Congress live tweets about our State of the Art Illustrated Review¹⁴ to reduce bias. Compared to tweets about other articles, tweets about illustrated materials garnered significantly more impressions per tweet (median, 3363 vs 2079), total engagements per tweet (median, 133 vs 47), link clicks per tweet (median, 20 vs 5), and figure views per tweet (median, 57 vs 13) (Figure 1).

We aim to continue to innovate new means of research dissemination for the thrombosis and hemostasis community by introducing RPTH Research Recaps. These are 15- to 20-minute virtual and recorded presentations from selected authors publishing in RPTH, moderated by members of our editorial board. Authors present their work, answer questions posed by the moderator, and discuss implications and future directions. The resulting succinct video is posted online at the journal site, ISTH Academy, ISTH YouTube channel, and the ISTH Facebook page. Importantly, viewers can see the personality behind the individuals who contribute to the journal's continued success and learn from the discussion with an expert.

4 | THE FUTURE

Moving forward, we encourage those who want to increase the impact of their research to become active on Twitter and other social media platforms—promote your work, participate in discussion, and define your brand. Authors publishing with us will continue to benefit from our work on their behalf to increase dissemination of their research. Ultimately, we hope to engage with others online to reap the benefits described above and move the field of thrombosis and hemostasis research forward.

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AUTHOR CONTRIBUTIONS

M Cormier designed the analysis, conducted data analysis and drafted the article. M Cushman designed the analysis and provided revision and final approval of the article.

RELATIONSHIP DISCLOSURE

M Cormier is Social Media Associate Editor of RPTH. M Cushman is Editor in Chief of RPTH.

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