Volume 3, Issue 3: March 2024

CONSUMER FOOD INSIGHTS

Center for Food Demand Analysis and Sustainability
College of Agriculture, Purdue University
Joseph Balagtas, Jacob Schmiess and Elijah Bryant

TABLE OF CONTENTS

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 break down our results by employment status, comparing those consumers who are working age and retirement age, i.e., not working (ages 18-64), working (ages 18-64), working (ages 65+) and retired (ages 65+).[2] We combine the last 27 months of data (January 2022 - March 2024) for this analysis. New questions included in this month's survey stem from collaboration with Jacob Schmiess, Purdue Agricultural Economics Ph.D. candidate and co-author of this month's report. We ask about consumers' perceptions of and willingness to try exotic and cultivated (or cell-cultivated) meats.

KEY INSIGHTS FROM MARCH

- Consumers perceive conventional (non-cultivated) meats as tastier and healthier than their cultivated counterparts.
- Around 90% of consumers are willing to try conventional and around 60% are willing to try cultivated beef, chicken and pig.
- Among consumers not willing to try conventional beef, chicken and pig, 26%, 46% and 22% are willing to try cultivated, respectively.
- Retired (65+) consumers score highest on the Sustainable Food Purchasing (SFP) Index; non-working adults (18-64) score lowest.
- Consumer inflation estimates (6.5%) and expectations (4.0%) both rose over 0.3 percentage-points from February.
- Food insecurity (27%) and SNAP (34%) rates are much higher among non-working adults (18-64) relative to the averages (12%; 17%).

SFP INDEX	FOOD INSECURITY	FOOD SPENDING	GROCERY STOCKOUTS
+0	+0%	- $5	- 5%
70/100	12%	$190/WEEK	8%

EXOTIC & CULTIVATED MEATS

What are consumer perceptions of exotic and cultivated meats?

Additional questions this month explore consumer perceptions of and willingness to try exotic meats as well as cultivated versions of these meats. Consumers were presented a short infographic on cultivated prior to being presented the questions to the right.

Figures 1-3. show the average rating consumers gave to a list of meats from more familiar meats (chicken and beef) to more exotic meats (lion and elephant) along with ratings for cultivated versions of these meats. We see that consumers rate the taste of common conventional meats, such as beef and chicken, almost two points higher on the five-point scale than their cultivated counterparts. However, we observe little difference between the perceived taste of conventional and cultivated versions of the more exotic meats (lion and elephant). Similarly, consumers are more skeptical of the healthfulness of cultivated meats relative to conventional meats. Somewhat surprisingly, we see a smaller difference in the average ratings between conventional and cultivated meats when asking consumers how exotic they perceive the meat to be. The animal source seems to be more influential than the type of meat.

Figure 1. 'Please rate the following meats on how tasty you believe them to be' (1 - Not at all tasty; 5 - Very tasty), Mar. 2024

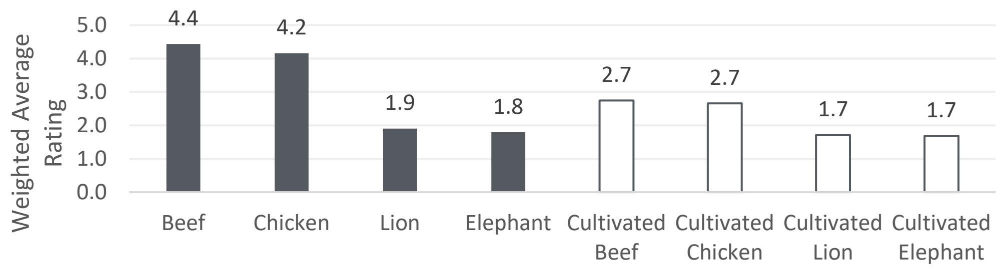


Figure 2. 'Please rate the following meats on how healthy you believe them to be' (1 - Not at all healthy; 5 - Very healthy), Mar. 2024

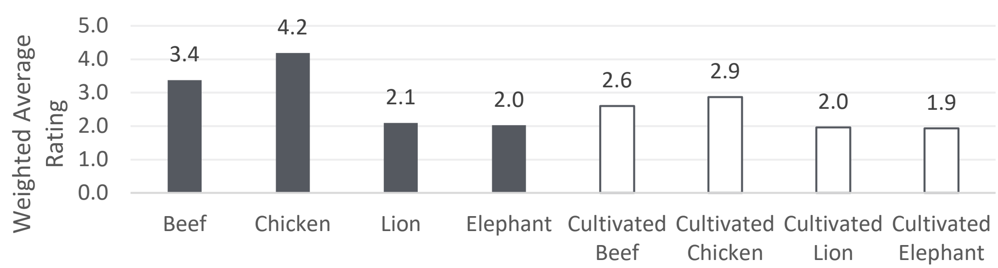
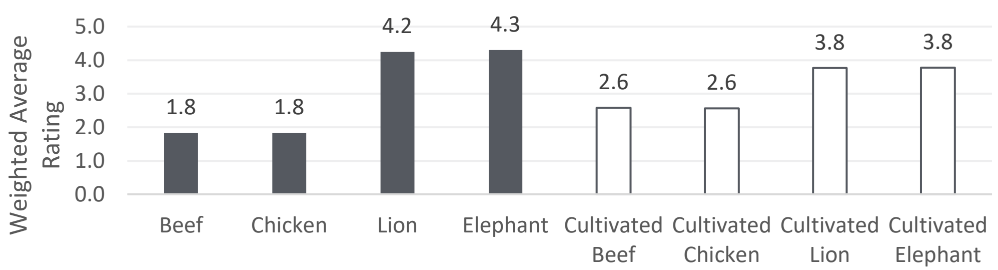


Figure 3. 'Please rate the following meats on how exotic you believe them to be' (1 - Not at all exotic; 5 - Very exotic), Mar. 2024



EXOTIC & CULTIVATED MEATS

Are consumers willing to try exotic or cultivated meats?

In addition to gathering consumer perceptions of exotic and cultivated meats, we also presented respondents with a list of animals and asked them to group the animals based on their willingness to try both conventional and cultivated versions of their cuts of meat in a professional restaurant setting (willing to try and not willing to try). For all of animals explored, fewer consumers are willing to try cultivated meat in a restaurant setting relative to conventional (non-cultivated) meat (**Figures 4-5**). We observe around a 30 percentage-point decrease in the proportion of people who would try cultivated versions of chicken, cow and pig; however, these proportions remain a majority (~60%). Interestingly, of those consumers who are not willing to try conventional chicken, cow and pig, around 46%, 26% and 22% said they are willing to try cultivated versions of these meats, respectively. This shows that there may be a market for cultivated meat among a sizable portion (albeit small number) of consumers who or not willing to try conventional versions of these meats.

Figure 4. Share of Consumers Willing to Try Conventional Meats in a Restaurant Setting, Mar. 2024

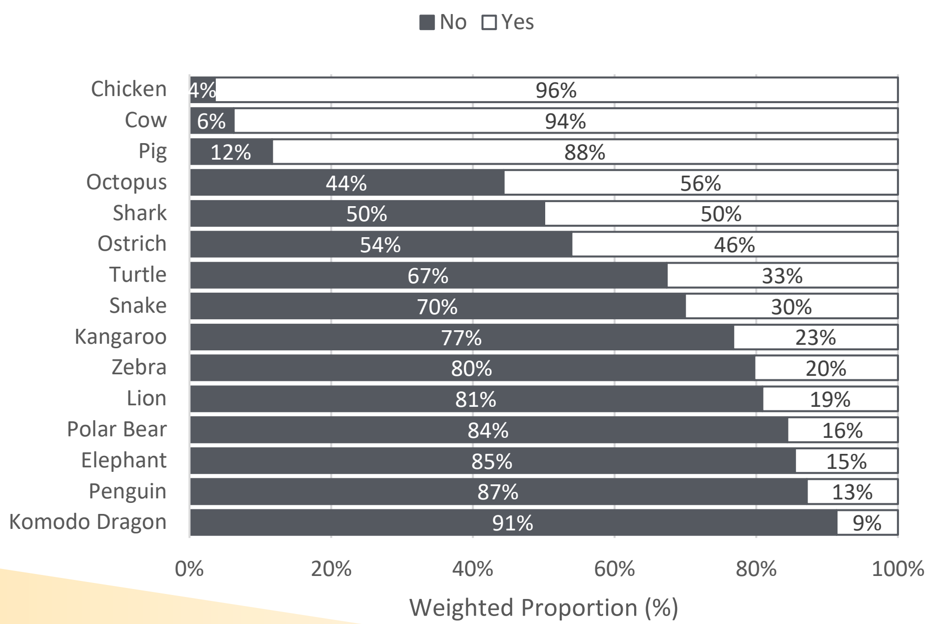
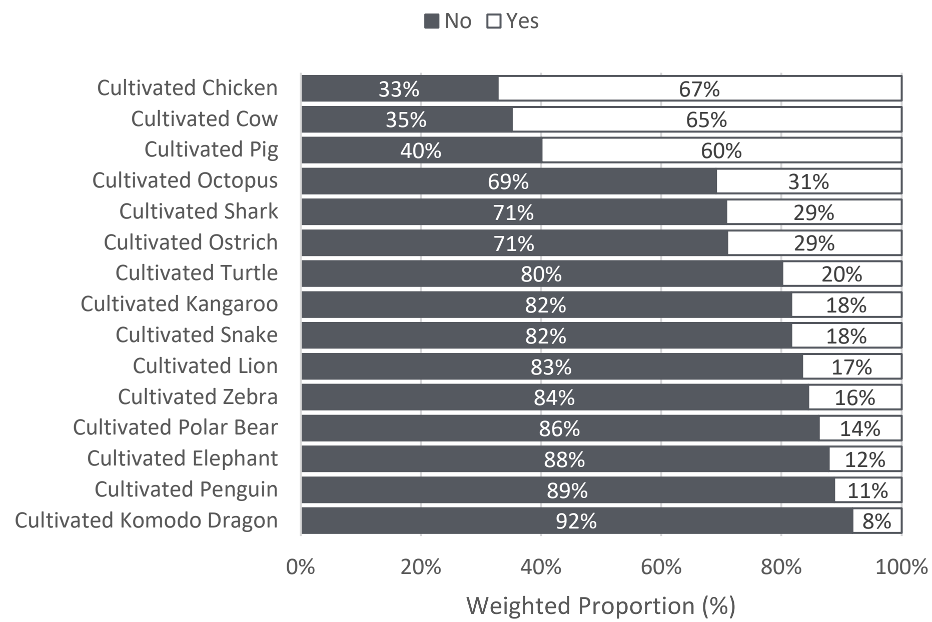


Figure 5. Share of Consumers Willing to Try Cultivated Meats in a Restaurant Setting, Mar. 2024

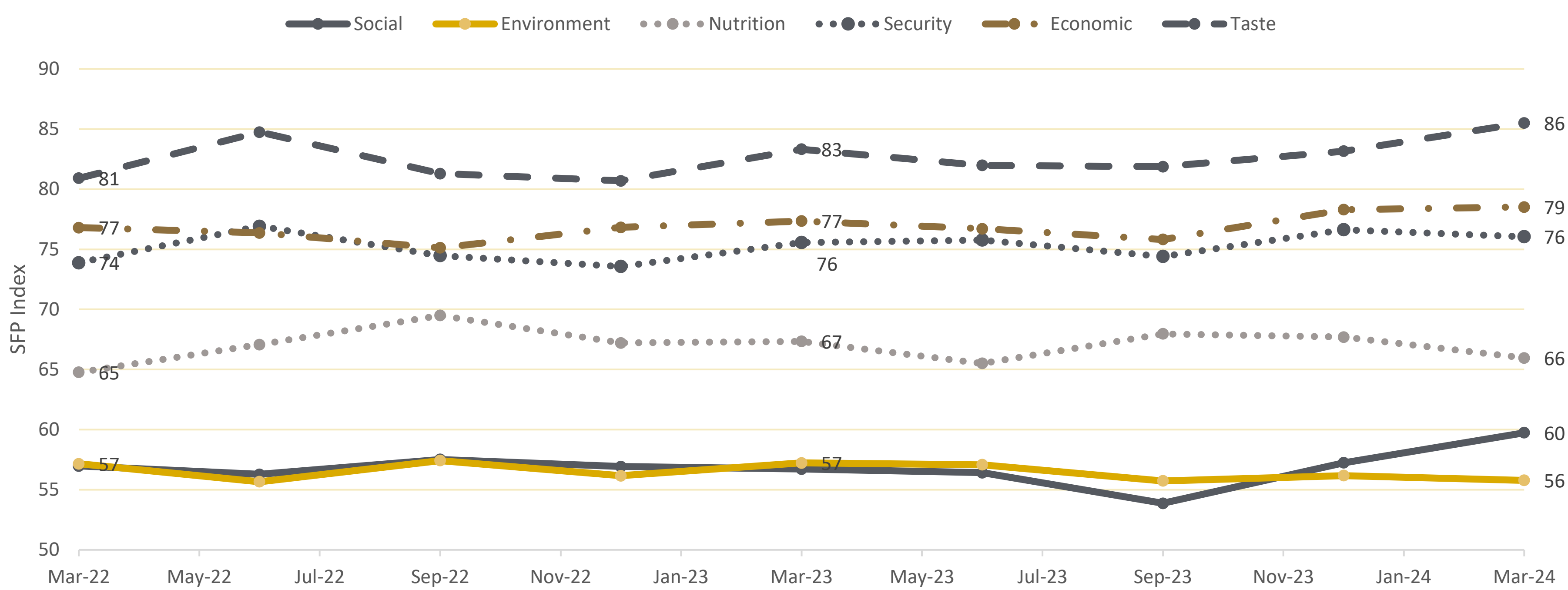


SUSTAINABLE DIETS

Are Americans making sustainable food purchasing decisions?

The Sustainable Food Purchasing (SFP) Index[3] has remained relatively stable across most sub-indicators since January of 2022 (**Figure 6**). While we have yet to see significant trends in planned sustainable behavior changes since the inception of the survey, it will be worth monitoring the recent upticks in the *taste, economic* and *social* indicators in the next three quarters when we field sustainability scores again. However, we find that these indicators diverge when the index is disaggregated by employment status of consumers (**Figure 7**).

Figure 6. Sustainable Food Purchasing Index, Mar. 2022 - Mar. 2024



CENTER FOR FOOD DEMAND ANALYSIS AND SUSTAINABILITY
purdue.ag/CFDAS
Questions? Contact ehbryant@purdue.edu

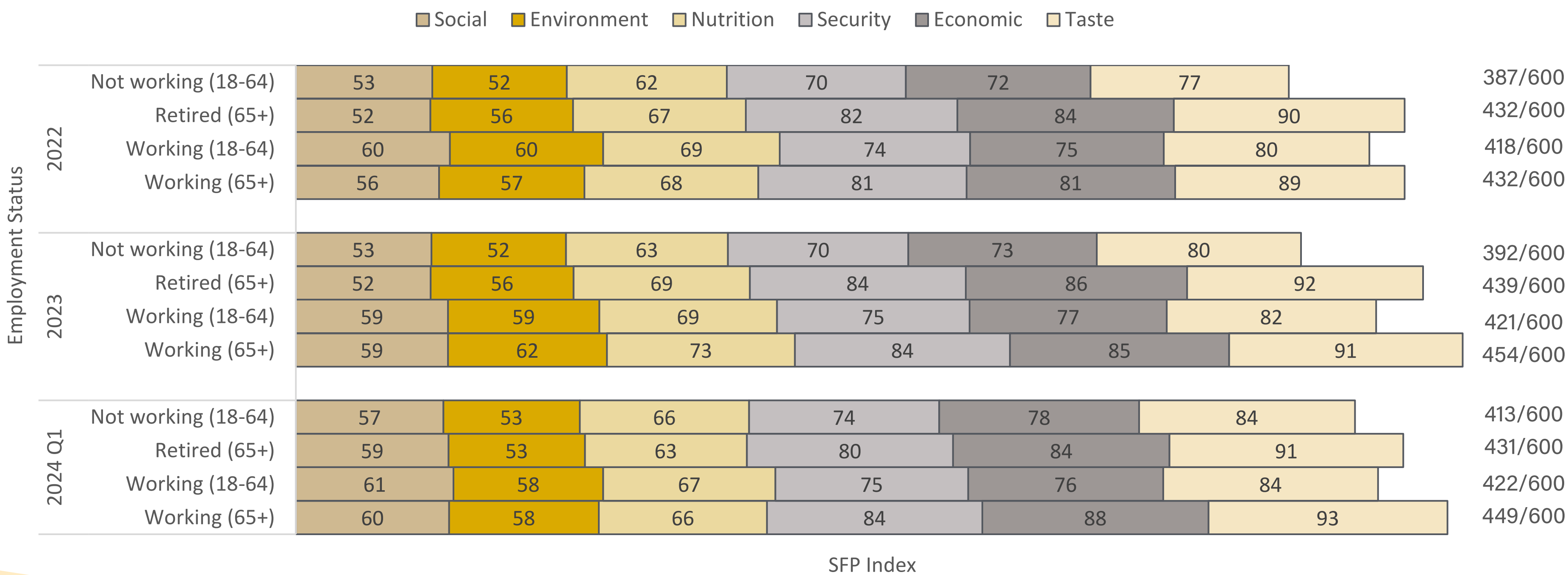
PURDUE UNIVERSITY College of Agriculture

SUSTAINABLE DIETS

Are Americans making sustainable food purchasing decisions?

Figure 7 reveals that Americans age 65+ are doing better on the overall SFP Index relative to those who are of working age (18-64), regardless of whether or not they are still working. Those who are of working age but are not working score the lowest on the SFP Index. Given the positive correlation between wealth and age[4], it is not entirely surprising to see older consumers (65+) outperform younger consumers (18-64) in the *security* and *economic* dimensions of sustainable food purchasing since finances are likely less of a constraint. However, we still see improvement in the overall scores of those who are of working age (18-64) from 2022 to 2024. We will continue to monitor this trend to see if it holds as we collect more data and add to this sample in 2024.

Figure 7. Sustainable Food Purchasing Index by Employment Status, Jan. 2022 - Mar. 2024



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 a total of $190/week on food. Of that total, $124 is spent on groceries (FAH) and $66 is spent on restaurants and other carryout (FAFH)[5]. This is down from $195/week reported by consumers last month. Average weekly food expenditure this month is 2.5% and 7.3% greater than March 2023 and 2022, respectively.

The consumer estimate of annual food inflation was 6.5%, up from 6.0% in February (**Figure 9**). The government CPI measure of food inflation dropped to 2.2% from 2.6% in February. Recent media attention to food prices may be driving consumer pessimism about food inflation and future food costs, despite the CPI indicating that food inflation is on the decline. While prices do continue to rise, they are not quite rising at the high rate perceived by the average American.

Figure 8. Weekly Household Food Expenditures, Jan. 2022 - Mar. 2024

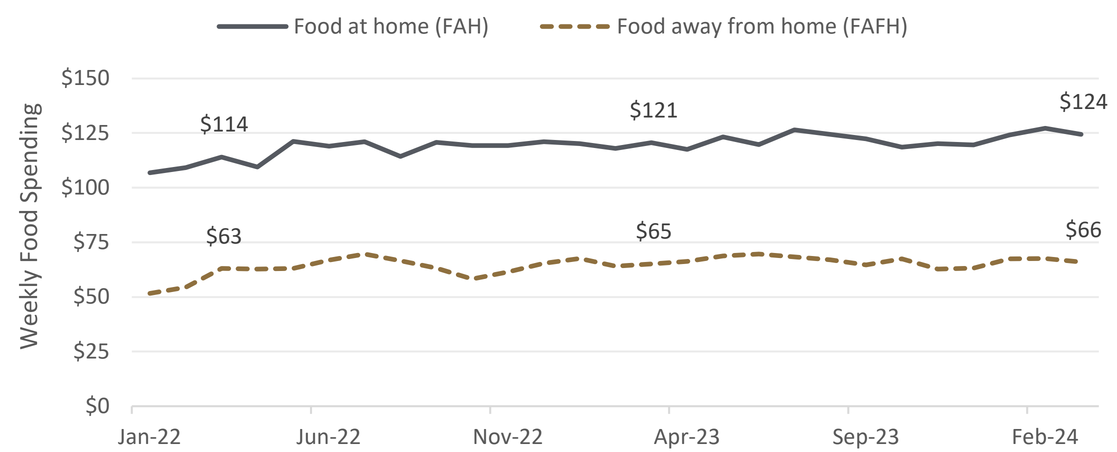
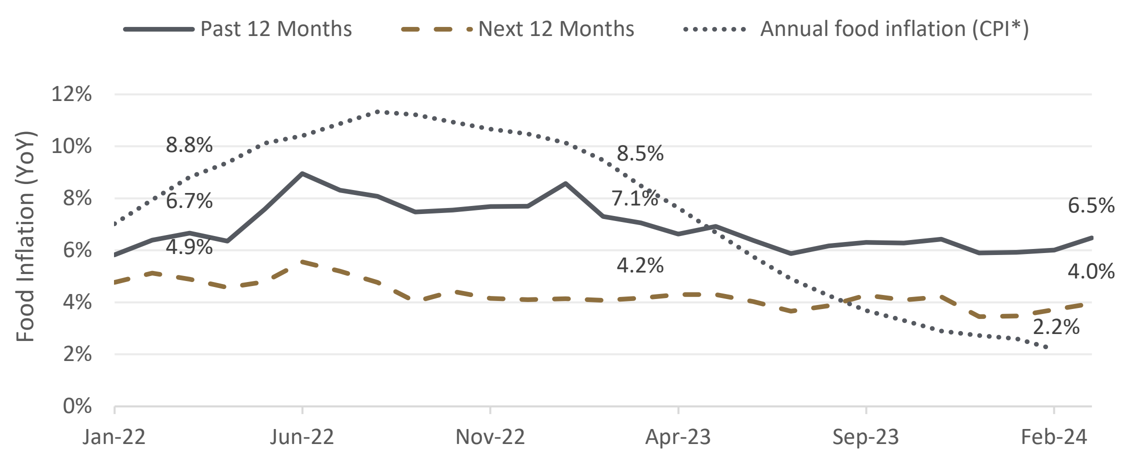


Figure 9. Consumer Estimates of Food Inflation Compared to Gov. Estimate, Jan. 2022 - Mar. 2024



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

FOOD EXPENDITURES

How much are American households spending on their food?

Figure 10 shows that retired consumers have the lowest average weekly food expenditures. However, this is not entirely surprising given the proportion of retirement age individuals who share a household with more than one other person (~10%) compared to those in the working age groups (~50%) (**Figure 11**). Households with more people need to spend more on food to sustain all members of the household. It is interesting to see a relatively high level of reported household food spending from consumers of working age (18-64) who report that they are not currently working. We explore a possible explanation for this result in the next section titled 'Food Security'. The high variation in food spending observed for those working (65+) is due to the small proportion of each monthly sample that falls under this classification (~3%).

Figure 10. Weekly Household Food Expenditures by Employment Status, Jan. 2022 - Mar. 2024

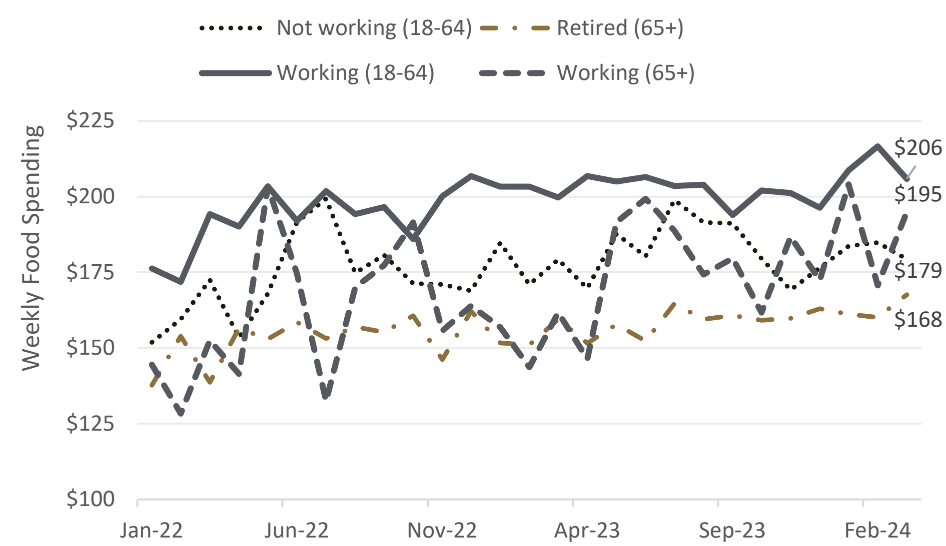
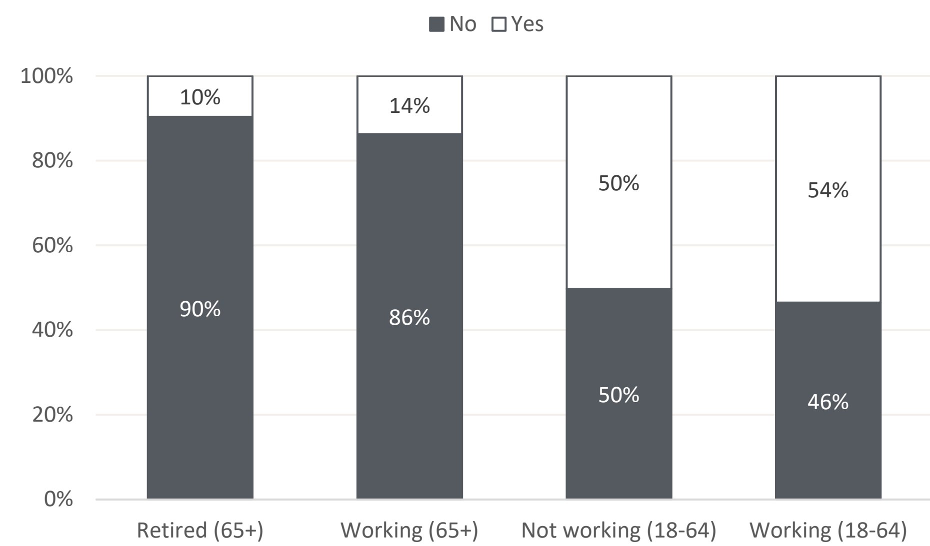


Figure 11. Share of Households Greater than Two Individuals by Employment Status, Jan. 2022 - Mar. 2024



FOOD SECURITY

Which Americans are having trouble buying food for their families?

Based on a set of six standard questions[6] about food purchased and eaten in the past 30 days, we estimate national food insecurity to be about 12.4%, unchanged from last month (**Figure 12**). Food insecurity remains below the 2023 average (13%).

In **Figure 13**, we break down food insecurity rate by employment status aggregated for all months. Food insecurity is substantially higher from people of working age who are not currently employed (27%) relative to the national average (12%). Because food insecurity is broadly defined as limited access or resources to obtain sufficient amounts of quality foods, food insecurity is often linked to factors like financial hardship and unemployment.[7] Adults of retirement age are doing much better in terms of food security, regardless of whether or not they are working.

Figure 12. Rate of Household Food Insecurity in the Last 30 Days, Jan. 2022 - Mar. 2024

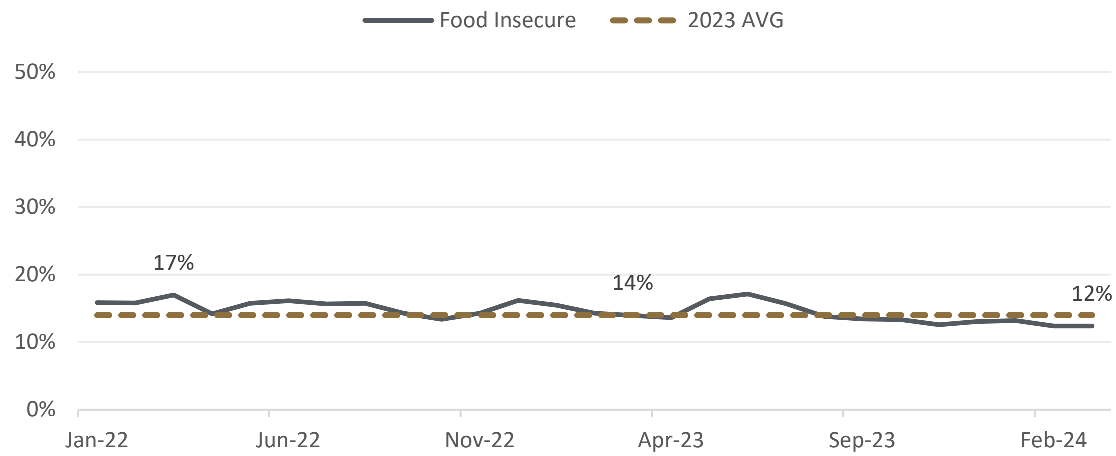
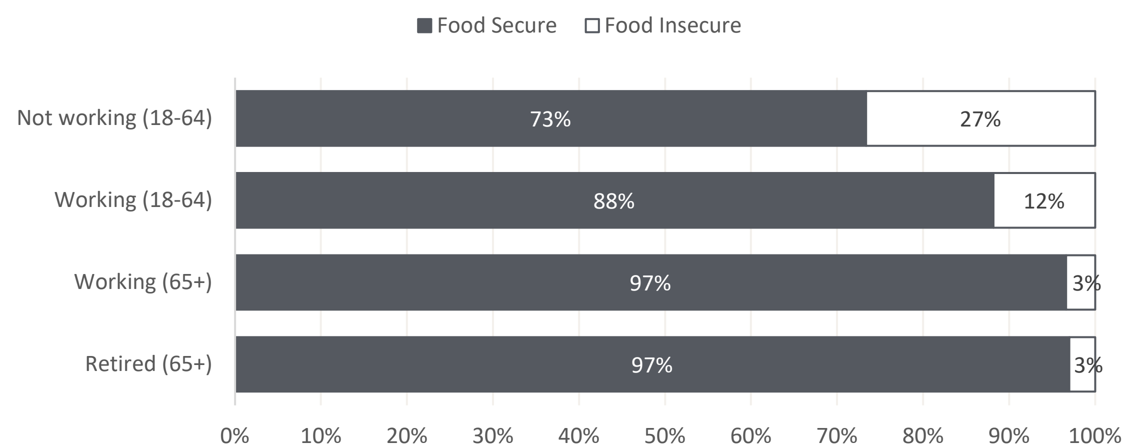


Figure 13. Rate of Household Food Insecurity in the Last 30 Days by Employment Status, Jan. 2022 - Mar. 2024



PURDUE UNIVERSITY | College of Agriculture

FOOD SECURITY

Which Americans are having trouble buying food for their families?

Figure 14 shows the time series of Supplemental Nutrition Assistance Program (SNAP) participation by consumer employment status. Around 34% of consumers who are not working (18-64) report receiving SNAP benefits in March 2024. This is also nine percentage-points higher than in March 2022. As food prices have risen over the past couple of years, households that are not pulling in as much or any income from work may be forced to rely more on SNAP benefits to pay for food. The trend in SNAP benefits received by working adults (18-64) closely follows the downward trend we see in national food insecurity. Until the Summer of 2023, food inflation outpaced wage growth (**Figure 15**)[8], which might explain the higher share of working adults receiving SNAP benefits when food inflation was substantially higher in the months prior. With wage growth, fewer working adults have reported supplementing their diets with SNAP benefits. Reported SNAP use has been consistently low among adults who are of retirement age (65+) relative to those of working age (18-64).

Figure 14. Rate of Households Receiving SNAP Benefits by Employment Status, Jan. 2022 - Mar. 2024

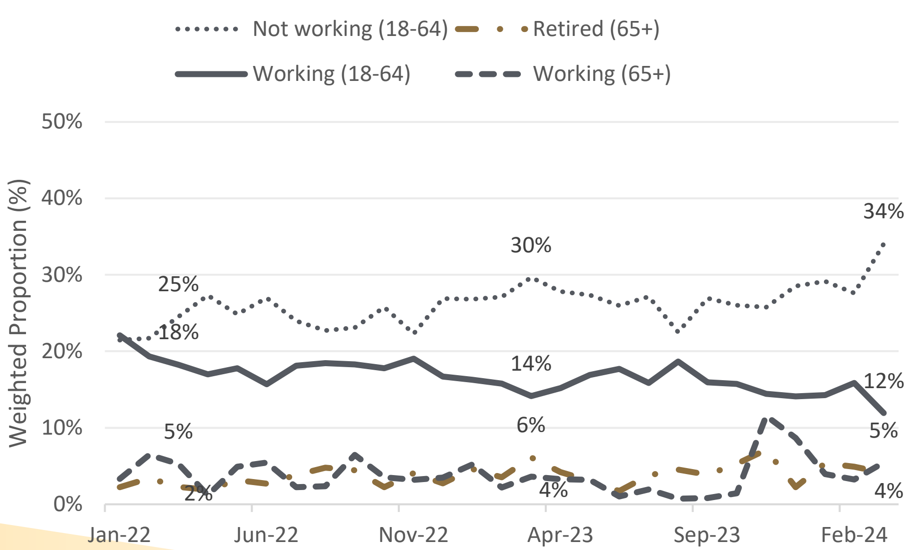
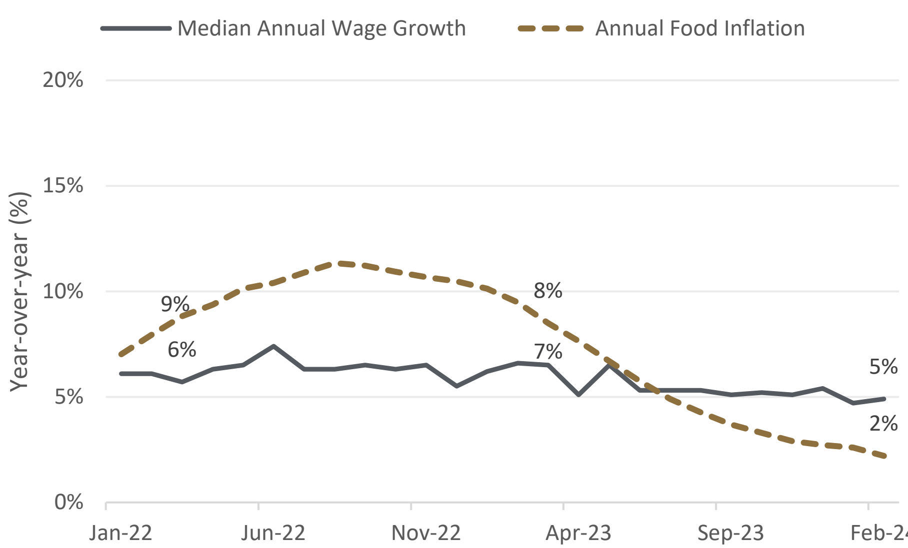


Figure 15. Comparison of Median Wage Growth and Food Inflation, Jan. 2022 - Feb. 2024



*SNAP benefits are food budget supplements administered by the U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS).

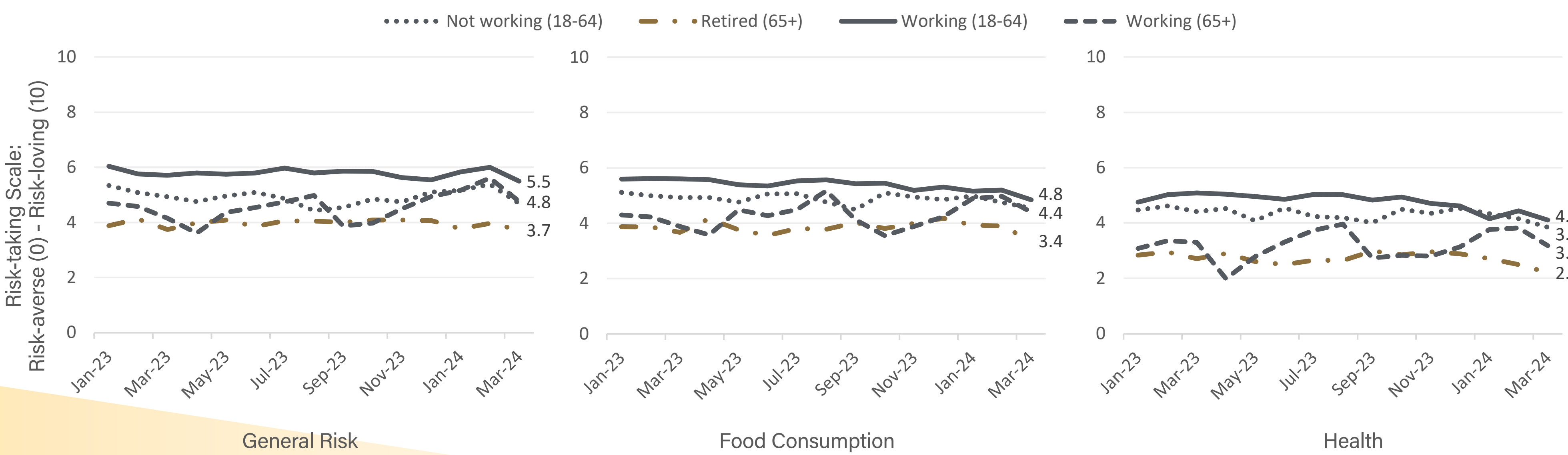
CONSUMER BEHAVIORS

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 16**). With regards to general risk, working adults (18-64) tend to be more willing to take risks compared to others. When it comes to food consumption, the gap between working adults and the other groups decreases. Older consumers, especially those who have retired, tend to be less willing to take risks. This is particularly true when it comes to risk attitudes toward their health. In each case, we observe a slight dip in risk attitudes from February to March 2024.

Figure 17 compares the last 12 months of data on reported consumer behaviors with data from the same time period the year prior. Adults (ages 18-64) who are working more often choose the food option that is conventionally seen as more sustainable or ethical, such as wild-caught fish or cage-free eggs. They are also looking for food labels like GMO or natural labels more often. Adults of retirement age are less likely to take part in risky food behavior, such as eating rare meat, raw dough or unwashed foods, which aligns with the summary of risk attitudes.

Figure 16. Self-reported Attitudes Toward Risk by Employment Status, Jan. 2023 - Mar. 2024



CONSUMER BEHAVIORS

Figure 17. Frequency of Consumer Shopping and Eating Habits by Generational Cohorts, Jan. 2022 - Mar. 2024

	Apr. 2022 - Mar. 2023				Apr. 2023 - Mar. 2024			
	Not working (18-64)	Working (18-64)	Working (65+)	Retired (65+)	Not working (18-64)	Working (18-64)	Working (65+)	Retired (65+)
Chose generic foods over brand-name foods	3.4	3.4	3.2	3.2	3.2	3.3	3.0	3.0
Chose local foods over non-local foods	3.0	3.2	3.0	2.9	3.0	3.2	3.0	2.8
Chose wild-caught fish over farm-raised fish	2.9	3.1	2.8	2.7	2.8	3.1	2.8	2.6
Chose grass-fed beef over conventional beef	2.8	3.1	2.5	2.4	2.8	3.1	2.5	2.3
Chose cage-free eggs over conventional eggs	2.8	3.0	2.6	2.3	2.8	3.0	2.5	2.3
Chose organic foods over non-organic foods	2.6	3.0	2.5	2.1	2.7	3.0	2.4	2.1
Chose plant-based proteins over animal proteins	2.4	2.7	2.1	1.8	2.3	2.6	2.0	1.7
Checked the use-by/sell-by date at the store	4.0	4.0	4.2	4.2	4.0	4.1	4.2	4.1
Checked the nutrition label before buying new foods	3.3	3.5	3.5	3.3	3.3	3.6	3.4	3.2
Checked for natural or clean labels	3.0	3.2	2.9	2.5	2.9	3.2	2.7	2.4
Checked where my food originated	2.8	3.1	2.9	2.6	2.8	3.0	2.8	2.5
Checked for food recalls	2.9	3.0	2.7	2.4	2.8	3.0	2.4	2.3
Checked for GMO ingredients	2.7	3.0	2.6	2.3	2.7	3.0	2.5	2.2
Checked how my food was produced	2.7	3.0	2.6	2.2	2.6	2.9	2.5	2.2
Took steps to reduce food waste at home	3.7	3.7	4.0	4.0	3.7	3.7	4.0	4.1
Recycled food packaging	3.3	3.6	3.6	3.7	3.3	3.6	3.7	3.6
Threw away food past the Use-By date	3.2	3.4	2.9	2.9	3.3	3.4	2.9	2.8
Composted food scraps	2.4	2.6	2.1	1.9	2.4	2.5	1.9	1.8
Ate fruits and vegetables without washing them	2.2	2.5	1.8	1.8	2.2	2.3	1.8	1.7
Ate rare or undercooked meat	1.9	2.2	1.4	1.5	1.8	2.0	1.5	1.5
Ate raw dough or batter	2.0	2.2	1.3	1.3	1.9	2.1	1.3	1.3

Mean Score

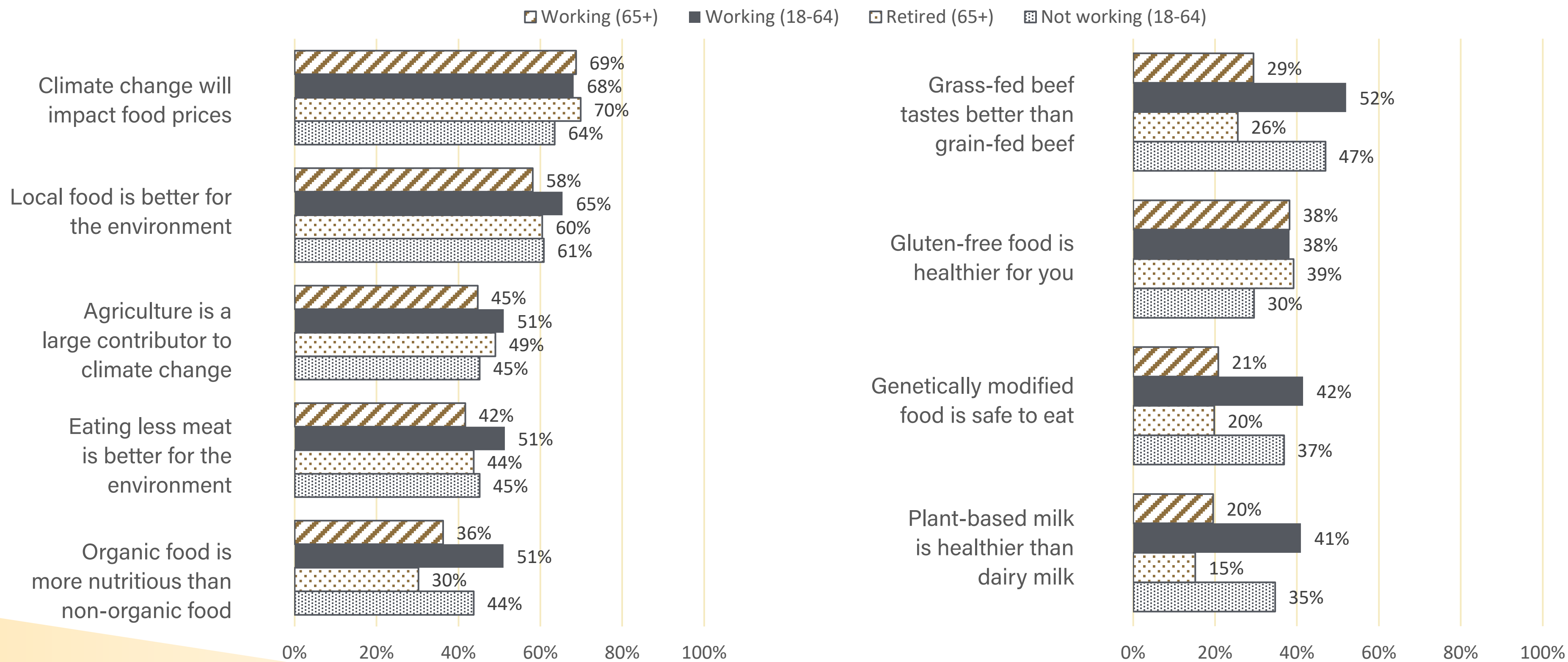
5	Always
4	Often
3	Sometimes
2	Rarely
1	Never

CONSUMER BELIEFS

What do Americans believe about their food and food system?

We compare consumer agreement with simple statements about food and nutrition across employment groups (**Figure 18**). Understandably, beliefs appear to vary more based on the age of the respondent rather than their work status. Working adults (18-64) are slightly more likely to agree with statements about climate change and diet claims than their peers who are not working. The older group of consumers (65+) also demonstrate more skepticism about several topics, such as claims about the safety of GMO food, healthfulness of plant-based versus dairy milk and the taste of grass-fed versus grain-fed beef.

Figure 18. Share of Consumers who *'Somewhat Agree'* or *'Strongly Agree'* with Claims about Food by, Jan. 2022 - Mar. 2024



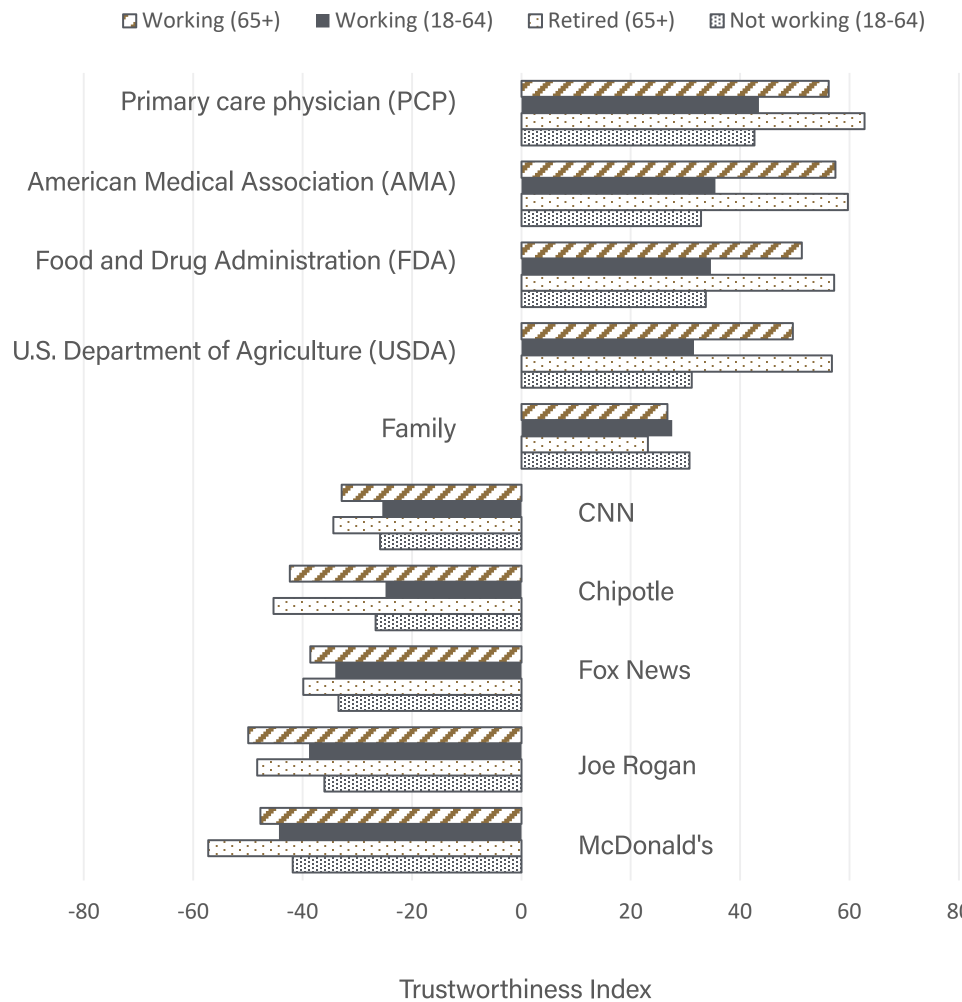
CONSUMER TRUST

Who do Americans trust on topics of food?

Respondents select their five most trusted and five least trusted sources of information about healthy and sustainable food, which are scored on a Trust Index from -100 (least trusted) to 100 (most trusted) (**Figure 19**).[9] Similar to beliefs, trust levels vary by age and seem uncorrelated with employment status. Respondents of retirement age (65+) rate institutions such as the USDA and FDA higher on the trust index. Food chains and news outlets continue to score low on the index, particularly among older consumers (65+).

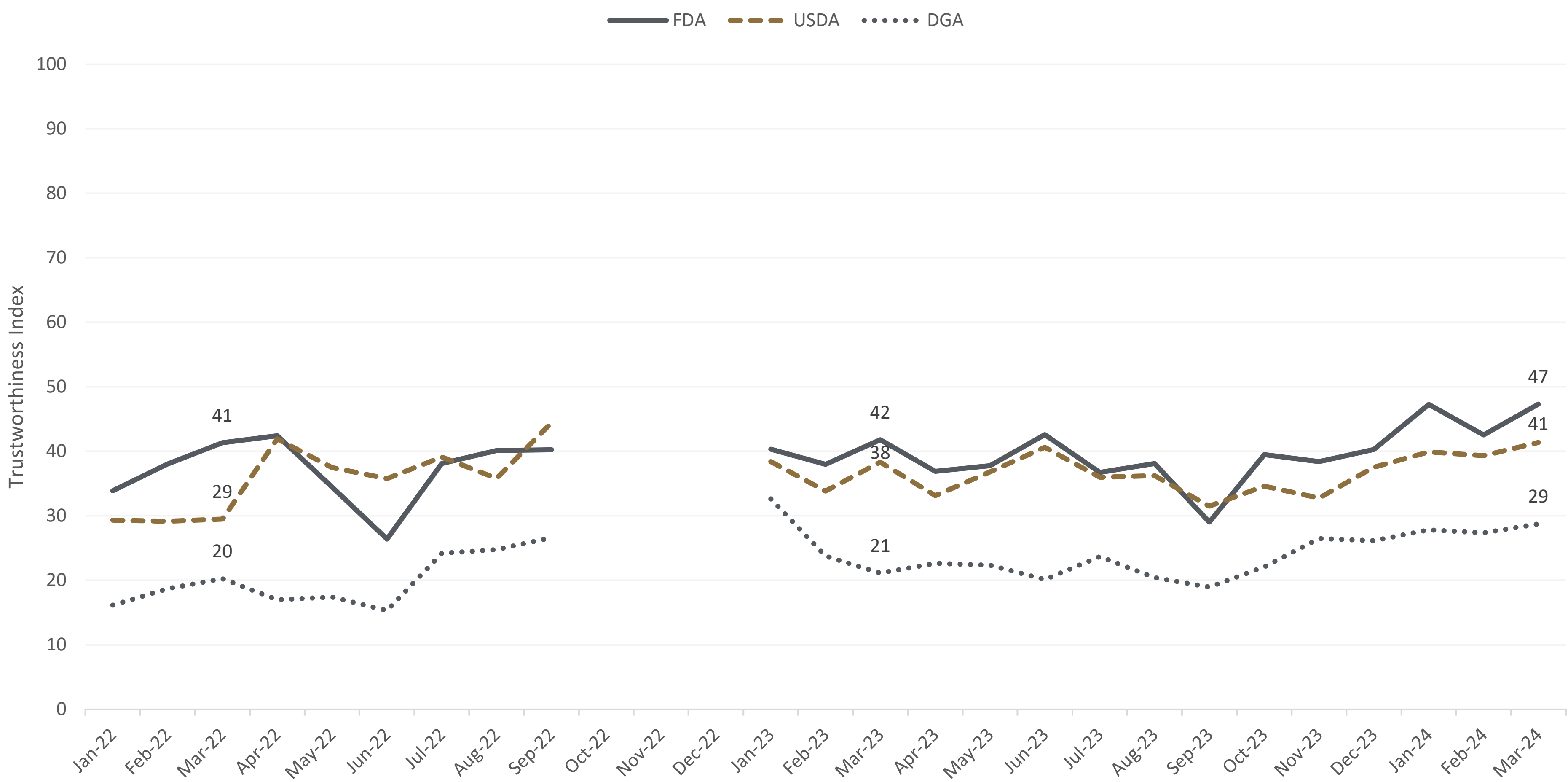
Figure 20 further dives into how trust in federal organizations and initiatives has changed over time, specifically looking at the U.S. Department of Agriculture (USDA), Food and Drug Administration (FDA) and Dietary Guidelines for Americans (DGA). Overall, we see trust in these organizations/initiatives going up over time. Given that 2024 is an election year, it will be interesting to see if this trend continues or if consumer sentiment shifts as we approach a potentially eventful political landscape.

Figure 19. Trust Index of Food-Related Information Sources by Employment Status, Jan. 2023 - Mar. 2024



CONSUMER TRUST

Figure 20. Trust Index of Food-Related Information Sources (Federal Government Organizations), Jan. 2022 - Mar. 2024



*Note: The block of trust questions was not fielded during the months of Oct. 2022 - Dec. 2022.

ENDNOTES

1 Data were collected from an online panel maintained by the company Dynata over a three-day period from March 18-20, 2024. 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. 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. Due to the holidays, the release of this report is scheduled for Wednesday, April 10th.

2 Sample size (2022): Not working (ages 18-64) (n=4,110); Working (ages 18-64) (n=5,830); Working (ages 65+) (n=754); Retired (ages 65+) (n=4,283)
Sample size (2023): Not working (ages 18-64) (n=4,954); Working (ages 18-64) (n=6,864); Working (ages 65+) (n=479); Retired (ages 65+) (n=2,824)
Sample size (2024): Not working (ages 18-64) (n=1,162); Working (ages 18-64) (n=1,662); Working (ages 65+) (n=124); Retired (ages 65+) (n=704)

3 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.

4 See the U.S. Federal Reserve's Survey of Consumer Finances dashboard here.

Board of Governors of the Federal Reserve System (2023). 2022 Survey of Consumer Finances. https://www.federalreserve.gov/econres/scfindex.htm

ENDNOTES

5 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.

6 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 U.S. Census Region 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.

7 Nord, Mark, Alisha Coleman-Jensen and Christian Gregory. Prevalence of U.S. Food Insecurity Is Related to Changes in Unemployment, Inflation, and the Price of Food, ERR-167, U.S. Department of Agriculture, Economic Research Service, June 2014.

8 Federal Reserve Bank of Atlanta, Unweighted Median Hourly Wage Growth: Overall [FRBATLWGTUMHWGO], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/FRBATLWGTUMHWGO, March 25, 2024.

9 Trust questions were not fielded in the Consumer Food Insights survey from October 2022 - December 2022. The sample for this response summary spans Jan. 2022 - Mar. 2024.