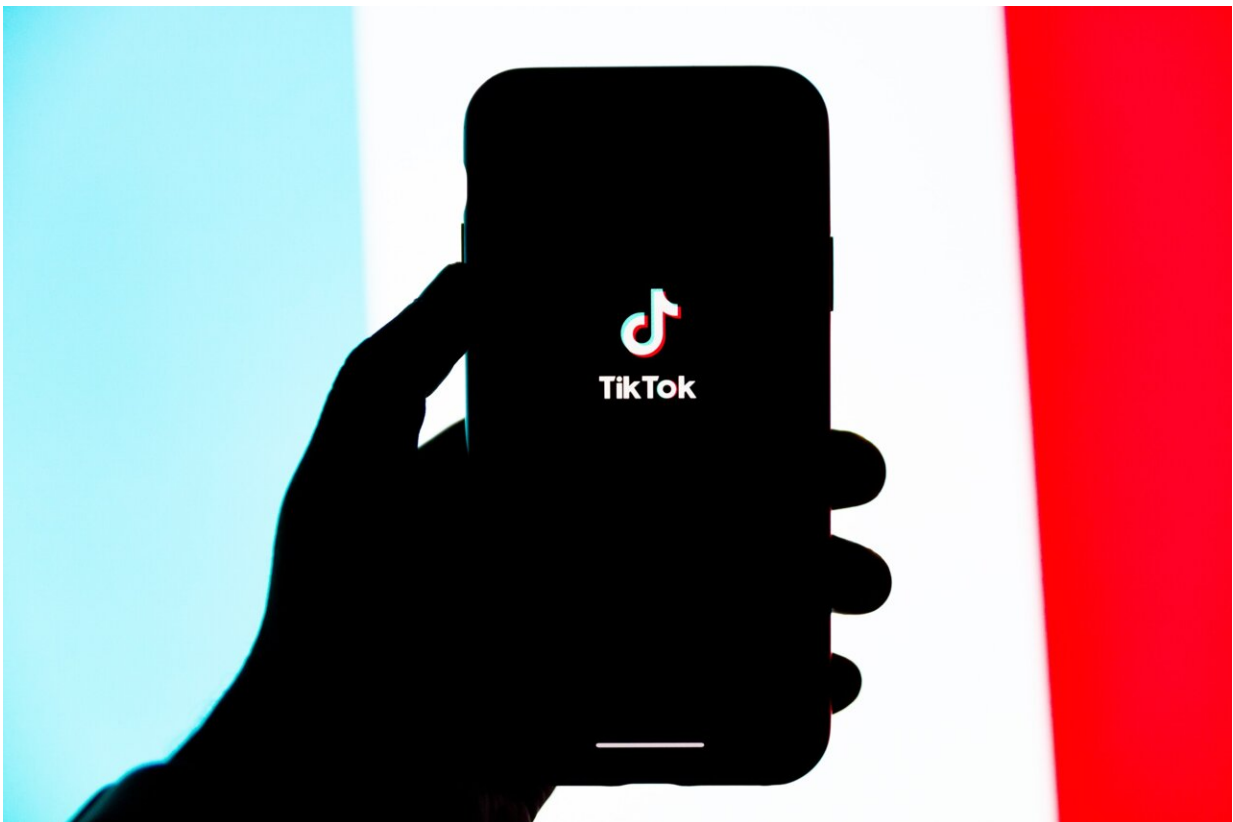# Study warns restrictions to application programming interfaces by social media platforms threaten research

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Credit: Unsplash/CC0 Public Domain

University researchers from the UK, Germany and South Africa warn of a threat to scientific knowledge and the future of research in a paper

titled "Platform-controlled social media APIs threaten Open Science" published in *Nature Human Behaviour.* The paper outlines the implications of changes to social media application programming interfaces (APIs).

Over the course of 2023, numerous social media platforms including X, TikTok, and Reddit made substantial changes to their APIs—drastically reducing access or increasing charges for access, which the researchers say will in many cases make research harder.

APIs have been routinely tapped by researchers for large-scale data on social media users to enable academic research into behavioral 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. Changes to API access mean that this kind of research will be much harder to conduct.

Political stance/ affiliation, and health, among a variety of other variables, can no longer be researched at the individual level using X data. Reddit now prohibits the use of data generated by Reddit users for machine learning. This data been crucial for training ML/AI models to test how well they predict an outcome.

Dr. Brit Davidson, from the University of Bath's School of Management, said, "The changes are adversely affecting academics who want to study the impact of social media on mental health, on misinformation, political views and so on. It also inadvertently impacts app developers that have built their service on this source of information.

"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. 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."

Tik Tok initially allowed access only for US academics, but in July expanded its Research API to Europe. However, its terms remain too restrictive to be compatible with research, stating that researchers must 'refresh Research API data at least every 15 days, and delete data [that is no longer available].

Dr. Joanne Hinds, also from the University of Bath, said, "It's worth noting that changes to API access 'can be' well-intentioned and necessary. 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.

"However, this wave of changes is pushing researchers to abandon projects or to consider gathering data outside official means," she said, "and 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."

Sourcing data outside of the official API channels puts researchers into legal gray areas that is likely to violate terms. The ramifications of this yet are unknown, as the industry enters uncharted territory.

"New regulations are coming into effect in the European Union, likely in 2024, which aim to address the issue and appear to be pointing to new routes to access data which will be more sustainable, affordable, and protect users," said Dr. Davidson.

"The EU Digital Services Act aims to provide access to 'very large online platforms' for vetted researchers, with similar updates to GDPR Article 40. We wait to hear more about what vetting means in practice and the conditions of using the data."

The study is authored by Brittany I. Davidson, Darja Wischerath, Daniel Racek, Douglas A. Parry, Emily Godwin, Joanne Hinds, Dirk van der Linden, Jonathan F. Roscoe, Laura Ayravainen, & Alicia G. Cork.

 **More information:** Platform-controlled social media APIs threaten open science, *Nature Human Behaviour* (2023). DOI: 10.1038/s41562-023-01750-2

Provided by University of Bath

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