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CONSUMER FOOD INSIGHTS

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INTRODUCTION

Consumer Food Insights (CFI) is a monthly survey of more than 1,200 Americans from across the country. Since January 2022, the Center for Food Demand Analysis and Sustainability (CFDAS) at Purdue University has used this survey to track trends and changes in consumer food demand and food sustainability behaviors.[1] Visit purdue.ag/CFDAS or contact cfdas@purdue.edu for more details.

In this issue, we analyze the CFI results by food satisfaction level, adopting a scale based on the Cantril Scale, a tool utilized in Gallup's World Poll to assess well-being and happiness around the world. We use the same format to assess how consumers feel about their diet well-being and assign the same conceptual labels—*suffering*, *struggling* and *thriving*—to different levels of food satisfaction. This report compares these groups over the last 19 months of data collection (January 2022 - July 2023). Other questions included in this month's survey asked consumers how they feel about beef from cattle compared to three meat alternatives: plant-based, cell-cultured and lab-

KEY INSIGHTS FROM JULY

- Household food at home (FAH) spending is up 4.6% from July 2022, reaching its highest level yet.
- Consumers' predictions for food inflation over the next 12 months have dropped to 3.7%, the lowest recorded by this survey.
- Food insecurity is a percentage-point lower than last month but higher than the 2022 average for the third straight month.
- Consumers most satisfied with their food consumption (i.e., thriving) also spend the lowest share of their incomes on food.
- Consumers most unsatisfied with their diets also have the fewest resources to pursue more sustainable food purchasing.
- Consumers greatly favor beef from cattle over cell-cultured/lab-grown meat, though these alternatives rate best on animal welfare.

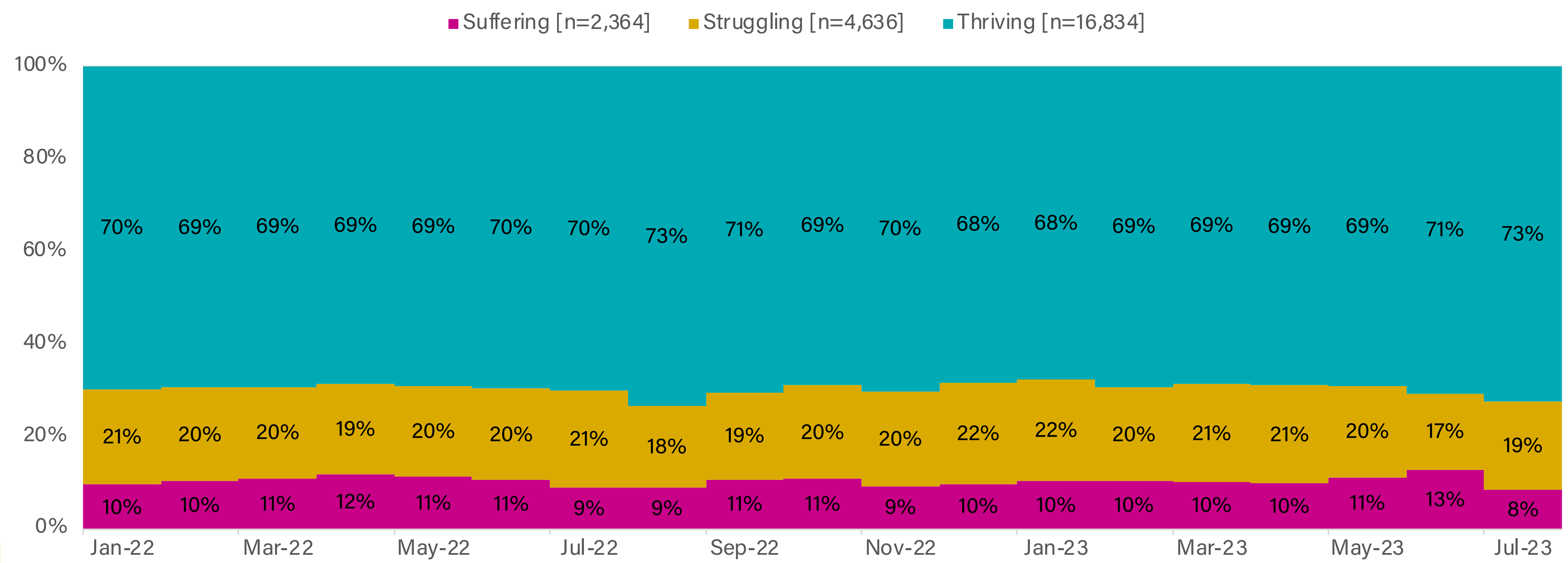
SUSTAINABILITY INDEX	FOOD INSECURITY	FOOD SPENDING	GROCERY STOCKOUTS
69/100	**16%**	**$195**/WEEK	**11%**

FOOD SATISFACTION

Are Americans satisfied with their diets?

Using the Cantril Scale, respondents scored their own diet on a 0-10 scale, with top of that scale representing their ideal diet. Scores are categorized as suffering (0-4), struggling (5-6) or thriving (7-10). On average, a significant majority of Americans (73%) continue to be considered thriving, which has remained nearly unchanged on a monthly basis (**Figure 1**). This measure correlates with other survey indicators like general food happiness, as 87% of consumers say they are very or rather happy with the food that they have eaten in the last 30 days. **Figures 2-5** further describe food satisfaction by several demographic and socioeconomic factors. Consumers who report higher levels of food satisfaction are more likely to have a household income above $100,000 and to be 55 years or older, male and white.

Figure 1. Food Satisfaction Index [total n], Jan. 2022 - Jun. 2023



FOOD SATISFACTION

Figure 2. Food Satisfaction by Annual Household Income, Jan. 2022 - Jul. 2023

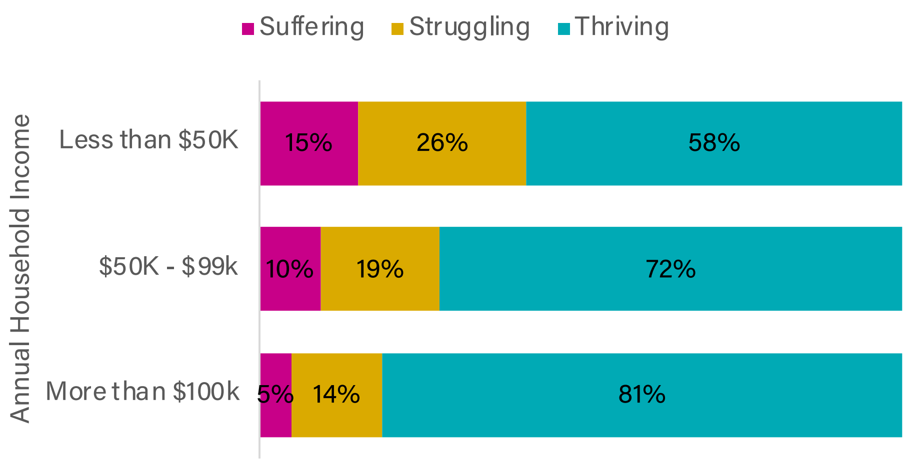


Figure 3. Food Satisfaction by Age, Jan. 2022 - Jul. 2023

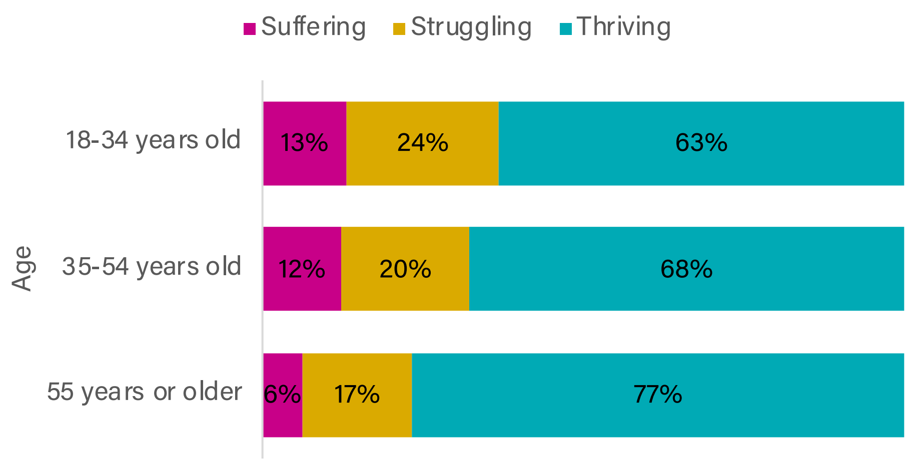


Figure 4. Food Satisfaction by Sex, Jan. 2022 - Jul. 2023

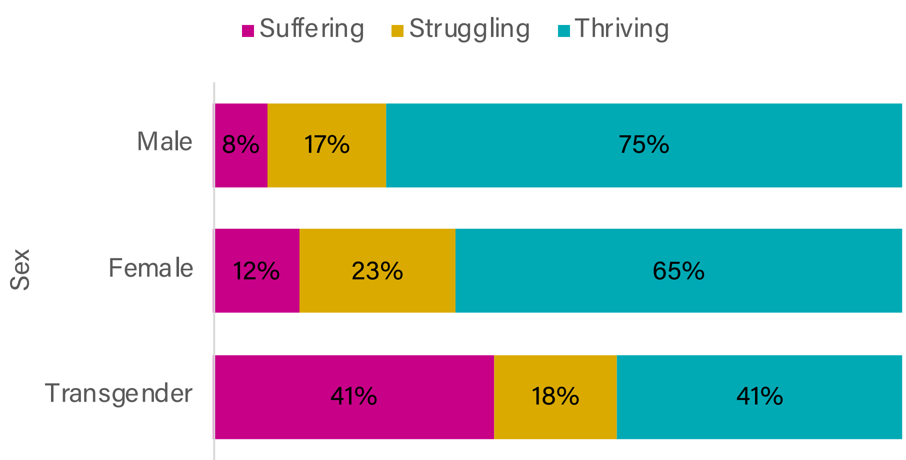
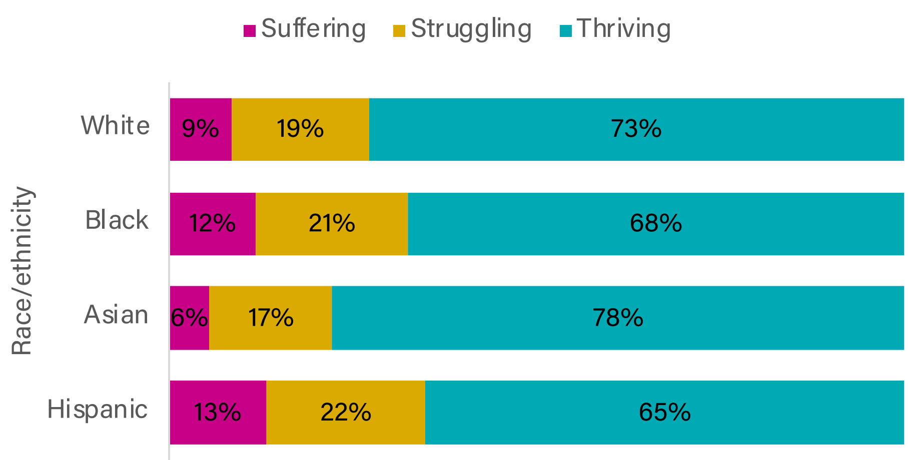


Figure 5. Food Satisfaction by Race/Ethnicity, Jan. 2022 - Jul. 2023

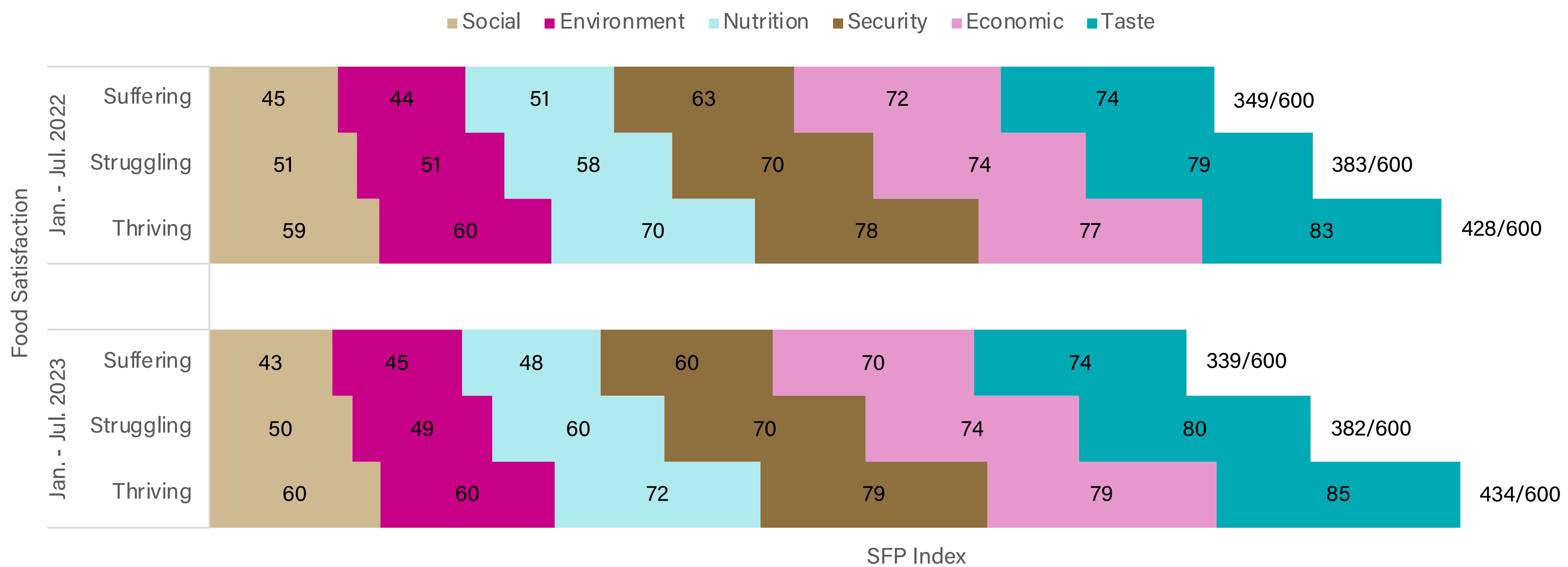


SUSTAINABLE DIETS

Are Americans making sustainable food purchasing decisions?

Scores on the Sustainable Food Purchasing (SFP) Index[2] remain the same as last July but they have proven to vary when disaggregated by other variables. **Figure 6** shows that scores positively correlate with the level of reported food satisfaction. Over the past year, the SFP Index has fallen among consumers that report to be suffering and risen slightly among consumers that report to be thriving. In particular, *Economic*, *Security* and *Nutrition* scores for those with the lowest food satisfaction dropped, which suggests that factors like the stresses of high inflation may be hurting their ability to meet these consumption goals. The dramatic difference in SFP Index scores also raises further questions about what drives both satisfaction and sustainability in the same direction.

Figure 6. Sustainable Food Purchasing Index by Food Satisfaction Level, Jan. 2022 - Jul. 2023

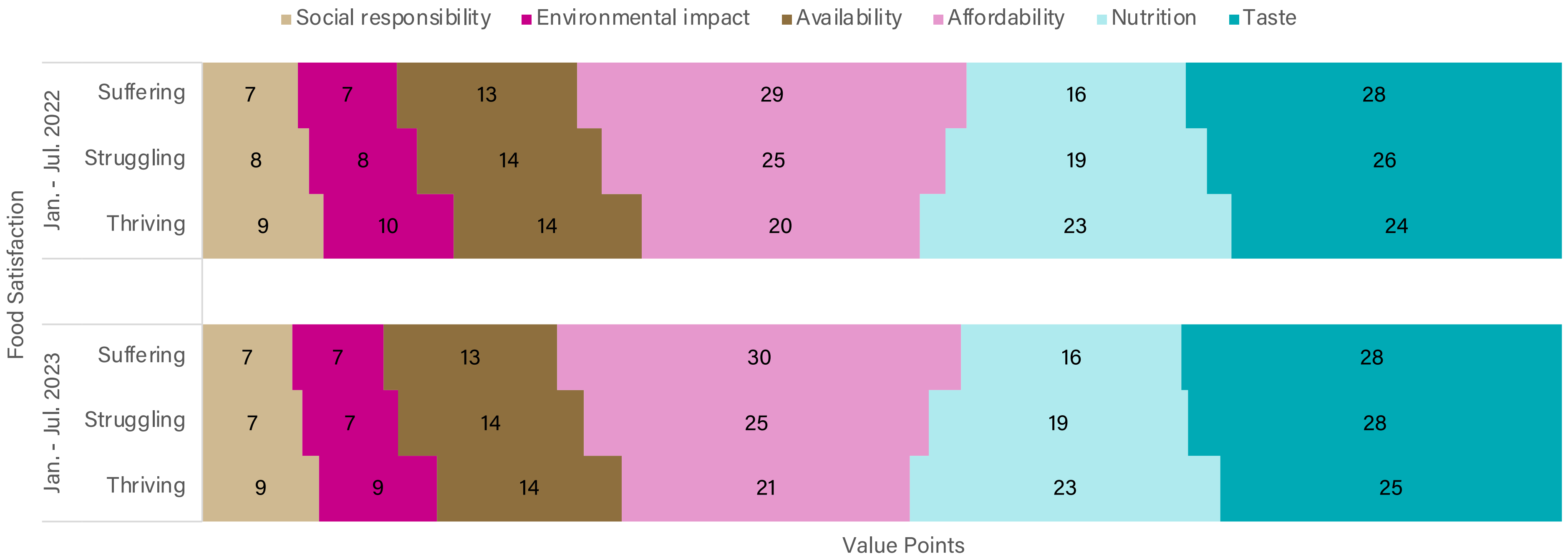


FOOD VALUES

What attributes do Americans most value when purchasing food?

Every month, respondents are asked to allocate 100 points to six food attributes based on their importance when grocery shopping. These attributes closely reflect the components of the SFP Index. On a monthly basis, we have not seen large changes in the distribution of points across these attributes. However, the food satisfaction level of a consumer relates to some of their food values (**Figure 7**). As satisfaction increases, the value attributed to nutrition increases, as well as the value put on social responsibility and environmental impact. Conversely, as satisfaction decreases, consumers value the affordability of their food much more, in addition to taste. How much consumers value food availability is the only area with little to no difference between food satisfaction levels.

Figure 7. Share of 100 Points Allocated to Food Attributes by Food Satisfaction Level, Jan. 2022 - Jul. 2023



FOOD EXPENDITURES

How much are American households spending on their food?

Each month, consumers report their household's weekly spending on food from the last 30 days (**Figure 8**). On average, consumers are spending about $126/week on groceries (FAH) and $68/week on restaurants and other carryout (FAFH).[3] Compared to last July, FAH spending is up 5%, while FAFH spending is down 2%. This annual decline in FAFH spending is somewhat surprising as government measures of inflation show FAFH inflation remaining higher than FAH inflation.

The consumer estimate of annual food inflation, however, is quite accurate compared to official estimates (**Figure 9**). The 5.9% estimated rise in food prices matches the 5.8% CPI estimate from June and is close to the 5.2% prediction consumers gave last July. Consumers remain fairly optimistic about future inflation too. Their 3.7% prediction for inflation is the lowest average measured on our survey since January 2022. As FAH inflation is already down to 4.7%, consumers could now be overestimating future inflation.

Figure 8. Weekly Household Food Expenditures, Jan. 2022 - Jul. 2023

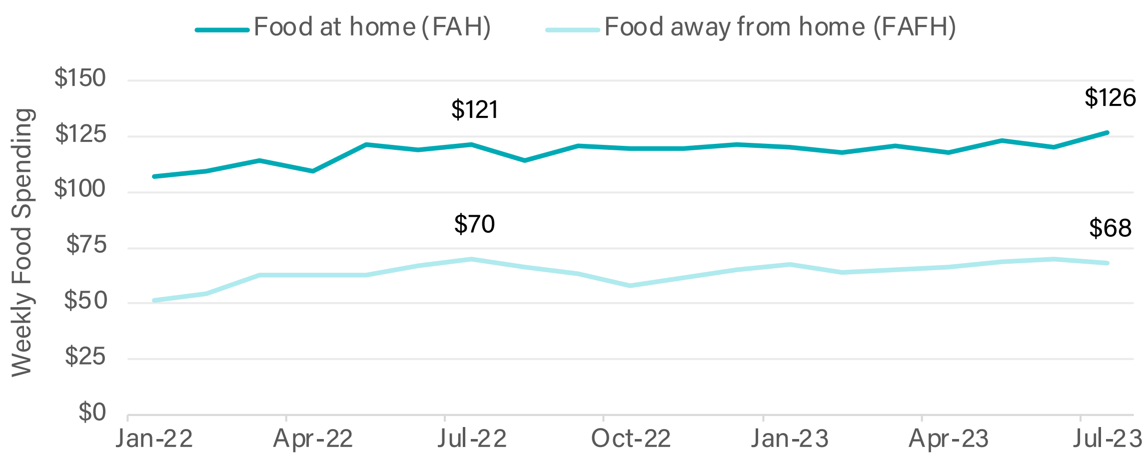
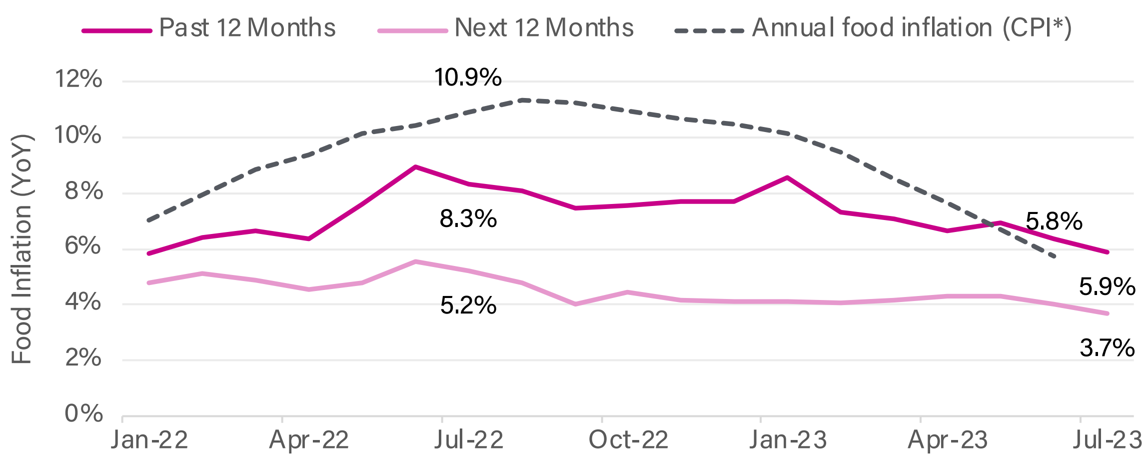


Figure 9. Consumer Estimates of Food Inflation Compared to Gov. Estimate, Jan. 2022 - Jul. 2023



*The Consumer Price Index (CPI) is a measure of inflation computed by the U.S. Bureau of Labor Statistics.

FOOD EXPENDITURES

How do different levels of food satisfaction relate to food spending?

Figure 10 reveals small differences in total food spending by food satisfaction level. Over the past 19 months, spending is (on average) lower and more variable among consumers that are suffering, as their spending is 17% ($166 vs $200) lower this month compared to last July. But, the average difference between these groups is only $5-7. This finding is important since conventional wisdom might expect food spending (on more, higher quality foods) to drive levels of satisfaction with food consumption.

Figure 11 helps to clarify this relationship with food spending as those who score highest on the food satisfaction scale spend a smaller portion of their households' income on food. In other words, these "thriving" households may not be spending a lot more on food, but their budgets afford them more flexibility and choice in their purchases. Note, the percentages in **Figure 11** do not include supplemental benefits, such as SNAP, in calculations of household income.

Figure 10. Weekly Household Food Expenditures by Food Satisfaction Level, Jan. 2022 - Jul. 2023

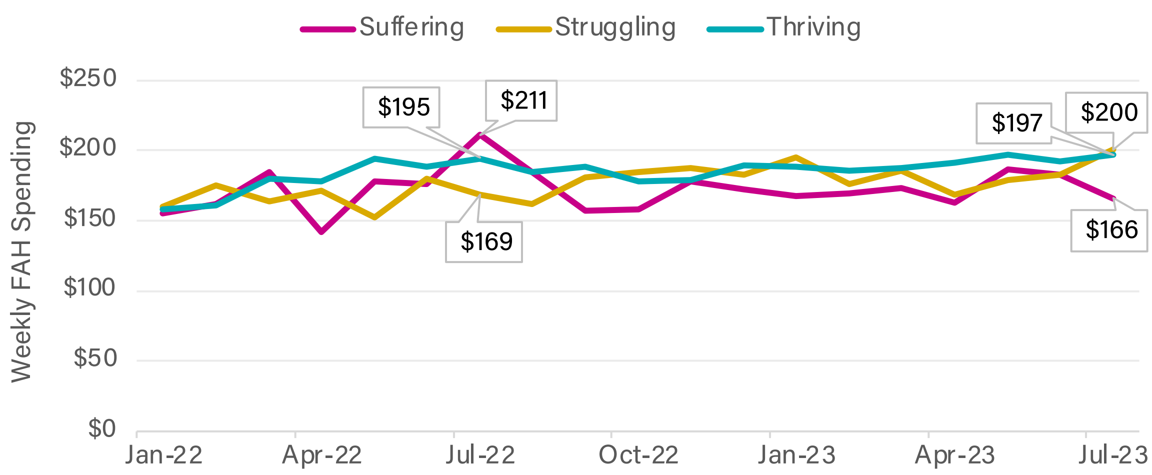
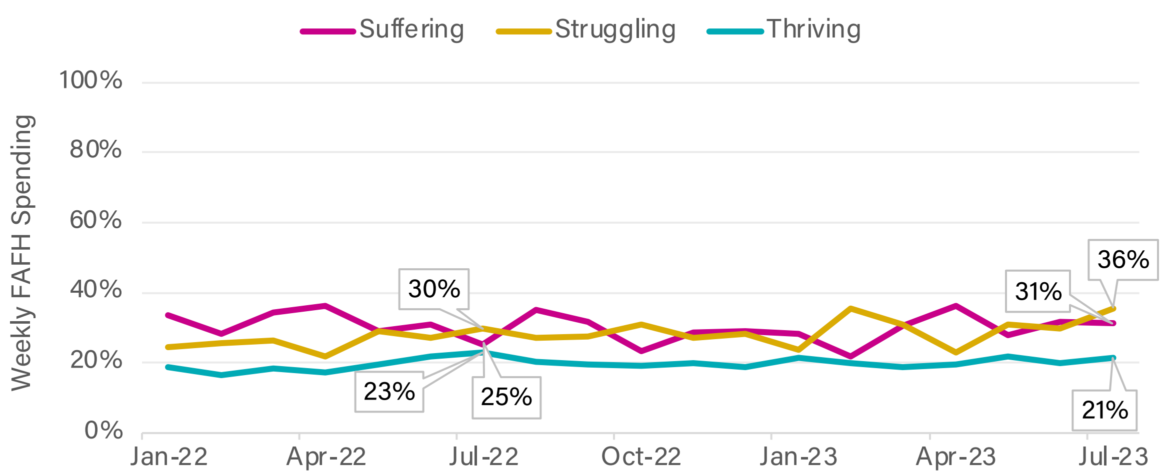


Figure 11. Share of Household Income Spent on Food by Food Satisfaction Level, Jan. 2022 - Jul. 2023



FOOD EXPENDITURES

How is grocery shopping evolving in post-pandemic times?

First, we see that a large majority of consumers continue to do most of their grocery shopping at the grocery store (**Figure 12**). There is some public concern that inflation pressures will push people to less desireable shopping outlets like dollar stores, but we see little evidence of this change. Consumers also report whether they have faced any stockouts of specific products at the grocery store, which currently sits at its lowest rate (11%) since January 2022 (**Figure 13**). Finally, the share of consumers who are purchasing their groceries online has decreased by two percentage-points since last July (**Figure 14**).

Figure 13. Rate of Grocery Stockouts (of one or more items), Jan. 2022 - Jul. 2023

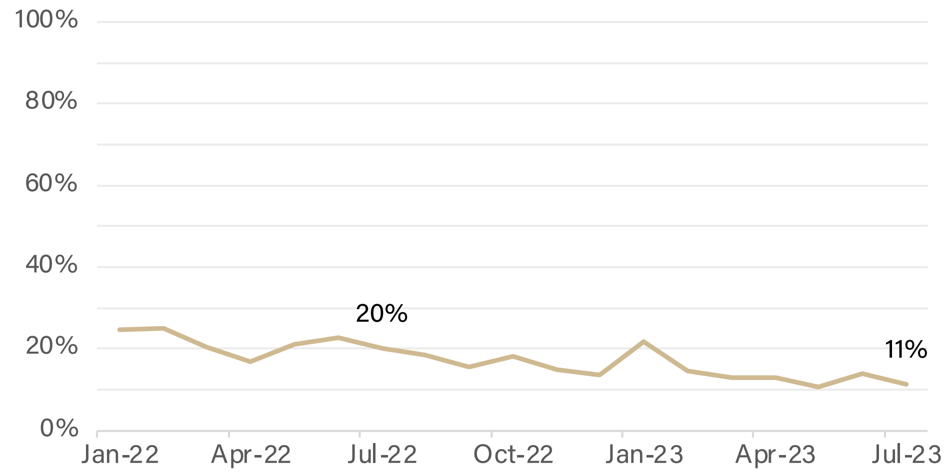


Figure 12. Rate of Grocery Shopping at a Grocery Store, Jan. 2022 - Jul. 2023

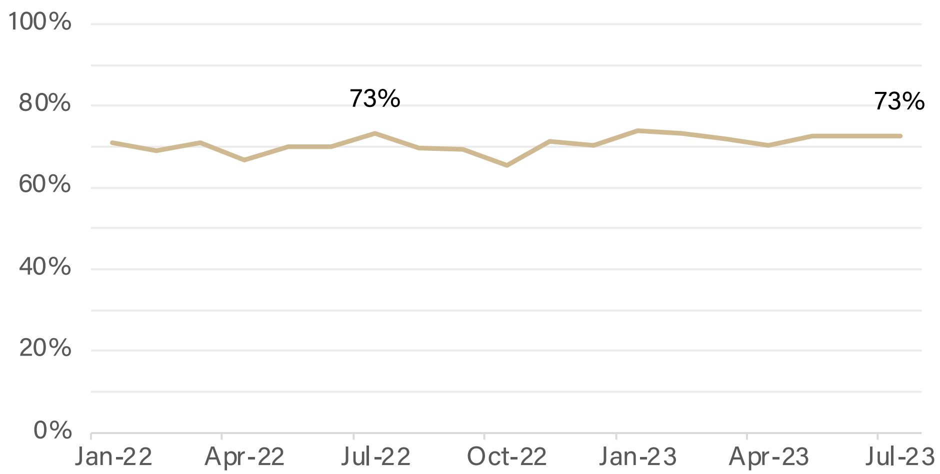
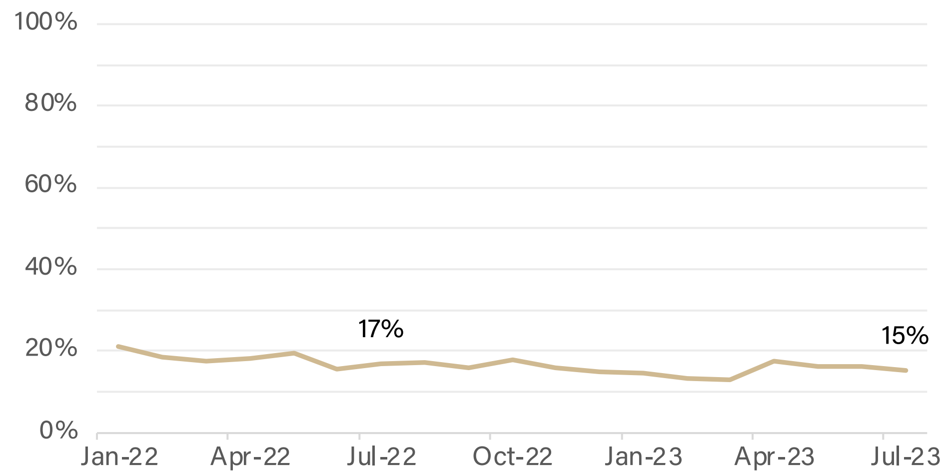


Figure 14. Rate of Online Grocery Shopping, Jan. 2022 - Jul. 2023



FOOD SECURITY

Which Americans are having trouble buying food for their families?

Based on a set of six standard questions[4] about food purchased and eaten in the in the past 30 days, we estimate national food insecurity to be about 16%. **Figure 15** reveals that this rate is the same as July 2022 but still remains above the 2022 average for the third month in a row. **Figure 16** further shows that consumers who are most unsatisfied with their food consumption are also most likely to be food insecure .

Figures 17-18 help to further reveal some of the complexity of insecurity. **Figure 17** shows wide gaps between food satisfaction levels and their rates of forgoing food purchases. However, **Figure 18** shows much more narrow gaps with respect to the rates of food benefit distribution among consumers of different satisfaction levels. In effect, a much larger share of people at the bottom of the diet well-being measure are living paycheck to paycheck while more comparable shares of consumers across this measure are relying on aid to maintain food sufficiency.

Figure 15. Rate of Household Food Insecurity in Last 30 Days, Jan. 2022 - Jul. 2023

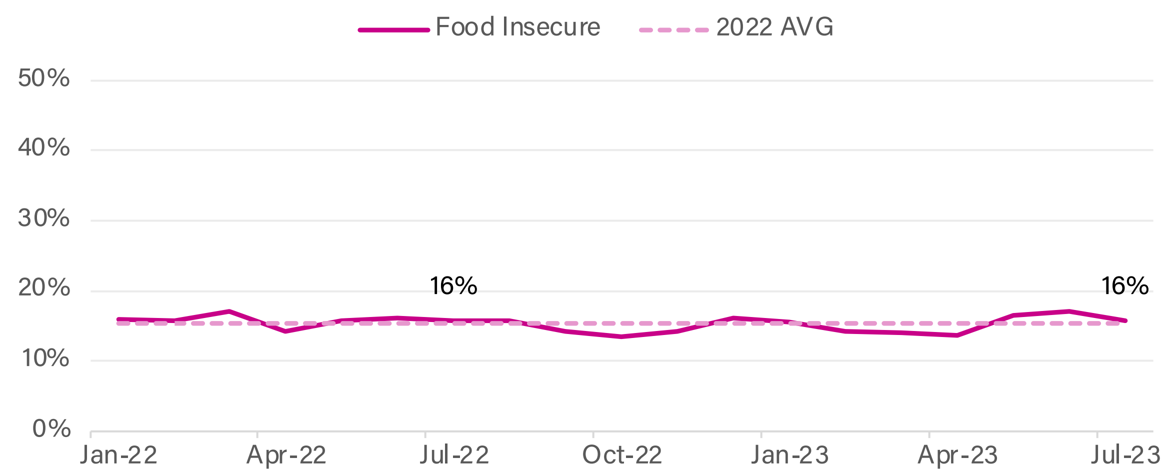
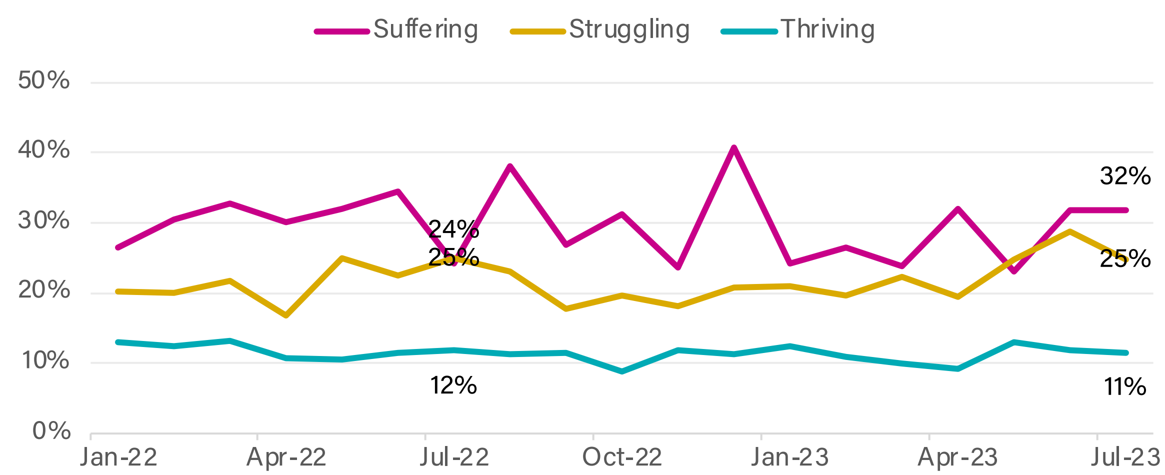


Figure 16. Rate of Household Food Insecurity by Food Satisfaction Level, Jan. 2022 - Jul. 2023



FOOD SECURITY

Figure 17. Rate of Households Waiting on Next Paycheck to Buy Groceries and Dine Out by Food Satisfaction Level, Jan. 2022 - Jul. 2023

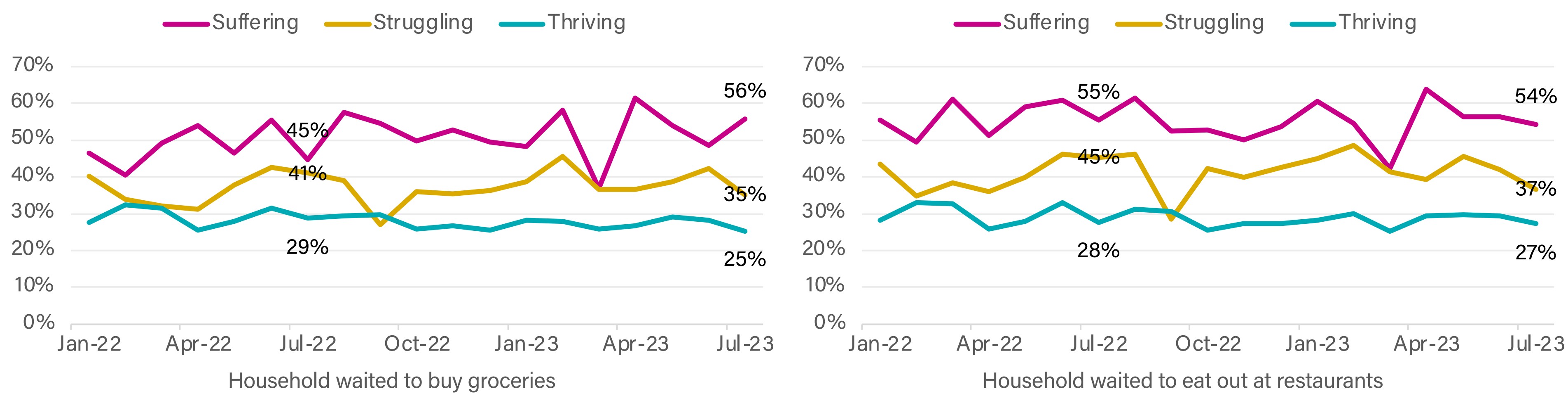
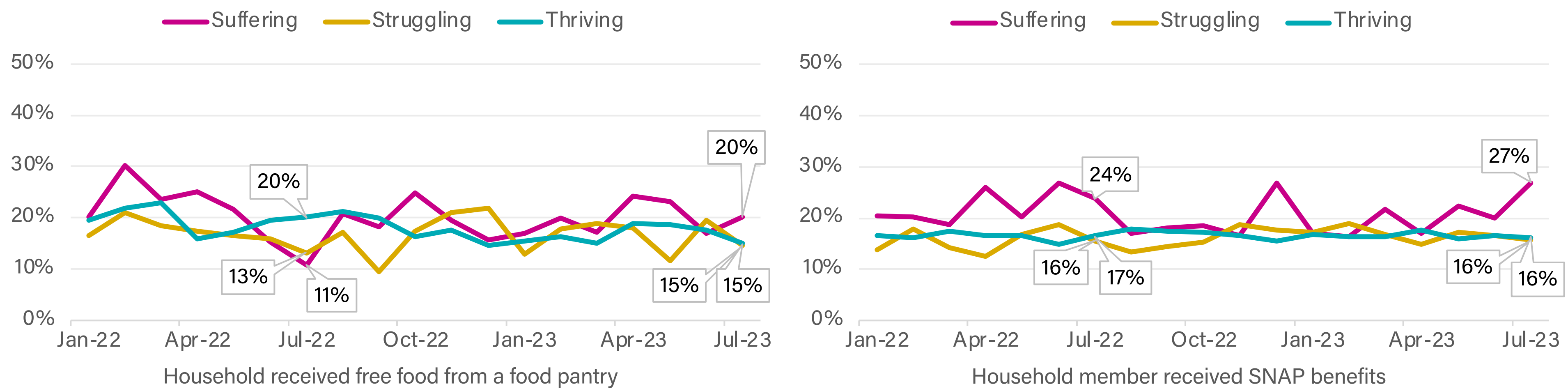


Figure 18. Rate of Households Receiving Free Food and SNAP Benefits by Food Satisfaction Level, Jan. 2022 - Jul. 2023



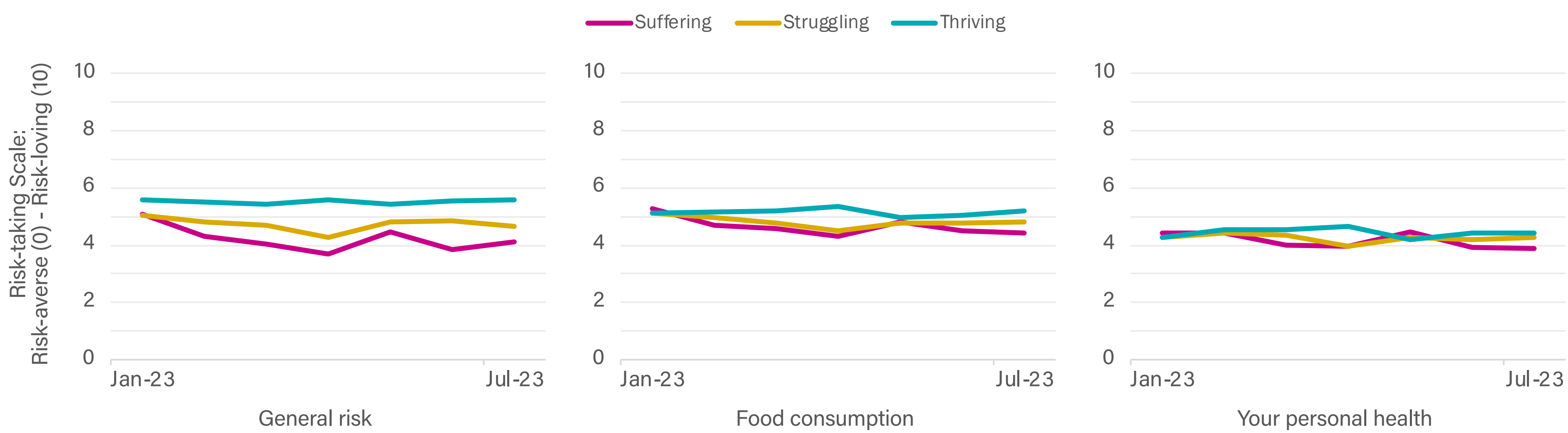
CONSUMER BEHAVIORS

How are Americans navigating their food environment?

Consumers describe their willingness to take risks on a 0 (risk-averse) to 10 (risk-loving) scale (**Figure 19**). Concerning general risk, consumers with higher food satisfaction are more willing to take risks. Though, there are likely underlying factors driving this difference as other studies show that demographics like men and higher income consumers are less risk-averse. When it comes to food consumption, this gap in risk-taking closes, and it further narrows for personal health, as all groups are least willing to take risks in this area.

Interestingly, food satisfaction appears to positively correlate to how often consumers check food labels, which would suggest more concern with food risks (**Figure 20**). However, consumers who report to be thriving likely have more resources that help expand their purchasing options and allow them to more often choose "premium" options like non-GMO foods, natural products, or grass-fed beef. In addition, we observed on our food values measure (pg. 7) that thriving consumers most value the nutrition and social/environmental sustainability of their foods. These values help explain a wide gap in many behaviors such as recycling or checking nutrition labels.

Figure 19. Self-Reported Attitudes Toward Risk by Food Satisfaction Level, Jan. 2022 - Jul. 2023



CONSUMER BEHAVIORS

Figure 20. Frequency of Consumer Shopping and Eating Habits by Food Satisfaction Level, Jan. 2022 - Jul. 2023

	Jan. - Jul. 2022			Jan. - Jul. 2023		
	Suffering	Struggling	Thriving	Suffering	Struggling	Thriving
Chose generic foods over brand name foods	3.4	3.3	3.3	3.3	3.2	3.3
Chose local foods over non-local foods	2.7	2.9	3.3	2.6	2.8	3.2
Chose wild-caught fish over farm-raised fish	2.4	2.7	3.1	2.5	2.6	3.1
Chose grass-fed beef over conventional beef	2.3	2.7	3.0	2.4	2.6	3.0
Chose cage-free eggs over conventional eggs	2.3	2.6	2.9	2.5	2.6	3.0
Chose organic foods over non-organic foods	2.2	2.5	2.9	2.2	2.5	2.9
Chose plant-based proteins over animal proteins	2.0	2.4	2.6	2.1	2.1	2.5
Checked the use-by/sell-by date at the store	3.9	3.9	4.1	3.8	3.9	4.1
Checked the nutrition label before buying new foods	2.9	3.2	3.6	2.8	3.1	3.6
Checked for natural or clean labels	2.4	2.8	3.2	2.3	2.6	3.1
Checked where my food originated	2.3	2.7	3.1	2.2	2.5	3.0
Checked for food recalls	2.4	2.8	3.1	2.4	2.6	3.0
Checked for GMO ingredients	2.3	2.6	3.0	2.1	2.5	2.9
Checked how my food was produced	2.2	2.5	3.0	2.2	2.4	2.9
Took steps to reduce food waste at home	3.3	3.6	3.9	3.4	3.6	3.9
Recycled food packaging	3.0	3.2	3.6	3.1	3.2	3.7
Threw away food past the use-by date	3.2	3.2	3.3	3.1	3.2	3.3
Composted food scraps	1.9	2.1	2.6	1.9	2.1	2.5
Ate fruits and vegetables without washing them	2.2	2.2	2.4	2.1	2.1	2.3
Ate rare or undercooked meat	1.7	1.8	2.1	1.6	1.8	2.0
Ate raw dough or batter	1.9	1.9	2.0	1.8	1.8	2.0

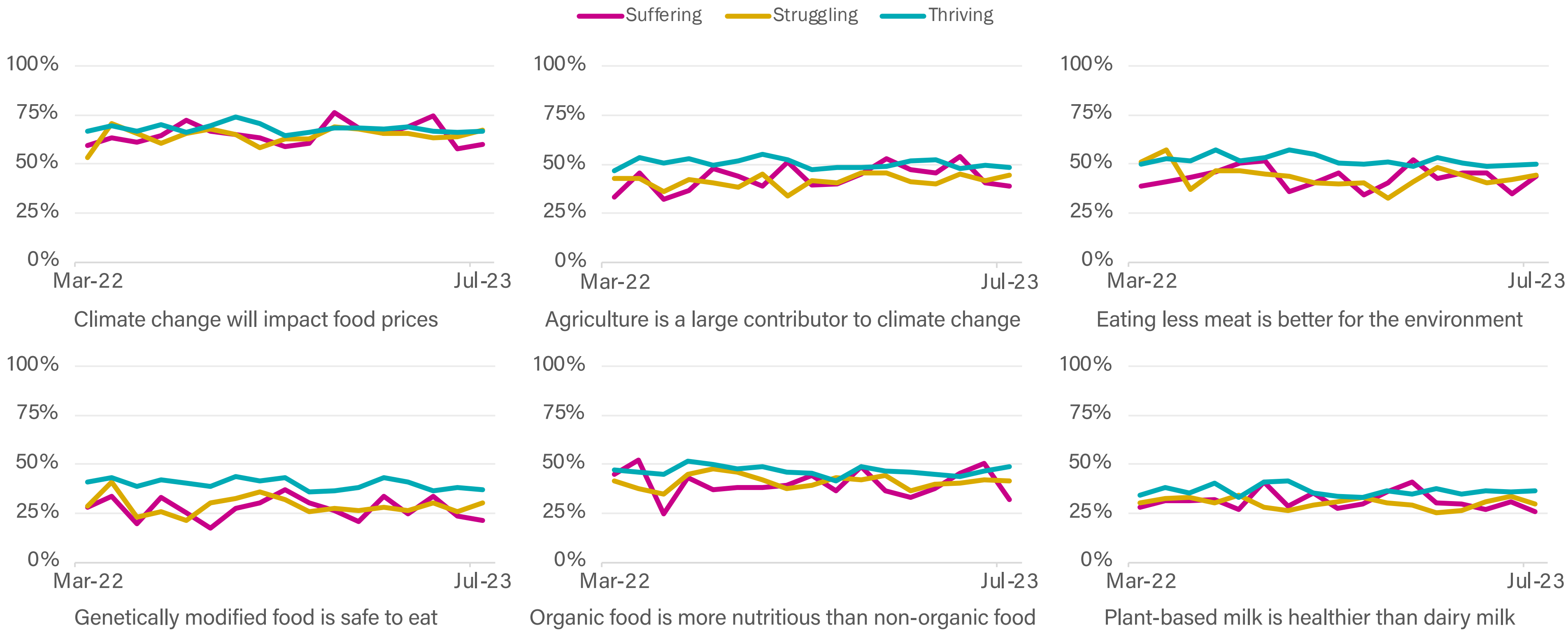
Mean Score	
5	Always
4	Often
3	Sometimes
2	Rarely
1	Never

CONSUMER BELIEFS

What do Americans believe about their food and food system?

Across food satisfaction groups, climate change is recognized as a problem for food prices, but there is less agreement on how food consumption relates to the environment (**Figure 21**). Moreover, the largest gap between high- and low-satisfaction consumers concerns the belief that GMOs are safe. As discussed, consumers at different levels of diet well-being occupy different demographic groups, which likely affects there beliefs. For example, education level will tend to correlate to both food consumption and information consumption.

Figure 21. Share of Consumers who *'Somewhat Agree'* or *'Strongly Agree'* with Claims about Food by Food Satisfaction Level, Mar. 2022 - Jul. 2023



CONSUMER TRUST

Who do Americans trust on topics of food?

Respondents select their most trusted and least trusted sources of food-related information, which are scored on a Trust Index from -100 (least trusted) to 100 (most trusted) (**Figure 22**). On this index, non-profit advocacy groups are trusted to varying degrees while news organizations are not. Notably, however, consumers have a nearly neutral view of the non-profit newsroom NPR. While there is some polarization between food satisfaction levels, this is likely an artifact of organizations like the AFBF or Fox News being broadly polarizing.

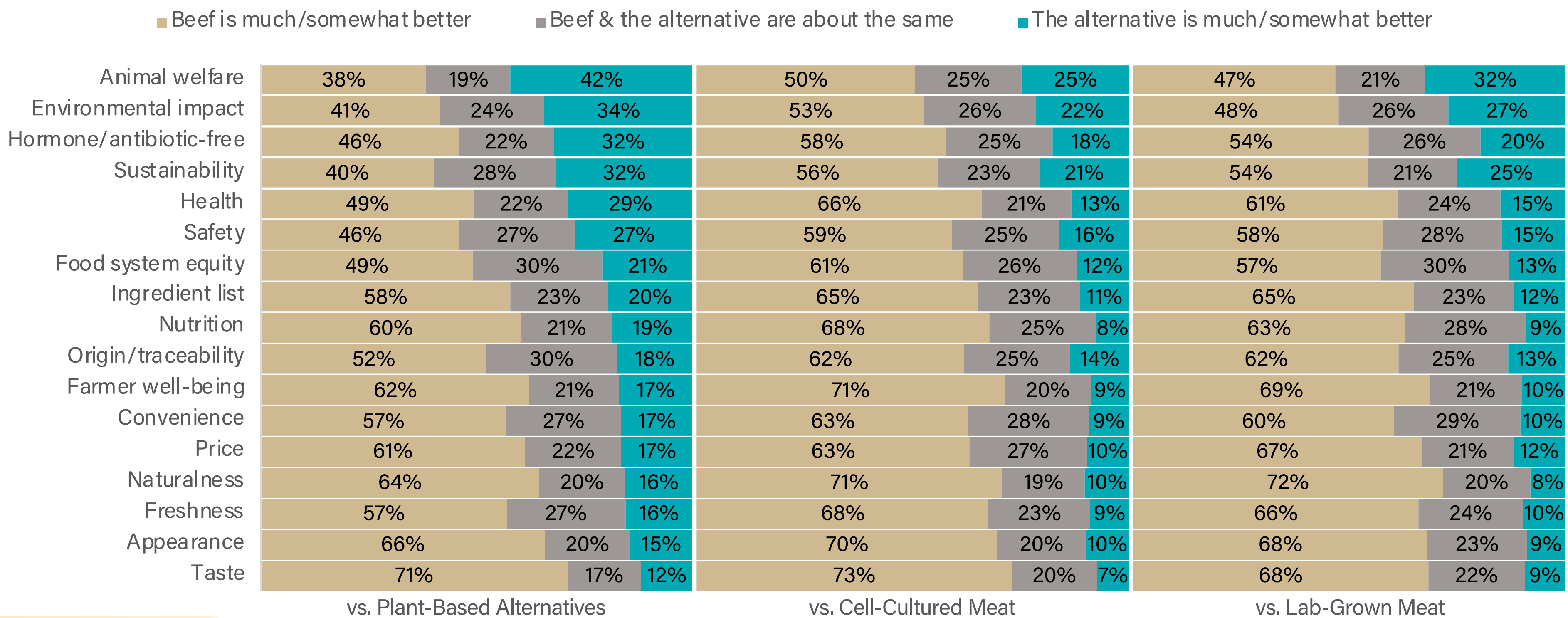
Figure 22. Trust Index of Food-Related Information Sources by Food Satisfaction Level, Jan. 2022 - Jul. 2023

BEEF ALTERNATIVES

Are consumers ready to replace beef from cattle?

We asked respondents to compare beef from cattle to one of three alternatives—plant-based, cell-cultured and lab-grown—randomly assigning people to each option (**Figure 23**). Notably, cell-cultured and lab-grown meat are the same product, but we wanted to know if different names produced different preferences. By far, consumers feel beef from cattle is superior to the alternatives. Animal welfare is the only dimension on which more consumers rated an alternative (i.e., plant-based) as better than regular beef. However, consumers presented with lab-grown meat appeared to be slightly more approving of this product than those assigned to cell-cultured meat.

Figure 23. Consumer Ratings of Beef from Cattle vs. Plant-Based, Cell-Cultured and Lab-Grown Alternatives, Jul. 2023



ENDNOTES

1 Data were collected from an online panel maintained by the company Dynata over a four-day period from July 17-20, 2023. The eligible population included U.S. adults ages 18+. A weighting method called iterative proportional fitting (or raking) was applied to ensure a demographically balanced sample by age, sex, race, census region, income, and SNAP participation. Every respondent from the previous month was re-contacted and asked to take the survey again. About 28% of June's sample participated this month, thus the rest of the sample was filled in with a new pool of respondents. Data collection for every survey begins on the third Monday of each month, unless otherwise dictated by holidays or extenuating circumstances. This report is released on the second Wednesday of the following month.

2 The Sustainable Food Purchasing (SFP) Index is a self-reported measure of food purchasing designed to assess how well consumer shopping habits align with healthy diets from sustainable food systems, as described by the EAT-Lancet Commission on Food, Planet, Health. A top score of 100 reflects consumer food purchasing that aligns with a set of key recommendations for better nurturing human health and supporting environmental sustainability. The SFP Index includes six components—Nutrition, Environment, Social, Economic, Security, and Taste—correlating with the different strategies for achieving food systems transformation.

3 Food at home (FAH) refers to food sales meant for home or off-site consumption and the value of donations and non-market acquisitions, which is acquired from outlets such as grocery stores, convenience stores, direct sales, etc. Food away from home (FAFH) refers to food sales meant for immediate consumption, federal food programs, and food furnished as an ancillary activity, which is acquired from outlets such as restaurants, bars, schools, etc.

4 High or marginal food security (i.e., food secure): 0-1 reported indications of food-access problems; little indication of change in diet or food intake. Respondents who reported an annual household income above 185% of the Federal poverty line were also screened as having high food security. This determination was made according to research by Ahn et al. (2020), which shows that using a modified income-based screening procedure for internet surveys better approximates government estimates of food insecurity. Low food security (i.e., food insecure): 2-4 reported indications of reduced quality, variety, or desirability of diet; little indication of reduced food intake. Very low food security (i.e., food insecure): 5-6 reported indications of disrupted eating patterns, changes in diet, and reduced food intake.