

Integrating Social Media and Data Science to Inform Decisions



With the advent of social media, audiences no longer passively consume media messages. Instead, by searching for, creating, commenting on, and sharing social media posts, they shape and amplify the very messages they consume. This dynamic has profound implications and equally profound opportunities for studying attitudes and behaviors related to healthcare, politics, education, and a host of other subjects.

NORC's Social Data Collaboratory is a multi-disciplinary team of social science researchers, data and computer scientists, and new media specialists that conducts research at the intersection of social media, human behavior, and digital communication. Our methodologies draw on established frameworks from applied statistics and computational linguistics and employ cutting-edge machine learning techniques.

Actionable Insights from Rigorous Research

By integrating rigorous analyses of four key social media vectors, the Social Data Collaboratory can provide trustworthy assessments of social media messages. Those assessments offer clear, specific insights about which events, media accounts, and topics have the greatest impact on the behavior and attitudes. The vectors we study are:

- **The number of messages.** More than offering a raw count of messages and impressions, we provide context to the numbers by tracking trends over time and investigating the relationship of those trends to key events such as policy changes and product launches.
- **The source of messages.** We can provide a deeper understanding of whether messages are being generated by commercial entities, paid or "audience-appointed" influencers, advocacy organizations, other stakeholders, or the general public.
- **The content of messages.** We can analyze the substance and sentiment of social media messages for fidelity of transmission, support or opposition, as well as key topics and themes.
- **The diffusion of messages.** Our analytic techniques can determine whether messages have a broad geographic or demographic reach or if they represent a loud conversation in a very small space.



Our Methodology

Our analyses dig deeper and are more transparent than those offered by commercial social listening platforms because our team is deeply committed to the scientific method. During the data collection phase, we work with subject matter experts to develop and validate our data collection filter and measure the quality of the retrieved data to ensure that we are capturing the appropriate sample or census of the relevant conversation.

Once we have a high-quality analytic dataset, our team analyzes the amount, sources, contents, and reach of messages, ensuring that the influencers and themes we've identified make sense in the context of the subject being studied.

Our findings reveal nuanced insights into digital communication and public opinion that can inform campaign strategies, program evaluation and policy development. These findings become even more robust when we combine our rigorously gathered digital media data with survey and administrative data.

Our Research

The Social Data Collaboratory was one of the first research teams to apply sophisticated social media analytical tools to health studies, and we continue to define the standards by which social media-based social science research is conducted. Our noteworthy publications include:

- Are you scared yet? Evaluating fear appeal messages in tweets about the Tips Campaign. *Journal of Communication*, 2014.
- Garbage in, garbage out: Data collection, quality assessment and reporting standards for social media data use in health research, infodemiology and digital disease detection. *Journal of Medical Internet Research*, 2016.
- Twitter analysis of California's failed campaign to raise the state's tobacco tax by popular vote in 2012. *Tobacco Control*, 2017.
- Smoking Selfies: Using Instagram to explore young women's smoking behaviors. *Social Media & Society*, 2018.

Our Projects

While the core SDC team started in tobacco control research, they have successfully translated their methodologies to other public health topics. Some projects to showcase include:

- **DHHS Office of Minority Health.** Social media analysis of foundation stakeholders and their key influencers discussing health equity
- **DHHS Office on Women's Health.** Measuring the impact of the college sexual assault policy and prevention social media campaigns
- **Robert Wood Johnson Foundation.** Corporate reporting and a culture of health using social media analysis

Contact us.

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