



Cornhusker Economics

Information About Honey Fraud: Implications of Information Choice for Consumer Behavior

A central focus of agricultural economic research on consumer decision-making involves understanding how new information affects people's choices. A large body of this research focuses on consumer food choices. Increasing evidence about important relationships between food consumption and production and, for instance, human health and environmental outcomes has motivated agricultural economists and other researchers to examine how this information influences behavior. Numerous studies have documented that new information about food—whether regarding its health benefits, nutritional content, production methods, or authenticity—significantly alters consumers' food choices on average. Importantly, many of these studies use experiments to generate evidence on behavior changes in response to information. Experiments are helpful because—even if data on purchases are available—it is nearly impossible to know whether the person making a purchase had accessed the information.

While experimental methods are critical tools for studying these issues, there is some evidence that the standard research design may yield decisions that are valid in the context of the research study but that overestimate the impact of information in non-experimental (i.e., real-world) settings. For instance, prior to the implementation of rules about restaurant calorie labeling, data from experiments exposing consumers to calorie information suggested that the presence of calorie information would significantly

impact choices, decreasing the total number of calories consumed. However, a host of research on food and beverage purchases in restaurants and other outlets subject to the calorie labeling rule has found no important change in purchases after implementation of calorie labeling.

One potential explanation in the context of calorie labeling is information avoidance behavior. Information avoidance has been studied in instances in which people may avoid information out of fear—such as avoiding potentially life-threatening medical diagnoses—or, as in the case of calorie labeling, to permit themselves to make more indulgent choices. While research has found evidence of information avoidance behavior in these contexts, many types of information are unlikely to rouse the types of emotions or desires that are invoked by information avoidance explanations. These include information about adulteration of extra virgin olive oil or honey with lower-cost substances, the number of miles a food has traveled, or the health benefits of dietary fiber, for instance. However, despite the publication of numerous articles about fraudulent olive oil originating from certain, well-known olive oil-producing countries in newspapers and popular magazines, there is little concrete evidence that consumers have changed their purchasing behavior. In fact, a few years ago, an article was published in *Forbes* entitled, “*The Olive Oil Scam: If 80% Is Fake, Why Do You Keep Buying It?*” Experiments on consumer behavior, on the other hand, found that

information about olive oil fraud halved consumers' valuation of these oils. The gap between behavior in experiments and behavior in markets suggests that people may respond differently to information in experimental and non-research settings. There are some papers noting reasons that do not directly enhance the ability to make an informed decision that people seek out information, such as curiosity or interest in the subject, but the role that these alternative motives may play in shaping information choice have not been previously examined in the laboratory.

In a recent study, we addressed this gap in the research by providing some research participants with a decision to access different types of information, rather than being directed to read a particular text, which is standard practice. This was built into a study on valuation of different types of honey—a product that is frequently adulterated with lower-cost and lower-quality sweeteners. This adulteration of honey in this way is frequently referred to as honey fraud. Importantly, participants faced the possibility of purchasing a bottle of honey during the experiment. A major aim of the study was to see whether participants who got to choose the text they read (in the information choice condition) selected the text on honey fraud or a honey-related text, given that they were making decisions that might lead to the purchase of a bottle of honey.

We chose to examine honey fraud because it has multiple impacts. Consumers believe they are purchasing honey but may in fact be getting an alternative, cheaper sweetener, or even a substance that could be detrimental to their health. Honey fraud also undermines beekeepers' livelihoods, eroding financial incentives to keep bees, which provide important pollinating services. This type of fraud can also reduce trust in food labeling and quality standards. Given the increasing sophistication of food fraud techniques, it is vital for consumers to be informed about potential deceptions. However, in real-world scenarios, consumers often encounter information through various channels and contexts, which can influence their engagement with and retention of the information. Therefore, our study focuses on two key scenarios: one where consumers are directly exposed to information about honey fraud, and another where they have the opportunity to select this information from a

range of topics.

The experimental design involved participants bidding the amount of money they would be willing to pay for each of four eight-ounce bottles of honey: Imported, Organic (but without a stated origin), US-produced, and Local (to Lincoln, Nebraska, where the experiment was held). The retail price of the bottles of honey was between \$3.99 and \$7.49 at local retail outlets. Participants were randomly assigned to one of the two conditions. In the information exposure condition, participants read a text about honey fraud. In the information choice condition, they could choose from 36 different texts, some of which were about honey fraud. This setup allowed us to compare behavior when participants were exposed to information versus when they were allowed to select a text to read.

The findings of our study reveal that the availability of information does not lead to the same changes in willingness to pay for honey that exposing consumers to information does. In the context of honey fraud, we found that directly exposing consumers to information about the potential for adulteration of honey resulted in an increase in willingness to pay for local or US-produced honey versus imported honey. However, participants who could select the text they wanted to read did not significantly change their willingness to pay for local and domestic honey, relative to the imported honey. This is likely because very few participants in the information choice condition chose to read the text about honey fraud.

In the information choice condition, many participants did choose to read honey-related texts, but these texts covered a variety of topics, including the health benefits of honey, uses of honey in cooking, pollination topics, as well as honey fraud. In follow-up questions, the majority of respondents stated that they chose a text based on their interests, suggesting that initial curiosity plays a role in information selection.

For policymakers and marketers, these insights underscore the importance of strategic information placement and repeated exposure to ensure that consumers retain and act upon critical information about food fraud. Simply providing information may not be sufficient to drive lasting changes in consumer

behavior, as the Forbes article suggests. Instead, a more dynamic approach that considers how consumers select information to view and retain information is needed to effectively influence their decisions.

Our research also points to the potential benefits of leveraging curiosity-driven information engagement. By presenting information in a way that captures initial interest and encourages deeper exploration, educators and marketers can enhance the effectiveness of their communication efforts. For example, interactive and visually appealing formats might be more effective than traditional text-based information in sustaining consumer interest and promoting informed decision-making. Multiple studies on health messaging have found that simpler messages are more effective than complex messages, even among individuals with higher health literacy. The same may be true for communication of important research findings.

In conclusion, the study highlights that standard research practice — exposing participants to information — may not capture what will happen outside of the lab when people have a choice about what to read, view, or do with their time. While we found that having participants read about honey fraud significantly shifted their willingness to pay for local and domestic versus imported honey, we did not find those changes when people were able to select a text to read.

The implications of these findings extend beyond the issue of honey fraud to broader contexts of food safety, nutrition, and production techniques. While people have preferences for ultimate outcomes related to health, the environment, etc., links between food choices and those outcomes may not be obvious in the absence of information. Thus, for consumers to make informed food choices, understanding how and why they choose to access information is critical. Our study contributes to this ongoing effort by providing valuable insights into how consumers choose information, and the implication of those choices for consumers and the food industry.

Further Reading:

Meerza, Syed Imran Ali, and Christopher R. Gustafson. "Consumers' Response to Food Fraud." *Journal of Agricultural and Resource Economics* 45.2 (2020): 219-231.

Gustafson, Christopher R., Antoine Champetier, Olivier Tuyizere, and Henriette Gitungwa. "The impact of honey fraud information on the valuation of honey origin: Evidence from an incentivized economic experiment." *Food Control* 155 (2024): 110070.

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