

# How misinformation spreads on Twitter | Brookings

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July 8, 2020

Social media is here to stay.

As a new tool for social science research, social media has many advantages: a large number of observations in real time and the ability to track public emotions and sentiments before and after key events—thus to isolate changes caused by the events, as well as to assess how they vary across a wide range of locations and topics of discussion. Social media data has been used to assess the social costs of terrorist events and crime, of COVID-19 lockdowns and responses to the lockdowns from public officials, and (by us) of mass shootings in Las Vegas, El Paso, and other cities. There are downsides, of course. It is more difficult to identify the socioeconomic and demographic traits associated with the messages—and while locations can be roughly identified, they are often imprecise and precise locations have few observations. There are also fake messengers spreading false information, a problem that we discuss in detail here.

We examined millions of Twitter posts for events, such as mass shootings, that result in a large, international online response. A single tweet contains more than 150 data variables including the time the tweet was posted, the tweet text, the Twitter handle, locations, and more. The hashtags and emojis can also be extracted from the “full text” of the tweets. The hashtags and emojis can also be extracted from the “full text” of the tweets. For the emojis, we mainly focus on the “yellow face” emojis, which can be sorted into different emotion categories: happiness, surprise, sadness, disgust, fear, anger, and neutral (Figure 1). These categories are based on a psychology theory developed by Paul Ekman and Wallace V. Fesen that correlates facial expressions to six primary emotions that are expressed. The other emojis can be sorted into bundles that may pertain to a specific topic, like a mask or a syringe that is associated with medical-related tweets.

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