Fraud found by reading between the lines

Two kinds of deception were a hot topic on social media — the linguistics of fraud and the art of self-delusion.

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A *PLoS ONE* paper on language patterns in fraudulent papers has sparked social-media speculation about new ways to spot dishonest work. Researchers have also been talking about the benefits of overconfidence.

Erik van der Burgt/Hollandse Hoogte/eyevine

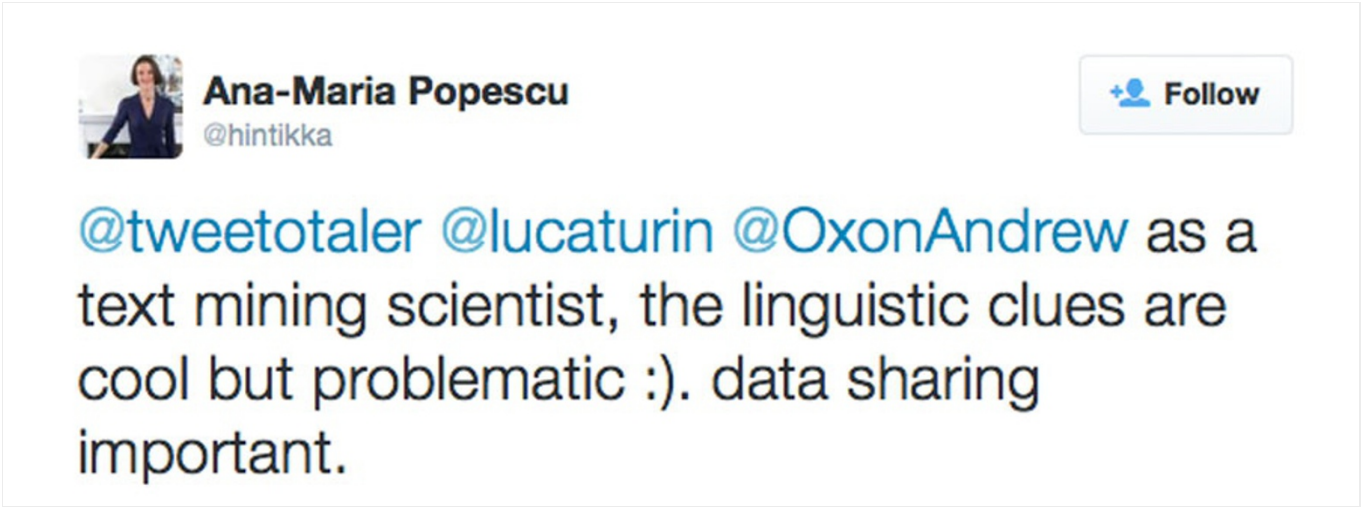
Scientists have found a linguistic signature in fradulent papers by social psychologist Diederik Stapel.

Researchers at Cornell University in Ithaca, New York, took advantage of a singular resource to study the linguistics of fraud: the collected works of Diederik Stapel, a Dutch social psychologist who in 2011 confessed to faking data in many of his papers.

The Cornell team analysed papers that had been deemed fraudulent by three investigative committees, and compared them with his genuine publications[1]. The authors found that the **falsified papers had a linguistic signature**. Among other things, the studies tended to contain fewer qualifying words (such as 'possibly') and more amplifying words, such as 'extremely'. Grace Lindsay, a neuroscience graduate student at Columbia University in New York City, tweeted:

The study focused on 24 now-retracted papers on which Stapel was first author. These publications had more words describing the scientific methods, but they contained far fewer adjectives than Stapel's genuine papers. These patterns are consistent with other examples of deception, the authors note. For example, they say, people who recount made-up events tend to use fewer descriptive details than people who recall real experiences.

The researchers created a model that, on the basis of word choice alone, was 71% accurate in predicting which of Stapel's papers were fraudulent. But, note the authors, that is not good enough for the model to be used as a screening device for Stapel or anyone else. Some commenters agreed. Ana-Maria Popescu, a data-mining consultant for the website Pinterest, tweeted:



In a follow-up interview, Popescu said that the clues are “problematic” because they may not apply to researchers in other fields. Still, she said, “Even if reliable detection models can’t always be built, it may make readers pay more attention to specific aspects of what they read or hear.”

Playing the fool

Another *PLoS ONE* paper[2] examined deception of a different flavour. Researchers at the University of Exeter and the University of Newcastle, UK, asked 73 university students who had worked in small discussion groups to predict the eventual course grade of everyone in the group, including themselves. Some students predicted higher grades for themselves than they actually received. These ‘self-deceived’ students also earned overly lofty predictions from their peers. By contrast, the students who undersold their own prospects also garnered low expectations from others.

The results support the idea that **it’s easy to fool others if you have first fooled yourself**, and could apply to dating, job seeking and other arenas where first impressions matter, the authors say.

Guy Kawasaki, an executive fellow in the Haas School of Business at the University of California, Berkeley, and a Silicon Valley entrepreneur who has more than 1.4 million Twitter followers, tweeted:

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References

1. Markowitz, D. M. & Hancock, J. T. *PLoS ONE* **9**, e105937 (2014).
2. Lamba, S. & Nityananda, V. *PLoS ONE* **9**, e104562 (2014).