Meat and Muscle Biology™

Infographics Influence Attitudes and Risk Perceptions for Food Technologies

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Objectives

Food technologies have facilitated a healthier, more efficient, and sustainable food supply. They nevertheless often face resistance from consumers. Compared to organic and traditional farming techniques, food produced with technologies tends to be associated with higher perceptions of risk, lower attitudes, and fewer perceived benefits. Countering resistance toward technologies poses a serious challenge because persuasive appeals have the potential to amplify preexisting attitudes instead of changing them. We tested six infographics for their ability to improve attitudes and risk perception toward six food technologies: hormones, antibiotics, GM crops, vaccines, sustainability technology, and animal welfare technology. Our objective was to determine whether these infographics would successfully shift perceived risk and attitudes toward these technologies.

Materials and Methods

Participants ($n = 810$) from English speaking countries (in North America, Europe, and Australia) were recruited from Amazon's MTurk service. They answered a survey assessing their levels of risk perception and attitudes regarding each of the six food technologies, followed by a general food technology neophobia (FTN) survey. An experimental condition ($n = 416$) saw an infographic before answering questions about each technology and a control condition ($n = 394$) did not. Linear mixed effects models implemented in R were used to test risk and attitude differences among technologies and whether the infographics affected risk perception and attitudes.

Results

Linear mixed effects models revealed that there was a significant interaction between technology and condition for both risk: $F(54040) = 5.068$, $p < 0.001$, and attitudes: $F(54040) = 26.34$, $p < 0.001$. Overall, there was a tendency for risk perception to decrease ($g = -.36$, $z = 6.89$, $p < 0.001$) and attitudes to increase ($g = .48$, $z = 9.38$, $p < 0.001$), in the condition that saw the infographics. However, there were larger decreases in risk perception and increases in attitudes for hormones (risk: $z = 5.05$, $p < 0.001$; attitudes: $z = 8.30$, $p < 0.001$), GMOs (risk: $z = 6.89$, $p < 0.001$; attitudes: 13.21, $p < 0.001$), vaccines (risk: $z = 6.45$, $p < 0.001$; attitudes: $z = 6.11$, $p < 0.001$), and antibiotics (risk: 5.06, $p < 0.001$; attitudes: $z = 7.83$, $p < 0.001$), but smaller changes for sustainability (risk: $z = 2.77$, $p = 0.03$; attitudes: $z = 2.89$, $p = 0.02$) and animal welfare (risk: $z = 4.91$, $p < 0.001$; attitudes: $z = 3.51$, $p = 0.003$). Including FTN in the models did not affect the overall pattern of results, suggesting that the changes in risk perception and attitudes were not due to simply a general change in FTN.

Conclusion

Our results found that infographics provide a potential avenue for improving attitudes and risk perception for food technologies. Across six different infographics, we found attitudes and risk perception improved for hormones, antibiotics, vaccines, GMOs, sustainability technologies, and animal welfare technologies. These results are important because such persuasive appeals can often backfire, yet here we observed general improvement. In future studies it will be critical to examine how such attitude and risk perception changes relate to consumer behavior (e.g., willingness-to-pay), and which specific strategies in the infographics led to the improved attitudes.

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