


Consumer Knowledge Gaps and Biases about Food, Health, and Sustainability

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Disclosure

No conflicts of
interest to declare



What psychological factors serve as barriers to consumers making healthier and more sustainable choices?

Consumer Lay Theories about Food and Sustainability

Scientific Theories vs. Lay Theories

Scientific Theories used by hard scientists to explain the natural world and social scientists to explain behavior

Lay Theories used by everyday people to understand and respond to all aspects of their world



Consumer lay theories help people make choices about consumption



15 WINES 90 pts+ UNDER \$15		
 Cune Crianza 2010 90 pts The Wine Advocate \$15.99	 Maipo Reserve Cabernet Sauvignon 2012 92 pts The Wine Advocate \$14.99	 Herencia Altes Garnacha Negra 2012 91 pts The Wine Advocate \$9.99
 Unruly Red '12 91 pts Wilfred Wong \$11.95	 Rio Madre Graciano Rioja 91 pts Wine Advocate \$13.99	 Las Rocas Garnacha '09 90 pts Wine Advocate \$12.99
 Paringa Shiraz South Australia 90 pts Wine Spectator \$11	 Badia a Coltibuono Toscana Cancelli 90 pts Wine Spectator \$10	 Horse Heaven Vineyard Sauvignon Blanc 90 pts Wine Spectator \$15
 Tilia Torrontes 2011 90 pts Wine Advocate \$11	 Domingo Molina Hermanos Torrontes 2012 92 pts Wine Advocate \$15	 Badenhorst Secateurs Chenin Blanc 2012 92 pts Wine Advocate \$14.99
 Charles Smith Kung Fu Girl Evergreen 90 pts Wine Spectator \$12	 Gen 5 Zinfandel '11 92 pts Wilfred Wong \$14.95	 Pacific Rim Dry Riesling '11 91 pts Wine Enthusiast \$10.99

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Consumer Lay Theories about Food and Sustainability



Sources:

Raghunathan, Naylor, and Hoyer 2006, *Journal of Marketing*
Haws, Reczek, and Sample 2017, *Journal of Consumer Research*
Luchs, Naylor, Irwin, and Raghunathan 2010, *Journal of Marketing*

Is Sustainability Always a Liability?

- Not for all attributes



- Not for all consumer segments

- Consumers with strong green consumption values tend NOT to rely on sustainable = not strong lay theory (Haws, Winterich, and Naylor 2014, *Journal of Consumer Psychology*)
 - “It is important to me that the products I use do not harm the environment”
 - “My purchase habits are affected by my concern for our environment”



- Halo effect on product quality when company is seen as investing in sustainability (Chernev and Blair 2021, *Journal of Consumer Psychology*)



- Specific “green halo” effect for food (Sörqvist et al. 2015, *Food Quality and Preference*)
 - “Eco-friendly” fruit judged to taste better and have more health benefits



What does “sustainable food” mean to consumers?

- For more durable goods, products perceived as “greener” when a more central product attribute is green (Gershoff and Frels 2015, *Journal of Marketing*)
- Open question for food...what attributes are central?
 - Brand’s investment in sustainability?
 - Eco-friendly/recyclable packaging?
 - Where and how the food is produced?

Consumer Reports Survey: 43% of respondents said sustainable food means “food is produced with a low carbon footprint”



What's Next? Climate Change Information in the Marketplace

- Unclear how/whether consumers make connection between their purchases and emissions

Nutrition Facts	
3 servings per container	
Serving size	2/3 cup (112g)
Amount per serving	
Calories	310
% Daily Value*	
Total Fat 18g	23%
Saturated Fat 12g	60%
Trans Fat 0g	
Cholesterol 60mg	20%
Sodium 60mg	3%
Total Carbohydrate 34g	12%
Dietary Fiber < 1g	3%
Total Sugars 30g	
Includes 25g Added Sugars	50%
Protein 4g	
Vitamin D 0mcg	0%
Calcium 110mg	8%
Iron 0mg	0%
Potassium 160mg	4%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



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Climate Pledge Friendly

Barriers to Effective Climate Actions to Reduce Emissions among Consumers

1. Lack of belief in climate change
2. Even among consumers who believe climate change is real and want to take action to stop it, unclear what actions most effective

SCIENCE

How Useful Is Recycling, Really?

Among all possible climate actions, recycling ranks pretty low in its impact.

Plastic Recycling Doesn't Work and Will Never Work

If the plastics industry is following the tobacco industry's playbook, it may never admit to the failure of plastics recycling.

Why?

- Lack of knowledge on emissions associated with consumption behavior
- Cognitive and Motivational Biases

Survey of layperson vs. expert beliefs about the impact of consumer behaviors to mitigate climate change

3 samples:

- 351 U.S. undergrads
- 100 Mturk workers
- 121 international climate change experts*

24 behaviors:

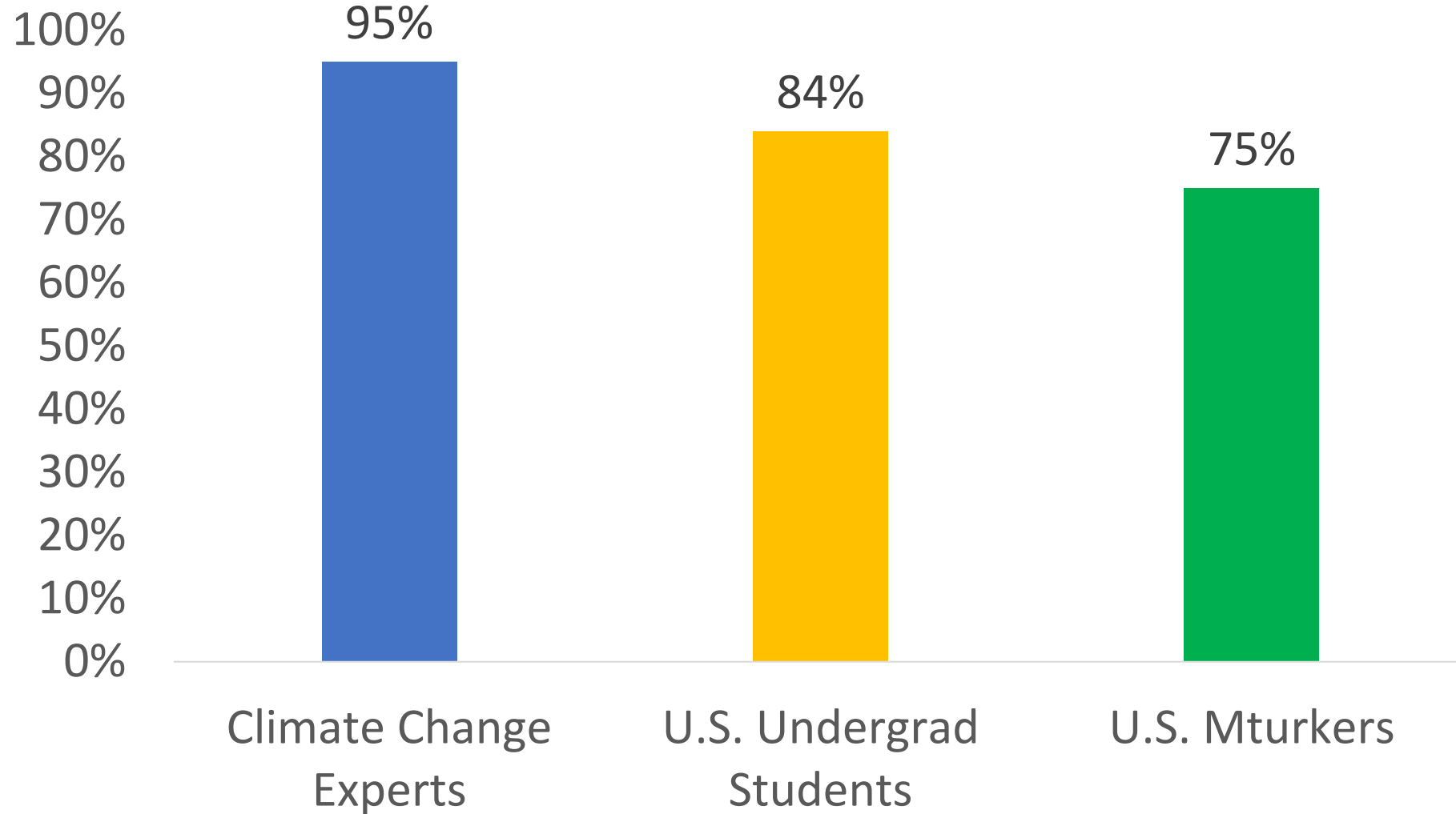
- “To the best of your knowledge, please indicate how impactful each behavior is at reducing climate change” (1 = not at all impactful, 9 = very impactful)

Climate change beliefs:

- “Assuming climate change is happening, do you think it is...”
1 = caused mostly by human activities, 2 = caused mostly by natural changes in the environment, 3 = none of the above because climate change isn’t happening, 4 = Don’t know, and 5 = other

**Climate Change Experts recruited through my membership in an NSF-funded Research Coordination Network*

Percentage of Sample Indicating Climate Change Caused by Human Activity

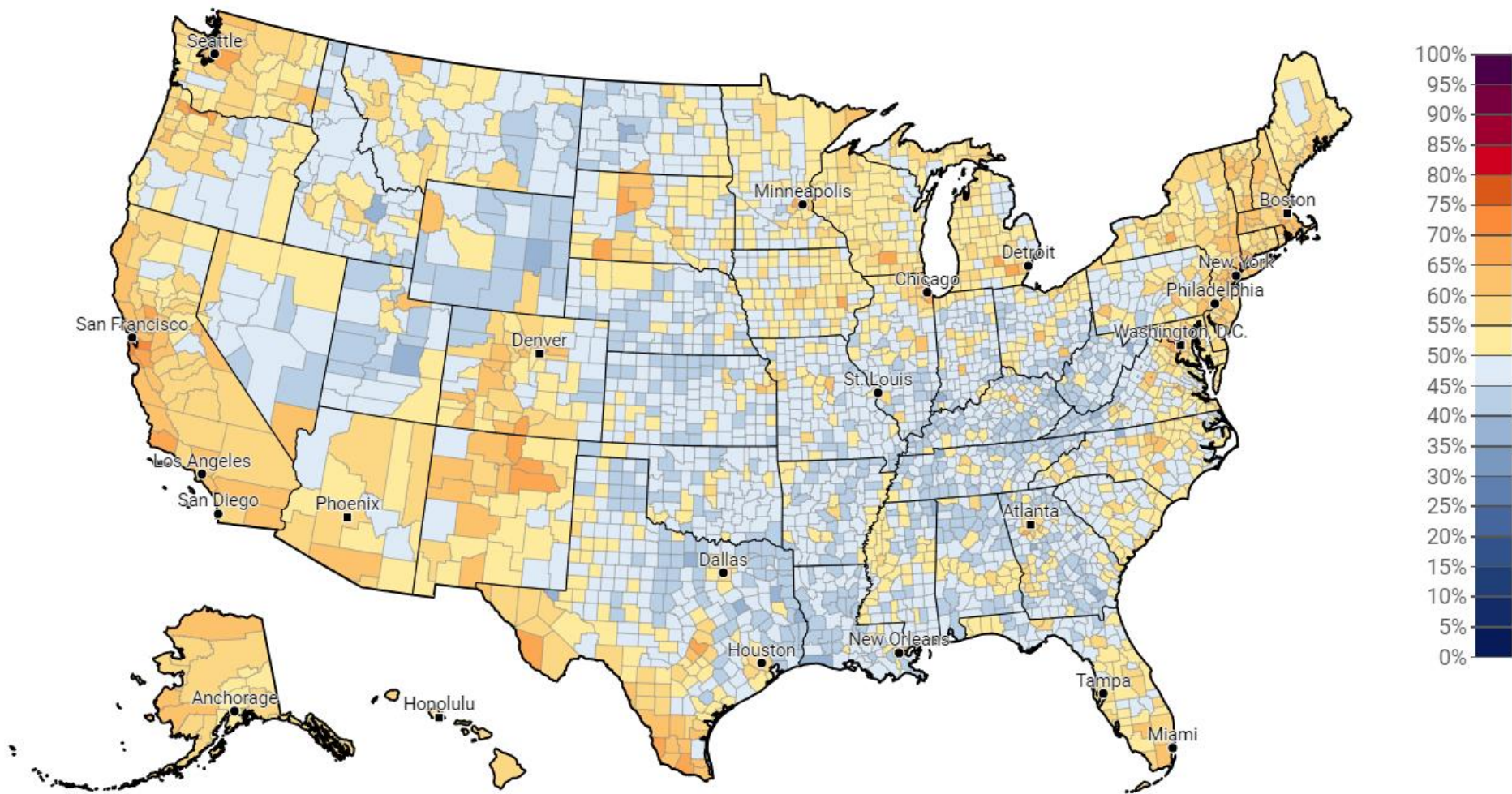


Map · Feb 23, 2022

Yale Climate Opinion Maps 2021

By Jennifer Marlon, Liz Neyens, Martial Jefferson, Peter Howe, Matto Mildenberger and Anthony Leiserowitz

Estimated % of adults who think global warming is caused by humans (nat'l avg. 57%)



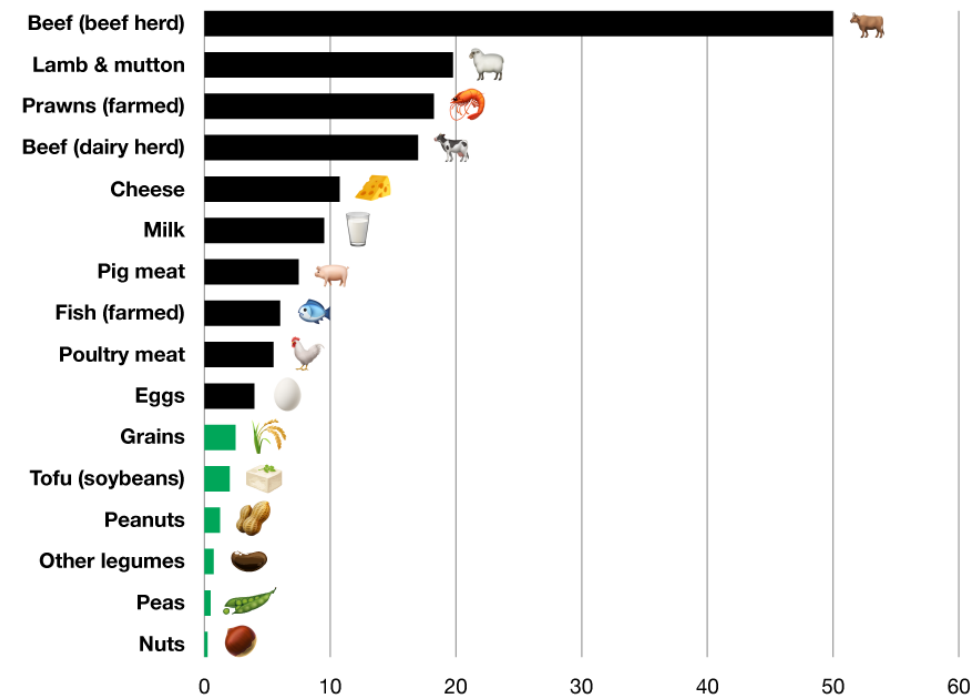
	Climate Change Experts	U.S. Undergrad Students	U.S. Adults on MTurk
Food			
Eat less red meat	6.57	4.62	5.95
Eat fewer dairy products	5.36	4.13	5.22
Eat less poultry	4.55	4.11	5.49
Waste less food	5.95	6.20	6.58



Lack of knowledge on emissions associated with consumption behavior

GREENHOUSE GAS EMISSION BY PROTEIN SOURCE

GHG in kilograms of CO₂ equivalent per 100 g protein



Source: Semba et al., 2021

Energy	Experts	Undergrads	Mturk
Use renewable energy (e.g., solar, wind) to power your home	7.16	7.43	7.06
Retrofit your home to be energy-efficient (insulation, windows)	6.98	6.86	6.70
Use energy-efficient appliances in your home	5.70	6.79	6.56
Downsize your home (home has less square footage per person)	6.58	4.67	5.61
Use LED lightbulbs in your home	5.10	5.43	6.24

Cognitive and Motivational Biases: Motivated Reasoning

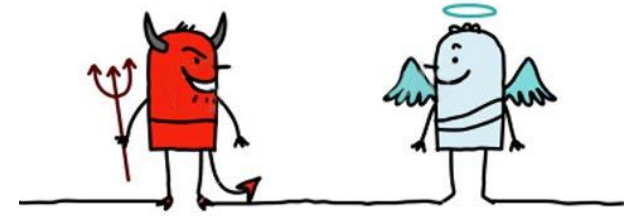
Other Consumption Choices	Experts	Undergrads	Mturk
Recycle plastics	4.09	6.93	6.66
Buy “eco-friendly” products	4.32	6.25	6.24
Purchase organic products	4.05	4.59	4.97
Buy second-hand clothing	5.06	5.76	5.67
Buy less clothing	5.48	5.46	5.45
Buy sustainable new clothing	4.10	5.66	5.60
Use aluminum reusable water bottle instead of plastic bottles	4.54	7.07	6.65
Use reusable grocery bags	3.89	6.61	6.24
Plant trees	5.90	7.10	7.05
Write fewer emails	2.75	1.93	2.51

Cognitive and Motivational Biases: Motivated Reasoning

What psychological factors serve as barriers to consumers making more ethical choices?

Avoidance of Ethical Attribute Information





- General conflict between “want self” and “should self”

(Bazerman, Tenbrunsel, and Wade-Benzoni 1998; Milkman, Rogers, and Bazerman 2008)

- **Ethical attributes** are attributes that activate the consumer’s **moral self**

- Environmental friendliness (e.g., made from recycled material, sustainable)
- Fair labor practices (e.g., fair wages, no child labor)

Should self: You *should* care about these things when purchasing.

Want self: Nope, I want to avoid thinking about that stuff so I can buy what I want in peace!

Coping Mechanism to avoid negative affect:

- (1) Willfully ignorance in search for ethical attributes
- (2) Willfully ignorant memory for bad performance on ethical attributes

Practical Implications for Consumers and Firms

- Barrier to purchase of ethical products if people don't search for ethical information and can't remember that some products are NOT sustainable
- Allows consumers to purchase unethical products without guilt/anger/etc.
- Can't expect consumers to (1) search for or (2) accurately retain ethical and sustainable attribute information
- Underscores the importance of providing easily understandable sustainability labels at the point of purchase

Takeaways



Consumer judgments about food often based on lay theories that may not be objectively correct



Evidence suggests positive associations with sustainable foods for health and taste



Consumers often lack knowledge on what sustainability means in the food domain

Not necessarily willing to search for sustainability information

Need easy to process, evaluative labels from credible sources



Some consumer segments may demand evidence of climate action from firms in the near future

But don't necessarily have the knowledge to know how to interpret it

Hard for firms to deliver impactful results if they don't match consumer lay theories about meaningful climate action

Thank you!

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