

Unmasking the Misconceptions about Food Choices - Do Organic, Local, and Vegan Options Infer Sustainability?

Short Abstract

Society's dietary choices profoundly impact the environment, though many consumers lack understanding of sustainable food. In two studies involving high school and college students we assessed sustainable food knowledge with a validated [measure](#). Our findings indicate relatively low knowledge for both cohorts and substantial variance in how sustainable food is defined, providing preliminary evidence of consumer misconceptions that may prevent them from making optimal sustainable food choices even when they are willing and able to do so. We propose controlled experiments to test interventions through targeted messaging. This research promises to have important implications for consumers, public policy, and the industry.

Key Contributions

This research is the first known attempt to assess consumer sustainable food knowledge using a well-established European measure (which we adapted slightly to better fit the context) in the United States. Perhaps more importantly, the purpose of this research is to identify the common misconceptions among consumers in what is sustainable food and to begin to categorize these misconceptions with a purpose of developing targeted messaging to inform public policy and educate consumers. To this end, we began by surveying young consumers and found relatively low levels of sustainable food knowledge which are comparable to the European samples. The

initial exploration of definitions of sustainable food provided by study participants rendered a beginning of a typology, which we propose to further explore and develop using broader consumer panels to better understand any relationships between sustainable food knowledge and demographic and psychographic factors. Finally, we plan to experimentally test specific messaging strategies to ‘correct’ the common misconceptions and perhaps even nudge consumers towards prioritizing true sustainable food choices whenever possible. This research promises to contribute to marketing literature on sustainability and message framing, providing practical insights for public policy and industry that seek to educate consumers and/or market sustainable food.

Extended Abstract

Our choices about what we eat significantly affect our planet. However, making food choices that, in the process of being produced and prepared, cause the least harm to the environment (i.e., sustainable food consumption) may or may not be a top priority for consumers, as they often experience competing pressures to maintain a budget, follow a medically prescribed diet, or simply not having access to sustainable food options (e.g., living in a food desert). Furthermore, the majority of consumers remain unaware of the environmental consequences linked to the production and intake of food, or have certain beliefs about accuracy of their knowledge that remain unexplored (Gallo et al. 2023). While the tensions associated with competing consumer interests are outside the scope of this research, we seek to better understand what US consumers

know and do not know about sustainable food, as well as propose and test messages that may help effectively educate consumers on food sustainability.

The urgency of shifting consumer behavior towards more sustainable food choices is highlighted in numerous sources. It has been estimated that approximately one-third of all anthropogenic greenhouse gas emissions are linked to food (United Nations (n.d.)). Furthermore, a recent report indicates that adopting plant-based diets has the potential to reduce diet-related greenhouse gas emissions by 49% (Gibbs and Cappuccio 2022). If consumers fail to make this shift, the environmental and health consequences could be dire: increased greenhouse gas emissions, deforestation, loss of biodiversity, and a rise in diet-related diseases. In the short term, this could lead to exacerbated climate change effects, such as extreme weather events and food scarcity (Intergovernmental Panel on Climate Change [IPCC] 2019). In the long term, it may culminate in irreversible damage to the ecosystem and a significant decline in global public health (Willett et. al 2019). It is therefore crucial to promote sustainable food consumption to mitigate these risks and ensure a healthier planet for future generations. Notably, there are benefits of sustainable food consumption that extend beyond the environment, to other stakeholders of the sustainable food system (e.g., consumers, governments, and other institutions).

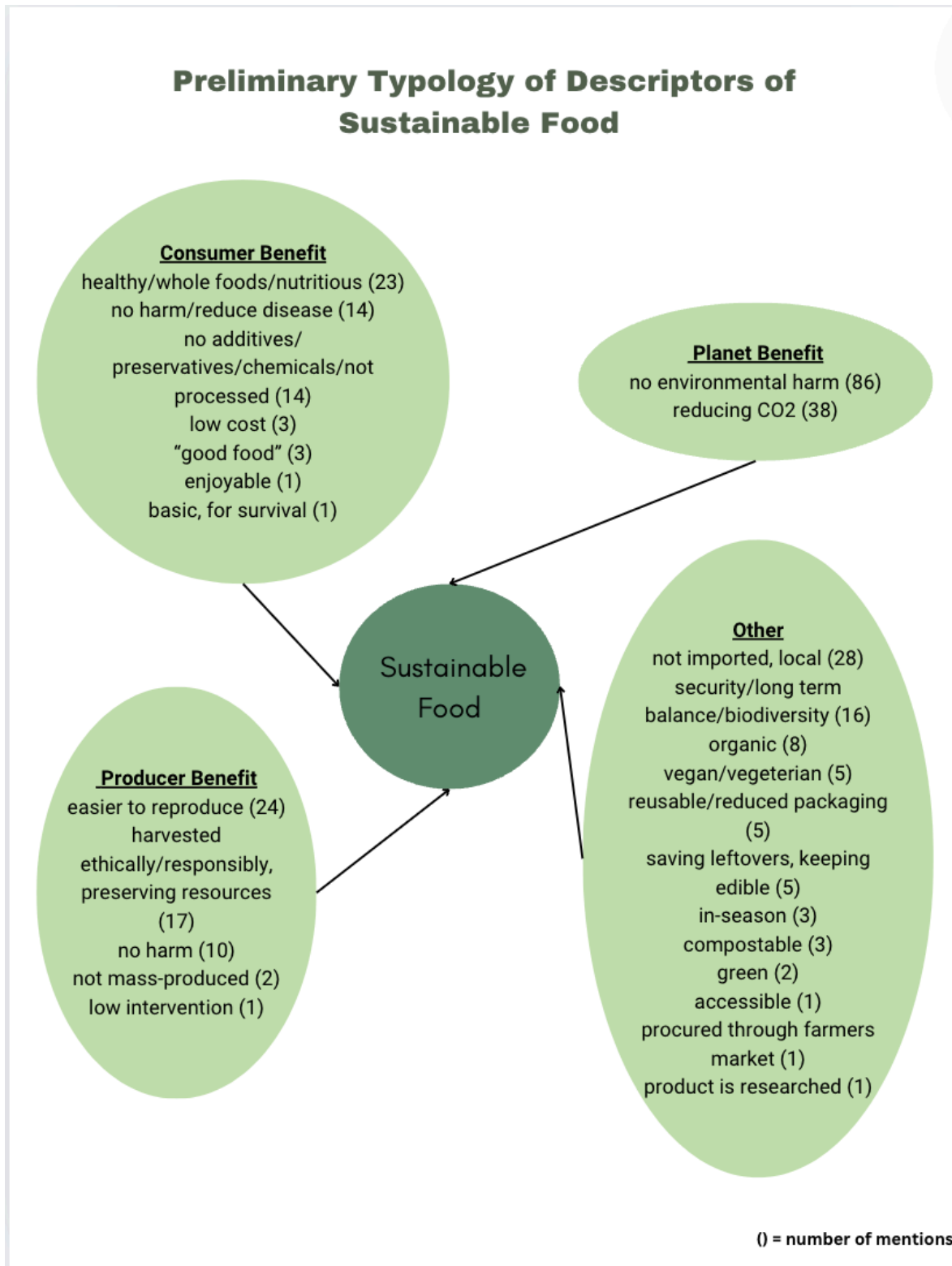
Many definitions of sustainable food have been proposed. The US Department of Agriculture (USDA) and The United Nations SDGs both describe a sustainable food system delivering “food security and nutrition for all,” with the USDA adding that “economic, social and environmental bases generate food security and nutrition for future generations are not compromised” (U.S. Department of Agriculture (n.d.); United Nations. (n.d.)). The Oslo Roundtable defines it more

comprehensively – production, consumption by the consumer, the well-being of individuals, and the consideration of future generations (Oslo Roundtable on Sustainable Production and Consumption 1994). Likewise, the UK Sustainable Development Commission emphasized safety, healthiness, nutrition, livelihood for producers, and support for rural communities (UK Sustainable Development Commission 2005). Perhaps as the result of such lack of agreement, consumers are generally confused about sustainable food (Gundala and Singh 2021; Macdiarmid, Douglas, and Campbell 2016) and often rely on organic labels and other heuristics (e.g., vegan, local) when evaluating how sustainable a foodpiece is.

To test US consumer knowledge of sustainable food we first conducted two pilot studies using a paper and pencil and an online survey (qualtrics-based), with high school and college student participants respectively. In pilot one, 45 volunteer high school students completed a paper and pencil based survey that contained an established sustainable food knowledge [questionnaire](#), adapted for the terms consistent with the geographic area (Hartmann et al. 2021). Specifically, participants answered 16 multiple choice questions that were designed to assess their knowledge of sustainable food. Subsequently, the questionnaires were scored based on the number of right, wrong, and "don't know" answers on a 0-16 point scale. The average score for the sample was $M=8.57$, $SD=3.07$, which is comparable to previously reported scores ($M_{\text{Switzerland}}=8.4$, $SD=3.4$; $M_{\text{Germany}}=7.7$, $SD=3.3$; p 's $> .05$; Hartmann et al. 2021). In a subsequent pilot, the sustainable food knowledge tool was administered using an online survey (qualtrics) to undergraduate students who participated in exchange for research credit. One hundred and forty-five undergraduate students (71% female) participated in this study: 98.6% were between the ages of 18-24, 17.9% were of Hispanic/Latino origin, and 62.8% were white or Caucasian. Similar to

pilot one, we scored the participants' responses on the sustainable food knowledge tool (right, wrong, don't know). The average score was $M=8.11$, $SD=3.41$, comparable to the high school sample ($p > .05$). In study 2, we also asked participants to define “sustainable food” in their words. The responses were explored for common themes/variability. A preliminary visualization of a typology of descriptors of sustainable food is provided in Figure 1.

Figure 1



Per the figure, study participants vary dramatically in their interpretation of what sustainable food is and who it impacts. This leads us to suspect that there are also common misconceptions that result in food choices that are inconsistent with the concept of sustainability. Our preliminary exploration of the definitions has also pointed to a variety of benefits that consumers associate with sustainable food, namely, benefits to consumers, to the planet, to the producer of the food, and many others that align with the literature on sustainable food systems (Nguyen 2018). The major misconception appears to be that a golden standard of sustainable food is attainable, which may discourage consumers from making even small changes towards eating sustainably. An important takeaway from this research thus far is that tradeoffs are unavoidable; consumers have to make complex choices even if they are willing and able to consume sustainably. It should be the goal of public policy and the food/beverage industry, therefore, to help consumers make educated choices.

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