

# Data presentation and consumer confidence

July 20 2010

---

Is it better to present data in percentages (80% of 70) or as a frequency (56 out of 70 times)? According to a new study in the *Journal of Consumer Research*, data presented in the frequency format leads to more accurate judgments.

Authors Dipayan Biswas, (Bentley University), Guangzhi Zhao, (University of Kansas), and Donald R. Lehmann, (Columbia University) conducted four experiments to determine which type of numerical presentation elicited the greatest confidence in consumers and which led to the most accurate conclusions. They found that people have to work harder to process data presented in frequency format, which leads to higher confidence in their judgments.

Percentages appear easier for consumers to understand. The experiments showed that "when the sequential data are in percentage format, consumers tend to average the data since it is relatively easy to do so," the authors write. But averaging percentages is not always the best route to an accurate conclusion.

In contrast, when the sequential data are in frequency format, most consumers are unable or unwilling to average the data. Frequency data are just harder to mentally compute. "This occurs because most [consumers](#) are misers when it comes to cognitive processing, and averaging of sequential frequency data requires multiple mathematical operations."

"The results of our study have intriguing practical implications. For

instance, when trying to discourage smoking behavior and highlighting the risks of smoking, regulators might want to use frequency format for sequential data presentation, since consumer [judgment](#) updating seems to be greater, and relatively more accurate," the authors write.

"While intuitively it might seem more prudent to present the sequential data in the seemingly more simplistic percentage format, the results of our studies show that the frequency format is more likely to lead to updated confidence judgments that are higher and also more accurate," the authors conclude.

**More information:** Dipayan Biswas, Guangzhi Zhao, and Donald R. Lehmann. "The Impact of Sequential Data on Consumer Confidence in Relative Judgments." *Journal of Consumer Research*: February 2011. A preprint of this article (to be officially published online soon) can be found at [journals.uchicago.edu/jcr](http://journals.uchicago.edu/jcr)

Provided by University of Chicago

Citation: Data presentation and consumer confidence (2010, July 20) retrieved 5 February 2026 from <https://phys.org/news/2010-07-consumer-confidence.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--