

A new study outlining the implications of changes to how data is extracted and shared within and across social media platforms has been published in Nature Human Behaviour. Image: Unsplash.

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## Social media research threatened by new data limitations

Academics around the world have warned of a threat to scientific research as major social media platforms limit access to user data.

Over the course of 2023, numerous social media platforms including X (formerly known as Twitter), TikTok, and Reddit made substantial changes to their Application Programming Interfaces, known as APIs.

Researchers have routinely tapped APIs for large-scale data on social media users into behavioural patterns at individual, group, and population levels. This work has included predicting where conflict may occur and allocating disaster aid; and understanding the impacts of online polarization or misinformation on voting patterns.

However, the changes to APIs have led to data access being drastically reduced, or becoming more costly due to increased charges, meaning that this kind of research is now much harder to conduct. It also inadvertently impacts app developers who have built their service on this source of information.

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[Dr Dirk van der Linden](#) from Northumbria's [Department of Computer and Information Sciences](#) was one of the contributors to the study. Dr van der Linden is part of [Northumbria's Social Computing \(NorSC\) group](#), which

studies social technology and the idea that designing it requires critically understanding the people that use it, the ways in which they live and interact with one another, and the impacts that it can have on our behaviours and interactions with the world.

He explained: “It is ever more important to be able to study what is happening on social media networks, as so much of our lives are lived online.

“It’s already complicated for scientists to deal with an increasingly fragmented landscape of different social media networks in use today, where much of the data is inherently ephemeral. But when the networks controlling this data further complicate matters with more restrictive terms and conditions, we risk running into situations where research skirts the borders of what is ethical, or worse (depending on your point of view), not done at all.”

The research team on the study, which was led by the University of Bath, said that the changes are adversely affecting academics who want to study the impact of social media on mental health, misinformation, political views and more.

“It’s critical that research on people and society can access these large-scale data sets as there can be policy implications and far-reaching consequences if we get it wrong,” said Dr Brit Davidson, from the University of Bath’s School of Management,

“Over time, we have many cases of where the lack of open science (sharing data, analysis, materials) impacts our ability to verify and check for science credibility. We’ve seen science discredited, which causes concern as to whether work can be reproduced or replicated.”

However, there are instances where changes to API access is necessary. For example, the Cambridge Analytica Scandal in 2018 led social media platforms to implement strict measures to prevent third-party users from gaining access to personal data without consent. They then enabled users to revoke app permissions, which gave users more control over their data to protect user privacy.

Dr Joanne Hinds, also from the University of Bath, said that the wave of changes is pushing researchers to abandon projects or to consider gathering data outside official means. “That will, unless addressed, mean that we just simply can’t study important questions about these platforms which are used by millions of people every day,” she said.

The EU Digital Services Act, which came into effect in August 2023, aims to provide vetted researchers with access to ‘very large online platforms’, with similar updates to GDPR Article 40. However, researchers are still waiting to hear more about what vetting means in practice and the conditions of using the data.

Find out more about research within the [Department of Computer and Information Sciences](#).

The paper, ‘[Platform-controlled social media APIs threaten Open Science](#)’ is published in [Nature Human Behaviour](#).

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