

# Positive emotions more contagious than negative ones on Twitter

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Sharing your happiness with your Twitter followers right now? Odds are, they're going to pay it forward, a new study shows.

An analysis of 3,800 randomly chosen Twitter users found that emotions spread virally through Twitter feeds - with [positive emotions](#) far more likely to spread than negative ones.

"What you tweet and share on social media outlets matters. Often, you're not just expressing yourself - you're influencing others," said Emilio

Ferrara, lead author of the study and a computer scientist at the USC Viterbi School of Engineering's Information Sciences Institute. Ferrara collaborated with Zeyao Yang of Indiana University. Their study was published by the journal *PLOS One* on Nov. 6.

Ferrara and Yang used an algorithm that measures the [emotional](#) value of tweets, rating them as positive, negative or neutral. They compared the sentiment of a user's tweet to the ratio of the sentiments of all of the tweets that appeared in that user's feed during the hour before. Higher-than-average numbers of positive tweets in the feed were associated with the production of positive tweets, and higher-than-average numbers of negative tweets were associated with the production of negative tweets.

About 20 percent of Twitter users were deemed highly susceptible to what the researchers described as "[emotional contagion](#)" - with more than half of their tweets affected. Those users were four times more likely to be affected by positive tweets than negative ones.

Those least likely to be affected by emotional contagion were still a little less than twice as likely to be affected by positive tweets as negative ones. Over all users, regardless of susceptibility, positive emotions were found to be more contagious than [negative emotions](#). This may be relevant to plan interventions on users experiencing depression or other forms of mood disorders, Ferrara said.

The study builds on decades of research demonstrating first that emotions can be spread through person-to-person contacts, and now finding that they can spread through online interactions as well.

Facebook drew criticism last year for attempting to demonstrate a similar effect by tweaking 700,000 users' news feeds. Unlike that experiment, Ferrara and Yang did not manipulate what Twitter users were experiencing - rather, they simply observed what was already

happening and analyzed it.

**More information:** Emilio Ferrara et al. Measuring Emotional Contagion in Social Media, *PLOS ONE* (2015). [DOI: 10.1371/journal.pone.0142390](https://doi.org/10.1371/journal.pone.0142390)

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