

Study on imprecise language examines how the term "risk factor" has multiple meanings in scientific literature

January 6 2017

It was an hours-delayed flight and a \$10 food voucher that did it.

Annoyed, Anders Huitfeldt, PhD, a postdoctoral scholar at the Meta-Research Innovation Center at Stanford, or METRICS, decided to spend his voucher on the most impractical item he could find in the airport. After some searching, he found it: a minuscule spoon of high-end [caviar](#).

"It was the smallest amount you could possibly have," he said. "And it was wonderful. I kind of got addicted."

The experience got Huitfeldt thinking, but not just about fancy caviar. As a researcher at METRICS, he is interested in making scientific research findings more accurate and reproducible.

"I have had a long-standing interest in trying to understand why published research papers often fail to find the truth," he said. "It seems that often researchers are confused about what they are actually trying to do."

Huitfeldt explored that problem in the *British Medical Journal's* Christmas issue—a lighthearted collection of articles that address important scientific concepts. His piece, "Is caviar a risk factor for being a millionaire?" examines how the term "risk factor" can have at least four distinct meanings in scientific literature. For example, does caviar

consumption predict current [wealth](#) (is it diagnostic)? Or the likelihood of amassing wealth in the future (prognostic)? Does it actually play a role in how wealth accumulates? (For example, does eating the fish eggs make you a stock-market wizard?) Or does the act of caviar consumption simply increase the probability of wealth, perhaps by bringing the consumer into close proximity of other wealthy movers and shakers with whom profitable deals can be struck?

"The outcome of the study varies tremendously depending on what the researchers mean by 'risk factor,'" Huitfeldt said. "Until they agree, it's not even clear how the question should be addressed. And this uncertainty becomes a serious impediment to processing information correctly to arrive at the scientific truth."

More information: Anders Huitfeldt. Is caviar a risk factor for being a millionaire? *BMJ* (2016). [DOI: 10.1136/bmj.i6536](https://doi.org/10.1136/bmj.i6536)

Provided by Stanford University Medical Center

Citation: Study on imprecise language examines how the term "risk factor" has multiple meanings in scientific literature (2017, January 6) retrieved 5 May 2024 from <https://medicalxpress.com/news/2017-01-imprecise-language-term-factor-multiple.html>

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