

New international study concludes digital media can fuel polarization and populism

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Summary of causal evidence for digital media effects on political variables. Each box represents one article. Treatments are in white boxes on the left, political outcome variables in colored boxes on the right; M denotes mediators; H represents sources of effect heterogeneity or moderators. Positive (+) and negative () signs at paths indicate reported direction of effects. Location of sample indicated in top right corner of boxes, primary causal inference strategy

in bottom left. Strategies include statistical estimation strategies such as instrumental variables (IV), matching, and panel designs (PD) that use, for example, fixed effects (FE) or difference in difference (DiD) for causal estimation, as well as lab or field experiments (e.g., field experiments rolled out on various platforms that are often supplemented with IV estimation to account for imperfect compliance). Detrimental effects on liberal democracy are shown in orange, beneficial effects in turquoise, effects open to interpretation in purple, and null effects in gray. Credit: *Nature Human Behaviour* (2022). DOI: 10.1038/s41562-022-01460-1

The question whether the rise in usage of digital media is contributing to the erosion of democracy is a source of popular debate, with tech companies arguing findings are inconclusive. But a team of international researchers has carried out a comprehensive review of hundreds of studies globally, the biggest of its kind, exploring this claim and found that while social media is not exclusively bad, it can certainly stoke starkly conflicting views, populism, and political mistrust especially in established democracies.

The researchers, from the Max Planck Institute for Human Development and the Hertie School in Germany, and the University of Bristol in the UK, systematically assessed studies investigating whether and how [digital media](#) impacts people's political behavior. Studies show that although some effects may be beneficial for [democracy](#), for instance digital media can increase political knowledge and diversity of news exposure, they also have detrimental effects, such as fostering polarization and populism.

Furthermore, the way consequences such as increased political mobilization and decreasing trust in institutions play out depends largely on the political context. Such developments were found to be beneficial in emerging democracies but can have destabilizing effects in

established democracies.

"The advantage of our systematic review—against the background of a divisive and often partisan debate—is that it allows objective conclusions to be drawn," said author and research scientist Philipp Lorenz-Spreen of the Max Planck Institute for Human Development.

At the institute's Center for Adaptive Rationality, he studies how new technologies can help to promote participatory democracy online.

"While the impact of digital media on democracy cannot be judged as simply 'good' or 'bad,' the results clearly show that digital media can have several negative effects on political behavior," he added.

In their review, published today in *Nature Human Behaviour*, the researchers combine causal and correlational evidence from nearly 500 articles on the relationship between digital media and democracy worldwide. The analysis was structured around the 10 most researched political outcome variables: [political participation](#), knowledge, trust, news exposure, political expression, hate, polarization, populism, network structure, and misinformation.

"When studying complex political and [social phenomena](#), it is important to determine whether there is in fact a [causal relationship](#)," said author and doctoral researcher Lisa Oswald from the Hertie School in Berlin.

The researchers therefore focused on the subset of articles reporting causal evidence of a relationship between digital media and democracy. These include large-scale field experiments conducted on [social media](#) platforms and articles in which causal conclusions could be drawn due to factors such as data having been collected at different points in time.

The research findings can also help to clarify important issues in the

young research field, for example whether the much-discussed phenomenon of echo chambers—in which people tend to encounter only like-minded people online—really exists. The results depend heavily on the digital media in question. There was no evidence of echo chambers in studies looking at news exposure, for example, but they do seem to emerge within social media networks.

"Our analysis covered studies conducted all over the world, allowing us to shine a light on how the effects of digital media differ across [political systems](#)," said co-author Ralph Hertwig, Director at the Max Planck Institute for Human Development.

The positive effects of digital media on political participation and information consumption were most pronounced in emerging democracies in South America, Africa, and Asia. Negative effects—in terms of increasing populism and polarization and decreasing political trust—were more evident in established democracies in Europe and the United States, for example.

Co-author Professor Stephan Lewandowsky, Chair in Cognitive Psychology at the University of Bristol, said, "What is most concerning is our finding that in mature democracies such as the US and Europe, social media use causes increased polarization and decreased trust in institutions."

"Although further research is needed, this reveals some clear trends and indicates that governments and civil societies need to take steps to better understand and actively shape the interplay of digital media and democracy."

More information: Philipp Lorenz-Spreen, A systematic review of worldwide causal and correlational evidence on digital media and democracy, *Nature Human Behaviour* (2022). [DOI:](#)

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