

Adults' perceptions of rising food price and their impact on food purchasing: findings from the 2022 international food policy study

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ABSTRACT

Rising food prices reached record levels in 2022, raising global concern. This study examined consumer perceptions of food price increases in 2022 and their perceived effects on food purchasing in five countries, as well as differences by socio-demographic characteristics and household food security status. Data from 20,240 adults in the International Food Policy Study (2022), a cross-sectional online survey conducted in Australia, Canada, Mexico, the United Kingdom, and the United States, were analyzed. Respondents reported whether food had become more expensive for them in the last year and whether they altered ten food purchasing strategies and purchasing of three core and four non-core food categories in response to higher food prices. Regression models assessed differences by country, socio-demographic characteristics and household food security status. Across all countries, 78% to 85% of respondents perceived an increase in food prices in 2022. In response to higher food prices, the most commonly reported food purchasing strategy was switching to cheaper brands (34% to 43%). Despite some cross-country differences, respondents in all countries reported reductions in purchasing of non-core foods, such as desserts and non-alcoholic beverages, but also of core foods, such as fruits and vegetables. In all countries, reported reductions in core food purchases were associated with lower perceived income adequacy and household food insecurity. Most respondents perceived food as less affordable in 2022 and reported diverse shifts in food purchasing as a result, highlighting the need for social and nutritional policies promoting access to affordable food, including nutritious options, for all.

1. Introduction

Following a prolonged period of low inflation, global consumer prices rose sharply in early 2022, marking the onset of a widespread cost-of-living crisis (United Nations Global Crisis Response Group, 2022). Food prices were particularly affected, with global food inflation reaching 10.6%, significantly surpassing the overall inflation rate of 8.1% that year (FAO, 2023). This disproportionate surge in food prices stemmed from overlapping disruptions across the global food supply chain, including COVID-19 pandemic-related supply chain breakdowns, persistent labour shortages, rising input costs exacerbated by the geopolitical shock of the war in Ukraine, escalating wage pressures, and an increased frequency of extreme weather events (FAO, IFAD et al.,

2025). Unlike previous periods, these stressors occurred concurrently and with heightened severity, contributing to what has been widely recognized as a global “food price crisis” (Backholer & Zorbas, 2024; Glauder et al., 2022). While the pace of food inflation has eased in subsequent years, prices have remained at historically elevated levels (FAO, 2025b).

Food affordability is a well-established determinant of suboptimal dietary patterns, particularly in high- and upper-middle-income countries (Pitt et al., 2017), where it contributes significantly to the burden of diet-related non-communicable diseases (Jayedi et al., 2020). This is partly attributable to the typically higher cost of nutrient-dense dietary patterns relative to energy-dense, nutrient-poor alternatives (Darmon & Drewnowski, 2015), making price an important factor shaping food

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purchasing (Fernqvist et al., 2024). In nutrition policy and surveillance research, these patterns can be conceptualized using a “core” versus “non-core” food framework, in which core foods reflect nutrient-dense dietary components that align with dietary guidelines, while non-core foods represent energy-dense, nutrient-poor items that are not essential to a healthy diet (Bell et al., 2005; Johnson et al., 2011; McGowan et al., 2012; Toumpakari et al., 2019). The influence of price on food purchasing is especially pronounced among low-income populations, among whom limited financial and time resources constrain access to nutritious foods and perpetuate health inequities (Pechey & Monsivais, 2016).

While food security encompasses food availability, accessibility, affordability, acceptability, agency and sustainability (Clapp et al., 2022), in high and middle-income countries, the concept of food insecurity is most often defined by limited access to adequate quantity and quality of food due to insufficient purchasing power (i.e. the ability to afford necessary goods and services) (PROOF, 2024). Given its numerous health consequences (Moosavian et al., 2025), food insecurity is a major public health concern that disproportionately affects socially and economically disadvantaged individuals (Gatton & Gallegos, 2023), who may be more susceptible to economic shocks (Jenkins et al., 2021). In this context, the 2022 food price crisis likely intensified food insecurity, further restricting access to nutritious diets and exacerbating pre-existing diet-related health inequities.

Objective indicators such as the Consumer Price Index (CPI) provide important information on aggregate food price trends. However, evidence suggests that they may underestimate the impact of food inflation, as its standard basket often fails to reflect the consumption patterns of economically disadvantaged households (Lokshin et al., 2025; Taylor et al., 2023). Behavioral economics research also shows that consumer behavior is primarily shaped by perceived rather than measured inflation (Ranyard et al., 2008) and that perceived financial constraint greatly influences consumer purchasing behavior (Hamilton et al., 2019). As a result, perceived food price increases may diverge substantially from measured inflation rates, yet more directly influence food purchasing patterns, particularly among socioeconomically disadvantaged groups.

Evidence from the 2008 Great Recession shows that economic crises can significantly affect diet quality and exacerbate nutritional inequalities. Some studies of diet change at that time reported reductions in the consumption of fruits and vegetables, as well as discretionary items like fast food, sugary products, and soft drinks (Jenkins et al., 2021), while others found a slight improvement in overall diet quality, potentially due to reduced spending on food away from home (Chen & Sturm, 2022; Kuhns & Volpe, 2014). Potentially negative dietary shifts were disproportionately observed among lower socio-economic groups, contributing to widening health disparities (Jenkins et al., 2021). Although no studies have assessed the 2022 food price crisis' impact on food purchasing or diet from a health perspective across multiple countries, recent European research indicates varied consumer responses, coping strategies, and changes in diet quality, differing by socio-economic status (Grunert et al., 2023; Hempel, 2024; Molnár & Hajdú, 2024; Stone et al., 2024). Additional recent findings from Europe and Australia also suggest that the crisis may have increased the prevalence and severity of food insecurity and further deepened existing nutritional health inequities (Haydaroglu & Bilgiç, 2024; Kent et al., 2025; Lokshin et al., 2025; Stone et al., 2024).

To better inform national-level policy responses to rising food prices, the objectives of this study were to: 1) characterize consumer perceptions of food affordability in 2022 and the perceived impact of rising food prices on a variety of food purchasing strategies in five high-income and middle-high-income countries (Australia, Canada, Mexico, United Kingdom [UK], and United States [US]); and 2) evaluate differences in these perceptions by country, socio-demographic characteristics, and household food security status.

A cross-national perspective provides valuable insight into consumer

perceptions and responses to food price increases, as these are shaped by national food systems, economic conditions, and policy contexts (Regasse & Kaplan, 2025). However, recent cross-national evidence remains, to our knowledge, limited to one study conducted in Europe (Grunert et al., 2023). Examining Australia, Canada, Mexico, the UK, and the US thus extends this literature to a broader set of high- and upper-middle-income countries with broadly comparable yet distinct economic contexts, food environments, and policy responses to rising food prices.

2. Methods

2.1. Study design, sampling and recruitment

Cross-sectional data from the 2022 wave of the International Food Policy Study (IFPS), an annual repeat cross-sectional survey conducted in Australia, Canada, Mexico, the UK, and the US, were analyzed.

Data were collected via self-completed web-based surveys conducted in November–December 2022. Adults aged ≥ 18 years were recruited through Nielsen Consumer Insights Global Panel and their partners' panels using both probability and non-probability sampling methods. Invitations with unique survey access links were shared with a random sample of available panellists in each country. Quotas for age, sex, education and language (when relevant) were applied to facilitate the recruitment of samples that were more representative of each country's population, based on national census data in each country. Surveys were administered in English in Australia and the UK, Spanish in Mexico, English or French in Canada, and English or Spanish in the US. The IFPS collection methods have been previously detailed (Hammond et al., 2024).

All respondents provided consent prior to survey completion and received remuneration in accordance with their panel's usual incentive structure (e.g., points-based or monetary rewards, chances to win prizes).

2.2. Measures

2.2.1. Perceived change in food prices

Perceived change in food prices was assessed by asking: “Has food become more expensive for you in the last 12 months?” with response options of “Much less expensive”, “A little less expensive”, “No change”, “A little more expensive”, “Much more expensive”, “Don't know” and “Refuse to answer”. A binary variable was constructed to indicate whether respondents perceived that food became more expensive for them in the last year, with responses of “Much more expensive” and “A little more expensive” coded as “More expensive”, and responses of “No change”, “A little less expensive”, “Much less expensive” and “Don't know” coded as “Not more expensive”.

2.2.2. Perceived impact of rising food prices on food purchasing strategies

To examine the perceived impact of rising food prices on ten food purchasing strategies, respondents who indicated that food had become more expensive were then asked: “Have you done anything different in the last 12 months because food is more expensive? (Select all that apply)” with queries for 10 potential purchasing strategies (shown in random order), including: “Switched to less expensive brands”, “Bought less food”, “Changed the types of foods I buy”, “Shopped at lower-priced grocery stores or discount chains”, “Bought in bulk or value sizes”, “Used more discount coupons or sales”, “Grew more of my own food”, “Baked or cooked from scratch more”, “Used a food bank or other food assistance”, “Bought less restaurant food”. Respondents could also select “None of the above”, “Don't know” or “Refuse to answer”. Respondents who reported that food had not become more expensive for them during the last 12 months were not asked this question and were coded as having made no change to any of these food purchasing strategies due to rising food prices.

2.2.3. Perceived impact of rising food prices on the healthfulness of food purchases

Among respondents who previously indicated that food had become more expensive for them over the last 12 months, the perceived impact of rising food prices on food purchases was assessed across seven food categories, presented to respondents in a randomized order: fresh fruits and vegetables; meat; milk and cheese; snacks (e.g., crackers, chips, or granola bars); desserts or treats (e.g., cookies, ice cream, or candy); non-alcoholic beverages (e.g., soft drinks or juice); and microwave, frozen, or pre-prepared meals. Categories were presented without additional descriptions beyond brief parenthetical examples, which were adapted to country-specific terminology where appropriate (e.g., “pop” in Canada and “lollies” in Australia). For each category, respondents were asked, “Has price affected how much you buy of these foods?” with response options including “Buy less,” “Buy more,” “No change,” “Don’t know,” or “Refuse to answer.” Respondents who previously reported that food had not become more expensive for them during the last 12 months were not asked this question and were coded as having made no change in the amount purchased for each food category.

To provide an exploratory summary of the direction of perceived changes in food purchasing, the seven food categories were classified as either core (i.e., essential components of a nutritious diet) or non-core (i.e., non-essential foods that are typically energy-dense and nutrient-poor) using the Australian Guide to Healthy Eating food classification system (Australian Government, 2013; Bell et al., 2005), which aligns with dietary guidelines in the other countries included. Based on this classification, responses for each of the three core food categories (i.e., fresh fruits and vegetables, meat, and milk and cheese) were coded such that “Buy more” was assigned a value of +1, “Buy less” a value of −1, and both “No change” and “Don’t know” a value of 0. For each of the four non-core food categories (i.e., snacks, desserts or treats, non-alcoholic beverages, and microwave/frozen/pre-prepared meals), the coding was reversed such that “Buy less” was assigned +1, “Buy more” −1, and “No change” or “Don’t know” 0. For each respondent, these codings were summed to compute two composite scores reflecting the healthfulness of the change in core and non-core food purchases. The scores were computed by summing the values of the coded responses (as described above) within the three core food categories (sub-score ranging from −3 to +3) and the four non-core food categories (sub-score ranging from −4 to +4), respectively. For both scores, a higher score indicates a change toward more healthful food purchases (i.e. more reports of buying more core foods and/or buying less non-core foods), whereas a lower score reflects a change toward less healthful purchases (i.e. more reports of buying less core foods and/or buying more non-core foods).

2.2.4. Sociodemographic characteristics

Sociodemographic information was collected using measures drawn mainly from government-led national surveys in each country (Australia Bureau of Statistics, 2023; Centers for Disease Control and Prevention, 2024; Government of Ontario, n.d.; International Tobacco Control Policy Evaluation Project, n.d.; Statistics Canada, 2023, 2024; UK Data Service, 2025; United Kingdom Office for National Statistics, 2021). In line with previous IFPS studies, responses were recoded to enable cross-country comparability (Hammond et al., 2022; Kwon et al., 2019). Sociodemographic measures included age group (18–29 years, 30–44 years, 45–59 years and ≥ 60 years), sex-at-birth (Statistics Canada, 2024) (male, female), racial/ethnic identity (Australia Bureau of Statistics, 2023; Government of Ontario, n.d.; International Tobacco Control Policy Evaluation Project, n.d.; United Kingdom Office for National Statistics, 2021) (recoded to ethnicity “majority group”, or “minority group”), perceived income adequacy, highest level of formal education acquired (Centers for Disease Control and Prevention, 2024; International Tobacco Control Policy Evaluation Project, n.d.; Statistics Canada, 2023; UK Data Service, 2025) (recoded to “low”, “medium” or “high” according to country-specific criteria), and presence of

children in the household (Centers for Disease Control and Prevention, 2025). For ethnicity, majority referred to individuals who identified as White in Canada, the UK, and the US; as non-Indigenous in Mexico; and as those for whom English was the only language spoken at home in Australia. Minority referred to those who identified as another ethnicity in Canada, the UK, or the US; as Indigenous in Mexico; and either Aboriginal or Torres Strait Islander individuals or speakers of a language other than English at home in Australia (Australia Bureau of Statistics, 2023; Government of Ontario, n.d.; International Tobacco Control Policy Evaluation Project, n.d.; United Kingdom Office for National Statistics, 2021). Education level was categorized according to country-specific criteria, with respondents classified as having “low” (secondary school completion or lower), “medium” (some post-secondary school qualifications, including some university), or “high” (university degree or higher) levels of education (Centers for Disease Control and Prevention, 2024; International Tobacco Control Policy Evaluation Project, n.d.; Statistics Canada, 2023; UK Data Service, 2025). Perceived income adequacy was assessed with the question “Thinking about your total monthly income, how difficult or easy is it for you to make ends meet?” with response options of “Very difficult”, “Difficult”, “Neither easy nor difficult”, “Easy”, “Very Easy”, “Don’t know” and “Refuse to answer” (Acton et al., 2025; Litwin & Sapir, 2009).

2.2.5. Household food security status

The 18-item Household Food Security Survey Module (HFSSM), a widely used and validated experience-based tool for assessing food insecurity in epidemiological research globally (Marques et al., 2015; Government of Canada, 2018; U.S. Department of Agriculture Economic Research Service, 2023), was used to assess household food security status over the last year. Ten items assessed food security status among adults in the household, while the remaining 8 items were specific to the experiences of children (aged <18 years), where applicable. Using Health Canada’s coding method, respondents were classified as living in households that were food secure (no affirmations), marginally food insecure (1 affirmation), moderately food insecure (2–5 affirmations adult scale or 2–4 affirmations child scale), or severely food insecure (6 or more affirmations adult scale or 5 or more affirmations child scale) (Government of Canada, 2020). If there was discordance between the classifications based on adults and children, the more severe classification denoted the food security status of the household. Health Canada’s coding scheme was used as it classifies marginal food insecurity within the food-insecure continuum, aligning with evidence indicating that even low levels of food insecurity are associated with adverse health and social outcomes (Cook et al., 2013; Jessiman-Perreault & McIntyre, 2017; Tarasuk et al., 2015).

2.3. Data analysis

A total of 26,273 adults across the five countries completed the 2022 IFPS survey and passed data quality checks. Across all countries, the cooperation rate was 68.0%, which was calculated based on the American Association for Public Opinion (AAPOR) Cooperation Rate #2, as the percentage of respondents who completed the survey (26,273) of those eligible who accessed the survey link (38,652) (Hammond et al., 2024; The American Association for Public Opinion Research, 2023). Among this sample, 5289 were part of an oversample of respondents with lower educational attainment from Mexico and Mexican Americans from the United States and could not be included in the present analysis as they were not asked about the impact of rising food prices on their food purchases (Hammond et al., 2024). Additionally, 744 of the remaining 20,984 respondents were excluded from the present analysis because of missing data (including “Refuse to answer”) on key variables of interest, including perceived change in food affordability ($n = 23$; 0.1%), perceived impact of rising food prices on food purchasing

strategies ($n = 13$; 0.1%), perceived impact of rising food prices on food purchases ($n = 261$; 1.2%), household food security status ($n = 140$; 0.7%), or any of the sociodemographic variables ($n = 593$; 2.8%), leaving a final analytic sample of 20,240 respondents.

All analyses were conducted using SAS Studio V.3.81. (SAS Institute Inc, 2021). Data were weighted with post-stratification sample weights constructed using a raking algorithm with population estimates from the census in each country based on age group, sex, region, ethnicity (except in Canada), and education (except in Mexico). All estimates reported are weighted unless otherwise specified.

Descriptive estimates (frequencies and means, as applicable) are reported for sociodemographic characteristics, household food security status and all variables of interest (perceived change in food prices, perceived impact of rising food prices on food purchasing strategies, and perceived impact of rising food prices on different categories of food purchases), stratified by country.

Binomial logistic regression models, adjusted for age, sex, ethnicity, education, perceived income adequacy, presence of children under 18 in the household, and household food security status, were used to examine between-country differences in the odds of perceiving higher food prices over the last year. These variables were selected a priori because they have been consistently identified in the literature as key sociodemographic correlates of food purchasing patterns (Dicken et al., 2024; Fogelholm et al., 2024; Hempel, 2024; Jenkins et al., 2021; Stone et al., 2024), perceived food affordability (Lokshin et al., 2025), and food insecurity (Gatton & Gallegos, 2023; Mansour et al., 2020; Power et al., 2025; Reeves et al., 2021; Walker et al., 2021), and are relevant for characterizing social and economic heterogeneity in perceptions of food price changes and their impact on food purchasing patterns. Similar models, stratified by country, examined differences in the odds of perceiving higher food prices over the past year by sociodemographic characteristics and household food security status. For the perceived change in food prices variable, sensitivity analyses were conducted excluding respondents who reported “Don’t know”, and the direction and magnitude of associations remained unchanged. In addition, complementary analyses using linear regression models treating the original 5-item scale as a continuous outcome were conducted.

To support the use of composite scores as exploratory summary measures to assess the perceived impact of rising food prices on the healthfulness of core and non-core food purchases, the reliability of both scores was assessed using Cronbach’s alpha and item-total correlations, which demonstrated acceptable internal consistency ($\alpha = 0.63$ for the core score; $\alpha = 0.75$ for the non-core score), and comparable contributions across items for both scores. Linear regression models, adjusted for the aforementioned sociodemographic covariates, were used to examine between-country differences in the two core and non-core food purchases scores. Similar regression models, stratified by country, examined differences by sociodemographic variables and household food security status. Sensitivity analyses were conducted using disaggregated multinomial logistic regression models for each of the three core and four non-core food categories, and the overall pattern of results were broadly aligned with the two composite scores results (Tables S1–S9).

Descriptive statistics and regression models were computed using survey-aware procedures to account for finite sampling methods. Adjusted odds ratios (AORs) and parameter estimates (β) are reported with 99% confidence intervals. Due to the large sample size and the large number of statistical tests, the significance threshold was set at $p < 0.01$. To assist with the interpretation of statistically significant differences, the magnitude of associations is also described. Parameter estimates (β) are interpreted as the percent change relative to the overall scale and AORs are categorized by effect size, with values interpreted as very small/ slight when $\text{AOR} < 1.5$ or > 0.67 , small/ slight when $1.5 \leq \text{AOR} < 2.0$ or $0.50 < \text{AOR} \leq 0.67$, medium/ moderate when $2.0 \leq \text{AOR} < 3.0$ or $0.33 < \text{AOR} \leq 0.50$, and large/ substantial when $\text{AOR} \geq 3.0$ or ≤ 0.33 (Sullivan & Feinn, 2012).

3. Results

3.1. Sample characteristics

A total of 20,240 respondents were included in the final analytic sample (Australia: $n = 4088$; Canada: $n = 4260$; Mexico: $n = 4020$; UK: $n = 4062$; US: $n = 3810$). Table 1 presents the characteristics of the weighted sample by country. The proportion of male and female respondents was approximately equal across all countries. In each country, most respondents belonged to the majority ethnic group and reported that making ends meet was neither easy nor difficult. Approximately one third of the sample in Australia reported a high level of education, while nearly two thirds of respondents in Mexico reported a high level of education. Most respondents did not have a child living at home. In all countries, the largest share of respondents was classified as living in food-secure households, except for Mexico, where the largest proportion was classified as living in moderately food insecure households. To assess potential selection bias due to the exclusion of participants with missing data ($n = 744$), sociodemographic and household food security status of the analytic sample were compared with the excluded sample (Table S10). The excluded participants were significantly different across most sociodemographic variables ($p < 0.01$). Notably, the excluded sample was proportionally younger, had a higher proportion of respondents with low educational attainment and a higher percentage of missing ethnicity and household food security data.

3.2. Perceived change in food prices

Fig. 1 shows respondents’ self-reported perceptions of the change in food prices that occurred in 2022. Overall, 82.6% of respondents reported that food had become a little or much more expensive for them in the past year (Australia = 82.7%; Canada = 84.6%; Mexico = 83.6%; UK = 83.5%; US = 78.4%).

Results from adjusted logistic regression models suggested that respondents in Mexico were slightly more likely than those in the UK (AOR: 1.22, 99%CI: 1.01 to 1.48; $p = 0.006$) and the US (AOR: 1.30, 99%CI: 1.07 to 1.58; $p = 0.0006$) to report that food had become more expensive for them in the past year. In addition, respondents in Canada were more likely than those in the US to report that food had become more expensive for them in the past year (AOR: 1.22, 99%CI: 1.01 to 1.49; $p = 0.009$), with no other statistically significant cross-country differences. In complementary analysis treating perceived change in food prices as a continuous variable, the overall pattern of results shifted slightly. In these analyses, respondents in Canada reported a very slightly greater perceived increase in food prices compared to those in Mexico (β : 0.20, 99%CI: 0.13 to 0.27; $p < 0.0001$), Australia (β : 0.09, 99%CI: 0.02 to 0.15; $p = 0.0003$), the UK (β : 0.14, 99%CI: 0.08 to 0.20; $p < 0.0001$), and the US (β : 0.11, 99%CI: 0.04 to 0.18; $p < 0.0001$), while respondents in Mexico reported a very slightly smaller perceived increase compared to those in Australia (β : -0.11 , 99%CI: -0.18 to -0.05 ; $p < 0.0001$) and the US (β : -0.09 , 99%CI: -0.16 to -0.02 ; $p = 0.002$).

Estimates from logistic regression models examining sociodemographic differences in the odds of perceiving food as more expensive in the last year in each country are presented in Table 2. In all countries except Mexico, respondents in younger age groups had moderately to substantially lower odds of perceiving food as more expensive compared to those in the older age group. Male respondents (in all countries), those from ethnic minority groups (in all countries except Canada), and those with children at home (in the UK only) were also slightly less likely to have perceived food as more expensive than females, those from ethnic majority groups, and those without children at home. In all countries, lower perceived income adequacy was associated with moderately to substantially greater odds of perceiving food as more expensive, with smaller or no differences between those who reported it was “easy” to make ends meet and those who reported it was “very easy”. On the contrary, respondents living in severely food-insecure households and

Table 1

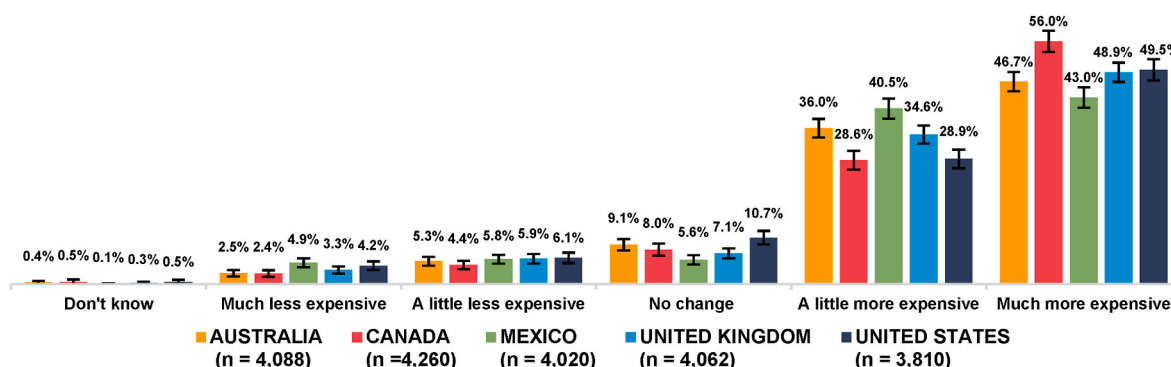
Weighted characteristics of adults participating in the International Food Policy Study in 2022, by country (N = 20,240).

	Australia (n = 4088)% (n)	Canada (n = 4260)% (n)	Mexico (n = 4020)% (n)	UK (n = 4062)% (n)	US (n = 3810)% (n)
Age group					
18–29 years	19.6 (802)	18.5 (787)	27.9 (1123)	18.0 (730)	19.5 (741)
30–44 years	27.4 (1119)	25.4 (1081)	31.1 (1251)	25.2 (1022)	25.5 (970)
45–59 years	23.5 (960)	23.8 (1016)	28.1 (1128)	25.1 (1021)	24.5 (932)
≥ 60 years	29.5 (1207)	32.3 (1376)	12.9 (518)	31.7 (1289)	30.6 (1166)
Sex at birth					
Female	49.3 (2014)	49.4 (2104)	48.3 (1943)	51.8 (2105)	49.4 (1881)
Male	50.7 (2074)	50.6 (2156)	51.7 (2077)	48.2 (1957)	50.6 (1929)
Ethnicity^a					
Minority	70.3 (2874)	76.7 (3266)	80.8 (3248)	86.1 (3498)	63.4 (2417)
Majority	29.7 (1214)	23.3 (994)	19.2 (772)	13.9 (564)	36.6 (1393)
Education^b					
Low	37.4 (1528)	40.1 (1708)	21.2 (851)	40.2 (1633)	54.9 (2092)
Medium	32.4 (1326)	32.0 (1362)	13.0 (523)	25.2 (1025)	10.0 (380)
High	30.2 (1234)	27.9 (1190)	65.8 (2646)	34.6 (1405)	35.1 (1338)
Perceived income adequacy					
Very difficult	8.2 (333)	9.8 (420)	12.6 (508)	7.5 (305)	11.4 (433)
Difficult	20.4 (832)	20.7 (882)	32.5 (1307)	23.0 (935)	21.8 (829)
Neither easy nor difficult	35.9 (1466)	36.8 (1567)	38.5 (1549)	38.2 (1552)	32.7 (1248)
Easy	26.4 (1081)	21.7 (924)	12.7 (511)	21.6 (877)	19.7 (749)
Very easy	9.2 (376)	11.0 (468)	3.6 (144)	9.7 (393)	14.5 (551)
Presence of children in the household					
Children	30.7 (1254)	21.4 (912)	49.6 (1994)	29.5 (1200)	28.8 (1099)
No children	69.3 (2834)	78.6 (3348)	50.4 (2026)	70.5 (2862)	71.2 (2711)
Household food security classification					
Marginally food insecure	8.5 (347)	8.9 (379)	14.3 (577)	7.4 (300)	8.5 (324)
Moderately food insecure	20.5 (837)	22.7 (965)	33.5 (1347)	19.0 (773)	22.4 (854)
Severely food insecure	21.8 (889)	19.0 (811)	26.0 (1045)	20.3 (825)	28.8 (1097)
Food secure	49.3 (2014)	49.4 (2105)	26.1 (1051)	53.3 (2164)	40.3 (1536)

UK United Kingdom, US United States.

^a Majority was defined as identifying as White in Canada, the UK, and the US, as non-Indigenous in Mexico, and as only speaking English at home in Australia. Minority was defined as identifying as another ethnicity in Canada, the UK and the US, as Indigenous in Mexico, and as speaking a language besides English at home and/or identifying as Aboriginal or Torres Strait Islander in Australia.

^b Low education was defined as completed secondary school or less, medium education as completed some post-secondary qualifications, and high education as completed a university degree or higher.

**Fig. 1.** Adults' self-reported perceptions of the change in food prices that occurred in 2022, by country (weighted) (N = 20,240).

those living in moderately food-insecure households (except in Mexico) were moderately to substantially less likely to have perceived food as more expensive compared to those in food-secure households. In sensitivity analysis examining the perceived change in food prices as a continuous variable, the patterns of results were similar (Table S11).

3.3. Perceived impact of rising food prices on food purchasing strategies

Overall, 71.7% of respondents reported having undertaken at least one food purchasing strategy due to higher food prices (Australia = 68.7%; Canada = 74.9%; Mexico = 75.7%; UK = 69.9%; US = 69.3%). Across countries, respondents reported having undertaken an average of 2.8 food purchasing strategies due to rising food prices (Australia = 2.7; Canada = 3.0; Mexico = 2.6; UK = 2.7; US = 2.8).

Fig. 2 presents the percentages of respondents in each country who reported having undertaken each of the ten queried food purchasing

strategies due to higher food prices. Overall, the most commonly reported strategy was switching to less expensive brands, ranging from 43.2% in the UK to 33.9% in the US. This was followed by buying less restaurant food (ranging from 35.6% in Canada to 29.9% in the UK) and shopping at lower-priced grocery stores or discount chains (ranging from 35.4% in the UK to 22.5% in Australia). In contrast, the least reported strategies were using a food bank or other food assistance (ranging from 10.3% in the US to 2.2% in Mexico) and growing more of their own food (ranging from 11.4% in Australia to 5.0% in Mexico).

3.4. Perceived impact of rising food prices on the healthfulness of food purchases

3.4.1. Core food purchases

Mean scores reflecting the healthfulness of the reported change in core food purchases due to rising food prices ranged from −0.76 in

Table 2Weighted estimates from logistic regression models examining differences in the perception of higher food prices in 2022 among adults in five countries ($N = 20,240$).

	'A little more expensive/Much more expensive' AOR (99% CI)				
	Australia ($n = 4088$)	Canada ($n = 4260$)	Mexico ($n = 4020$)	UK ($n = 4062$)	US ($n = 3810$)
Age group					
18-29 years	0.27 (0.17, 0.42)**	0.21 (0.13, 0.35)**	0.97 (0.58, 1.62)	0.30 (0.19, 0.48)**	0.25 (0.15, 0.40)**
30-44 years	0.41 (0.26, 0.65)**	0.27 (0.17, 0.44)**	1.16 (0.68, 1.99)	0.35 (0.22, 0.56)**	0.31 (0.20, 0.50)**
45-59 years	0.59 (0.38, 0.92)*	0.57 (0.35, 0.93)*	1.26 (0.74, 2.14)	0.74 (0.47, 1.18)	0.54 (0.34, 0.85)*
≥ 60 years [ref]					
Sex at birth					
Female	1.83 (1.39, 2.42)**	1.84 (1.36, 2.50)**	1.53 (1.19, 1.98)**	1.79 (1.36, 2.34)**	1.57 (1.19, 2.07)**
Male [ref]					
Ethnicity^a					
Minority	0.71 (0.52, 0.96)*	0.83 (0.59, 1.16)	0.69 (0.50, 0.95)*	0.47 (0.33, 0.67)**	0.68 (0.51, 0.91)*
Majority [ref]					
Education^b					
Low	1.15 (0.81, 1.63)	0.78 (0.53, 1.13)	0.85 (0.62, 1.16)	0.81 (0.59, 1.12)	0.94 (0.70, 1.28)
Medium	1.15 (0.83, 1.59)	1.00 (0.73, 1.36)	1.05 (0.72, 1.53)	1.06 (0.77, 1.45)	1.40 (0.95, 2.07)
High [ref]					
Perceived income adequacy					
Very difficult	8.38 (3.82, 18.38)**	5.32 (2.54, 11.16)**	3.71 (1.86, 7.41)**	9.23 (4.35, 19.56)**	3.54 (2.01, 6.23)**
Difficult	5.24 (3.06, 8.94)**	4.71 (2.62, 8.44)**	3.21 (1.75, 5.89)**	5.91 (3.56, 9.80)**	3.78 (2.34, 6.12)**
Neither easy nor difficult	2.24 (1.46, 3.42)**	2.60 (1.63, 4.13)**	2.00 (1.13, 3.54)*	3.07 (2.03, 4.63)**	1.64 (1.10, 2.45)*
Easy	2.01 (1.32, 3.04)**	1.60 (1.02, 2.51)*	1.59 (0.86, 2.95)	1.66 (1.10, 2.48)*	1.18 (0.79, 1.77)
Very easy [ref]					
Presence of children in the household					
Children	0.85 (0.63, 1.15)	1.09 (0.77, 1.55)	0.93 (0.70, 1.22)	0.72 (0.52, 0.98)*	0.99 (0.72, 1.37)
No children [ref]					
Household food security classification					
Marginally food insecure	1.32 (0.78, 2.24)	0.54 (0.30, 0.98)*	0.98 (0.64, 1.52)	0.77 (0.45, 1.32)	0.78 (0.45, 1.37)
Moderately food insecure	0.52 (0.35, 0.75)**	0.29 (0.19, 0.45)**	0.72 (0.50, 1.04)	0.41 (0.28, 0.60)**	0.36 (0.25, 0.53)**
Severely food insecure	0.33 (0.22, 0.50)**	0.40 (0.25, 0.66)**	0.51 (0.35, 0.74)**	0.35 (0.23, 0.54)**	0.35 (0.24, 0.51)**
Food secure [ref]					

AOR, adjusted odds ratio (adjusted for all sociodemographic variables presented in this table), UK United Kingdom, US United States.

* Statistically significant at $P < 0.01$.** Statistically significant at $P < 0.0001$.

^a Majority was defined as identifying as White in Canada, the UK, and the US, as non-Indigenous in Mexico, and as only speaking English at home in Australia. Minority was defined as identifying as another ethnicity in Canada, the UK and the US, as Indigenous in Mexico, and as speaking a language besides English at home and/or identifying as Aboriginal or Torres Strait Islander in Australia.

^b Low education was defined as completed secondary school or less, medium education as completed some post-secondary qualifications, and high education as completed a university degree or higher.

Canada to -0.44 in the US, indicating a very slight shift toward a less healthful change in core food purchases across countries (i.e. more reports of buying less core foods) (Fig. 3). The full distribution of responses for the three core food categories is presented in supplementary files (Fig. S1). Linear regression analyses examining differences across countries revealed small but statistically significant differences. Respondents in Canada had very slightly lower core food purchases scores than those in Australia (β : -0.17 , 99%CI: -0.25 to -0.09 ; $p < 0.0001$), the UK (β : -0.30 , 99%CI: -0.37 to -0.22 ; $p < 0.0001$), the US (β : -0.32 , 99%CI: -0.41 to -0.23 ; $p < 0.0001$), and Mexico (β : -0.35 , 99%CI: -0.45 to -0.26 ; $p < 0.0001$), reflecting a less healthful change in core food purchases. Respondents in Australia also had very slightly lower core food purchases scores than those in the UK (β : -0.12 , 99%CI: -0.19 to -0.05 ; $p < 0.0001$), the US (β : -0.14 , 99%CI: -0.23 to -0.06 ; $p < 0.0001$), and Mexico (β : -0.18 , 99%CI: -0.27 to -0.09 ; $p < 0.0001$).

Across countries, younger respondents and those with children in the household (except in Canada) had slightly higher core food purchases scores than older respondents and those without children, indicating a more healthful change in core food purchases, that is, fewer reports of buying less core foods (Table 3). In contrast, across countries, female respondents (except in Mexico and the US) and those with lower perceived income adequacy had slightly to moderately lower core food purchases scores than males and those who perceived their income adequacy as "very easy". In all countries, respondents living in severely food-insecure households had slightly lower core food purchases scores than those living in food-secure households.

3.4.2. Non-core food purchases

The reported change in mean non-core food purchases scores due to rising food prices ranged from 1.15 in the US to 2.16 in Mexico, indicating a slight shift toward a more healthful change in non-core food purchases across countries, that is, more reports of buying less non-core foods (Fig. 3). The full distribution of responses across the four non-core food categories is presented in supplementary files (Fig. S2). Results from a linear regression model revealed that respondents in Mexico had very slightly higher non-core food purchases scores than those in Canada (β : 0.65, 99%CI: 0.53 to 0.77; $p < 0.0001$), Australia (β : 0.65, 99%CI: 0.54 to 0.77; $p < 0.0001$), the UK (β : 0.78, 99%CI: 0.67 to 0.89; $p < 0.0001$) and the US (β : 0.88, 99%CI: 0.76 to 1.00; $p < 0.0001$), indicating a more healthful reported change in non-core food purchases. In contrast, respondents in the UK had very slightly lower non-core food purchases scores than those in Australia (β : -0.13 , 99%CI: -0.22 to -0.03 ; $p = 0.001$) and Canada (β : -0.13 , 99%CI: -0.23 to -0.02 ; $p = 0.002$), while US respondents also had slightly lower non-core food purchases scores than those in Australia (β : -0.23 , 99%CI: -0.34 to -0.12 ; $p < 0.0001$) and Canada (β : -0.23 , 99%CI: -0.35 to -0.11 ; $p < 0.0001$), reflecting a less healthful reported change in non-core food purchases in these countries (i.e. fewer reports of buying less non-core foods).

In all countries, male respondents and those aged 18-29 years had very slightly lower non-core food scores than females and those aged 60 years and older (Table 4). Respondents with children in their household (in the US only) and those living in moderately food-insecure

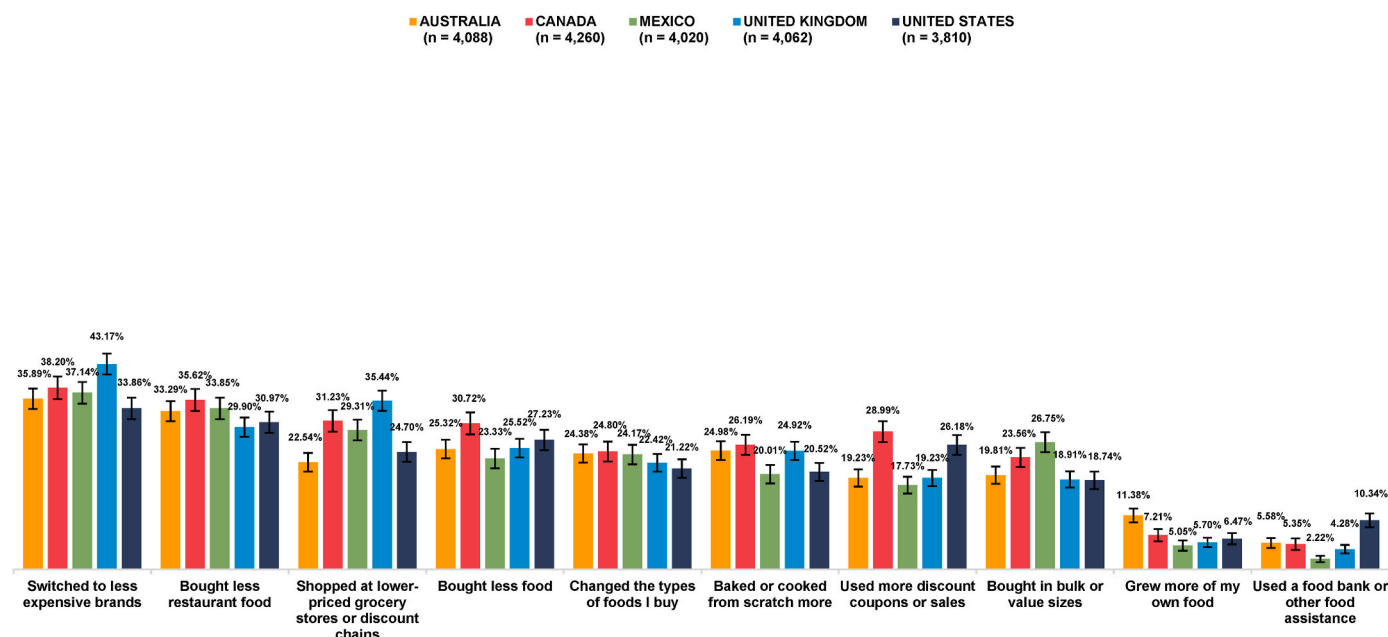


Fig. 2. Percentage of adults self-reporting having undertaken each of ten proposed food purchasing strategies in 2022 due to higher food prices, by country (weighted) (N = 20,240).

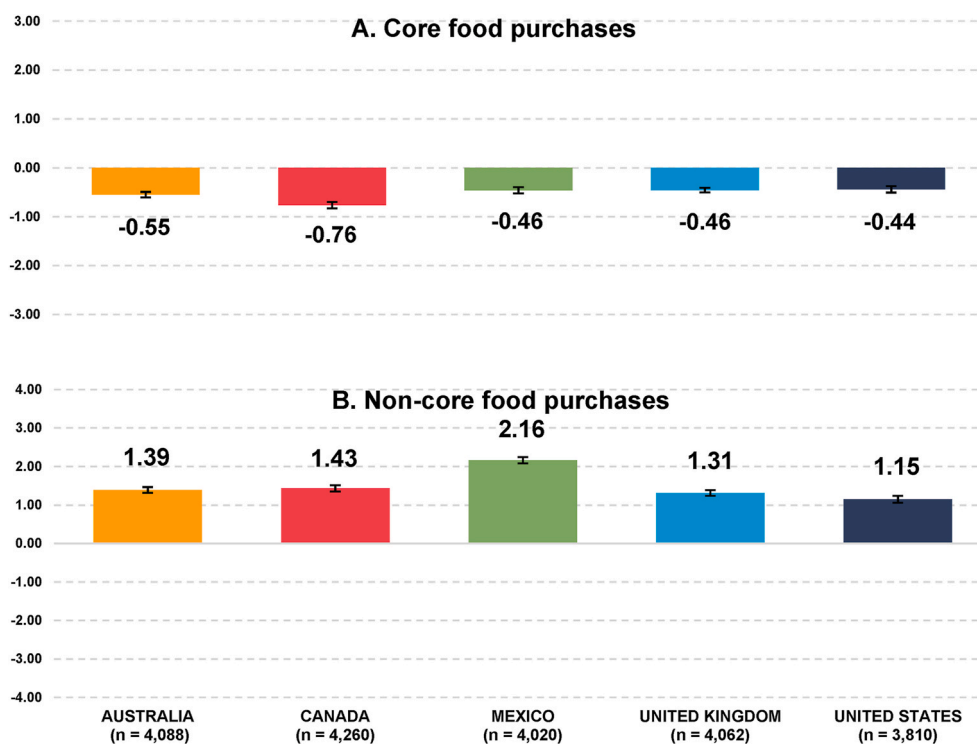


Fig. 3. Mean scores reflecting the healthfulness of the perceived change in core and non-core food purchases due to rising food prices among adults in five countries (weighted) (N = 20,240) ^a.

Abbreviations: AUS, Australia; CAN, Canada; UK, United Kingdom; US, United States; MEX, Mexico.

^a Points were attributed to reported changes in quantities purchased across three core food categories and four non-core food categories, summed into two scores ranging from -3 to +3 and -4 to +4, with higher scores indicating more healthful changes in core and non-core food purchases, respectively (i.e. more reports of buying more core foods and/or buying less non-core foods).

Table 3

Weighted estimates from linear regression models examining differences in the mean score reflecting the healthfulness of reported change in core food purchases due to rising food prices among adults in five countries, 2022 ($N = 20,240$)^a.

	Self-reported change in the healthfulness of core food purchases due to rising food prices score				
	Parameter estimate [β] (99% CI)				
	Australia ($n = 4088$)	Canada ($n = 4260$)	Mexico ($n = 4020$)	UK ($n = 4062$)	US ($n = 3810$)
Age group					
18–29 years	0.23 (0.07, 0.40)*	0.39 (0.20, 0.57)**	0.40 (0.16, 0.65)**	0.20 (0.04, 0.35)*	0.57 (0.37, 0.78)**
30–44 years	0.05 (−0.13, 0.22)	0.13 (−0.05, 0.31)	0.22 (−0.02, 0.47)	0.08 (−0.07, 0.23)	0.33 (0.14, 0.52)**
45–59 years	−0.14 (−0.27, −0.01)*	0.01 (−0.15, 0.17)	0.00 (−0.25, 0.25)	−0.06 (−0.17, 0.06)	−0.04 (−0.21, 0.13)
≥ 60 years [ref]					
Sex at birth					
Female	−0.15 (−0.26, −0.04)*	−0.17 (−0.30, −0.05)*	−0.13 (−0.25, 0.01)	−0.14 (−0.23, −0.05)*	−0.10 (−0.23, 0.02)
Male [ref]					
Ethnicity^b					
Minority	0.05 (−0.09, 0.20)	0.15 (0.01, 0.30)*	0.15 (−0.04, 0.34)	0.00 (−0.16, 0.17)	0.07 (−0.07, 0.22)
Majority [ref]					
Education^c					
Low	−0.06 (−0.20, 0.08)	0.04 (−0.11, 0.20)	0.02 (−0.15, 0.18)	0.03 (−0.08, 0.14)	−0.07 (−0.21, 0.06)
Medium	−0.02 (−0.15, 0.12)	0.05 (−0.06, 0.17)	−0.14 (−0.34, 0.06)	−0.03 (−0.14, 0.08)	−0.15 (−0.30, 0.01)
High [ref]					
Perceived income adequacy					
Very difficult	−1.07 (−1.35, −0.79)**	−1.09 (−1.41, −0.77)**	−0.75 (−1.12, −0.39)**	−1.07 (−1.33, −0.81)**	−1.24 (−1.52, −0.95)**
Difficult	−0.68 (−0.87, −0.48)**	−0.78 (−0.99, −0.58)**	−0.53 (−0.84, −0.21)**	−0.77 (−0.94, −0.60)**	−0.98 (−1.20, −0.77)**
Neither easy nor difficult	−0.28 (−0.44, −0.12)**	−0.44 (−0.59, −0.28)**	−0.29 (−0.59, 0.01)	−0.41 (−0.54, −0.29)**	−0.65 (−0.84, −0.46)**
Easy	−0.03 (−0.19, 0.12)	−0.27 (−0.42, −0.12)**	−0.08 (−0.40, 0.24)	−0.21 (−0.34, −0.09)**	−0.38 (−0.56, −0.21)**
Very easy [ref]					
Presence of children in the household					
Children	0.22 (0.07, 0.37)*	0.13 (−0.04, 0.30)	0.18 (0.05, 0.32)*	0.17 (0.04, 0.30)*	0.32 (0.16, 0.48)**
No children [ref]					
Household food security classification					
Marginally food insecure	−0.34 (−0.56, −0.13)**	−0.12 (−0.33, 0.09)	0.02 (−0.17, 0.20)	−0.16 (−0.33, −0.01)*	−0.09 (−0.32, 0.14)
Moderately food insecure	−0.08 (−0.24, 0.07)	−0.10 (−0.27, 0.08)	−0.22 (−0.39, −0.05)**	−0.15 (−0.30, −0.01)*	0.04 (−0.14, 0.22)
Severely food insecure	−0.31 (−0.49, −0.12)**	−0.46 (−0.69, −0.23)**	−0.50 (−0.71, −0.30)**	−0.27 (−0.44, −0.10)**	−0.21 (−0.40, −0.03)*
Food secure [ref]					

UK United Kingdom, US United States.

*: Statistically significant at $P < 0.01$.

** Statistically significant at $P < 0.0001$.

^a Points were attributed to reported changes in quantities purchased across three core food categories, summed into a score ranging from −3 to +3, with higher scores indicating more healthful changes in core food purchases (i.e. fewer reports of buying less core foods).

^b Majority was defined as identifying as White in Canada, the UK, and the US, as non-Indigenous in Mexico, and as only speaking English at home in Australia. Minority was defined as identifying as another ethnicity in Canada, the UK and the US, as Indigenous in Mexico, and as speaking a language besides English at home and/or identifying as Aboriginal or Torres Strait Islander in Australia.

^c Low education was defined as completed secondary school or less, medium education as completed some post-secondary qualifications, and high education as completed a university degree or higher.

households (in Canada only) also had very slightly lower non-core food scores than those without children in their household and those living in food-secure households, respectively. Across countries, respondents who perceived their income adequacy as “very difficult”, “difficult”, “neither easy nor difficult” or “easy” had very slightly higher non-core food scores than those who perceived it as “very easy”.

4. Discussion

4.1. Summary of main findings

Across countries, most respondents reported an increase in food prices in 2022, which was accompanied by reported changes in food purchasing and purchasing strategies. Despite some cross-country differences, similar purchasing trends emerged, with reported reductions in purchases of restaurant food and less healthy non-core food, but also in healthier core food. Females, younger and low-income individuals, in addition to those living in food-insecure households, tended to be more likely to report purchasing changes that are less consistent with healthier dietary patterns, suggesting that rising food prices disproportionately shaped food purchasing among these groups.

4.2. Comparison to previous research and interpretation of findings

A high percentage of adults in this study reported that food had become more expensive over the past year, consistent with previous research examining consumer perceptions of the 2022 rise in food prices in Canada (Clarke et al., 2023), Europe (Grunert et al., 2023), and Australia (Statista Research Department, 2025b). Moreover, objective measures of food inflation across countries, such as the one-year change in the Food and Non-Alcoholic Beverage component of Harmonized Index of Consumer Prices (HICP), indicate that food inflation was highest in Mexico, followed by the UK, the US, Canada, and lowest in Australia (International Monetary Fund, 2025; OECD Data Explorer, 2025). These objective patterns do not fully align with respondents' perceptions of food inflation in this study, with complementary analysis indicating that respondents in Canada reported one of the greatest perceived increase in food prices, whereas respondents in Mexico reported a smaller perceived increase. This divergence between perceived and measured food inflation may reflect differences in the overall economic context, including general cost of living, food affordability and prevalence of food insecurity, as well as media framing of the food price crisis in each country, which may have influenced consumer sensitivity to rising food prices (Regasse & Kaplan, 2025). These differences should

Table 4

Weighted estimates from linear regression models examining differences in the mean score reflecting the healthfulness of reported change in non-core food purchases due to rising food prices among adults in five countries, 2022 ($N = 20,240$)^a.

	Self-reported change in the healthfulness of non-core food purchases due to rising food prices score				
	Parameter estimate [β] (99% CI)				
	Australia ($n = 4088$)	Canada ($n = 4260$)	Mexico ($n = 4020$)	UK ($n = 4062$)	US ($n = 3810$)
Age group					
18–29 years	−0.72 (−0.94, −0.49)**	−0.72 (−0.97, −0.48)**	−0.35 (−0.66, −0.04)*	−0.46 (−0.68, −0.24)**	−0.91 (−1.19, −0.62)**
30–44 years	−0.44 (−0.68, −0.21)**	−0.38 (−0.61, −0.16)**	−0.09 (−0.41, 0.23)	−0.23 (−0.45, −0.01)*	−0.61 (−0.87, −0.35)**
45–59 years	−0.08 (−0.28, 0.12)	−0.05 (−0.28, 0.18)	0.15 (−0.17, 0.46)	0.17 (−0.02, 0.36)	−0.09 (−0.31, 0.14)
≥ 60 years [ref]					
Sex at birth					
Female	0.41 (0.26, 0.56)**	0.26 (0.10, 0.43)**	0.46 (0.30, 0.62)**	0.42 (0.29, 0.56)**	0.37 (0.21, 0.54)**
Male [ref]					
Ethnicity^b					
Minority	0.10 (−0.10, 0.29)	−0.04 (−0.23, 0.15)	−0.15 (−0.38, 0.07)	0.04 (−0.19, 0.27)	0.06 (−0.13, 0.25)
Majority [ref]					
Education^c					
Low	−0.03 (−0.22, 0.16)	−0.24 (−0.44, −0.04)*	−0.02 (−0.22, 0.19)	−0.13 (−0.29, 0.03)	0.09 (−0.09, 0.28)
Medium	0.00 (−0.19, 0.19)	−0.06 (−0.22, 0.10)	0.14 (−0.09, 0.37)	−0.02 (−0.18, 0.15)	0.29 (0.08, 0.50)*
High [ref]					
Perceived income adequacy					
Very difficult	1.75 (1.39, 2.12)**	1.46 (1.03, 1.88)**	1.37 (0.89, 1.85)**	1.65 (1.29, 2.00)**	1.75 (1.39, 2.11)**
Difficult	1.38 (1.10, 1.66)**	1.19 (0.89, 1.49)**	1.34 (0.90, 1.78)**	1.53 (1.29, 1.77)**	1.59 (1.30, 1.87)**
Neither easy nor difficult	0.90 (0.67, 1.14)**	0.76 (0.52, 1.00)**	0.98 (0.56, 1.41)**	0.99 (0.79, 1.18)**	1.07 (0.83, 1.32)**
Easy	0.40 (0.16, 0.63)**	0.37 (0.13, 0.62)*	0.42 (−0.04, 0.88)	0.45 (0.25, 0.65)**	0.60 (0.36, 0.85)**
Very easy [ref]					
Presence of children in the household					
Children	−0.07 (−0.27, 0.12)	−0.01 (−0.21, 0.20)	−0.02 (−0.19, 0.15)	−0.12 (−0.31, 0.06)	−0.22 (−0.44, −0.01)*
No children [ref]					
Household food security classification					
Marginally food insecure	0.19 (−0.08, 0.45)	0.27 (−0.01, 0.54)	−0.05 (−0.30, 0.21)	0.22 (−0.04, 0.48)	0.03 (−0.28, 0.34)
Moderately food insecure	−0.01 (−0.22, 0.20)	−0.25 (−0.48, −0.02)*	−0.02 (−0.24, 0.20)	0.06 (−0.15, 0.27)	−0.18 (−0.41, 0.05)
Severely food insecure	−0.16 (−0.40, 0.08)	0.05 (−0.25, 0.35)	−0.13 (−0.39, 0.13)	−0.12 (−0.36, 0.12)	−0.22 (−0.48, 0.04)
Food secure [ref]					

UK United Kingdom, US United States.

*: Statistically significant at $P < 0.01$.

***: Statistically significant at $P < 0.0001$.

^a Points were attributed to reported changes in quantities purchased and four non-core food categories, summed into a score ranging from −4 to +4, with higher scores indicating more healthful changes in overall non-core food purchases (i.e. fewer reports of buying less non-core foods).

^b Majority was defined as identifying as White in Canada, the UK, and the US, as non-Indigenous in Mexico, and as only speaking English at home in Australia. Minority was defined as identifying as another ethnicity in Canada, the UK and the US, as Indigenous in Mexico and as speaking a language besides English at home and/or identifying as Aboriginal or Torres Strait Islander in Australia.

^c Low education was defined as completed secondary school or less, medium education as completed some post-secondary qualifications, and high education as completed a university degree or higher.

be interpreted cautiously, particularly in the case of Mexico, as the analytic sample may underrepresent individuals of lower socioeconomic status, who are known to be more vulnerable to rising food prices (Lokshin et al., 2025).

The proportions of respondents in each country reporting various food purchasing strategies in response to higher food prices in this study were broadly consistent with prior surveys examining consumer responses to recent food inflation in Canada (Charlebois et al., 2024; Clarke et al., 2023), Europe (Grunert et al., 2023), and Australia (Statista Research Department, 2025a). About one-third of adults reported reducing restaurant food purchases, and one-quarter reported cooking or baking from scratch more often, both of which are associated with healthier dietary patterns, as food consumed away from home tends to be higher in energy and nutrients of public health concern (Wellard-Cole et al., 2022). This finding aligns with evidence from the 2008 Great Recession, when a modest improvement in diet quality was observed among US adults (Chen & Sturm, 2022), possibly due to declines in food-away-from-home consumption (Todd, 2017). A substantial proportion of adults also reported shopping at lower-priced grocery stores or discount chains, which may include outlets offering budget-friendly groceries such as dollar stores. Recent research shows that foods purchased in dollar stores are generally less nutritious than those from other outlets, and these retailers are rapidly expanding their share of

household food purchases (Feng et al., 2025). Similarly, the high use of discount coupons and sales promotions in response to rising food prices may further compromise diet quality, since such promotions disproportionately target less healthy, processed foods high in sugar, salt, and saturated fat rather than healthier alternatives (Bennett et al., 2020).

Overall, our findings suggest that rising food prices affected food purchases across all five countries, with reported reduced purchases of both core foods and, to a greater extent, non-core foods. This pattern is consistent with the findings of a recent Canadian survey in which more respondents reported cutting back on non-essential foods than reported cutting back on essential foods (Charlebois et al., 2024), but contrasts with a 2022 European survey that found that reductions in essential food purchases were more commonly reported (Grunert et al., 2023). The greater reported reductions of non-core foods in the present study appears to have occurred despite healthy foods experiencing greater price increases than unhealthy foods in most study countries (Hoenink et al., 2024; Lewis et al., 2023; Statistics Canada, 2025), perhaps suggesting consumers' efforts to prioritize healthier options, especially in Mexico, where a shift toward more healthful food purchases were reported. In contrast, a shift toward less healthful core food purchases were reported in Canada, which may be in part due to greater inflation in healthy food categories like fruits and vegetables in Canada compared to other countries (Statistics Canada, 2025). Nevertheless, reported reductions in

the quantity of overall food purchased raise concerns about global food security and consumers' ability to access the types and amounts of food that meet their dietary needs and preferences, although such effects may be mitigated by prior excess or food waste.

Our findings highlight consistent sociodemographic differences in response to higher food prices across countries. Younger respondents tended to be less likely to report food price increases, possibly due to limited food shopping experience and the absence of historical price references that perhaps informed older adults' perceptions. However, when younger adults did adjust their food purchases in response to higher food prices, the reported changes were less consistent with purchasing patterns typically considered healthier, with fewer reductions in non-core foods purchases. This pattern may reflect younger adults' reliance on lower-cost, ultra-processed foods (Dicken et al., 2024) and their increased vulnerability to food insecurity (Gatton & Gallegos, 2023; Walker et al., 2021). In contrast, female respondents were more likely to perceive higher food prices, which may reflect their greater involvement in household food purchasing and preparation practices (McGowan et al., 2017). Female respondents also reported reductions in core foods alongside even greater reductions in non-core foods, aligning with prior research indicating that women typically exhibit higher diet quality than men (Miller et al., 2022). Likewise, respondents with lower perceived income adequacy were more likely to report higher food prices, reduced core food purchases, and, to a greater extent, reduced non-core food purchases, underscoring how financial constraints limit access to both nutritious and discretionary items. These patterns are mostly consistent with recent studies showing that women and socioeconomically vulnerable groups experienced higher stress during the 2022 inflation crisis (Mitra et al., 2024; Wu et al., 2023) and that lower-income households experienced disproportionately higher food inflation and bear the greatest burden of rising prices (Hempel, 2024; Lokshin et al., 2025; Pathak Chalise, 2025).

Finally, our results indicate that perceptions and responses to rising food prices were strongly shaped by household food security status. Adults living in food-insecure households were less likely to perceive higher food prices, possibly reflecting the adaptive purchasing strategies focused on lower-cost or processed foods already employed by these populations to make ends meet (Byker Shanks et al., 2022). As price increases were greater for healthier foods than for less healthy options during this period (Hoenink et al., 2024; Lewis et al., 2023), food-insecure households may have already low rates of purchasing these items and thus been relatively less exposed to the most substantial rise in prices, which could have mitigated their perception of rising food prices. However, those who did report higher prices were much more likely to report purchasing shifts that do not align with healthier purchasing patterns. These findings are consistent with recent research that suggests that the most recent economic crisis had a disproportionate impact on people experiencing food insecurity (Stone et al., 2024) and that food-insecure individuals were more affected by high food inflation compared to food-secure individuals (Haydaroglu & Bilgiç, 2024). Given that food insecurity rates rose sharply in both prevalence and severity across most study countries in 2023 (Foodbank Western Australia, 2025; Francis-Devine, 2024; Li et al., 2023; Rabbitt et al., 2024), our findings suggest that the 2022 food price crisis may have further deepened existing inequities, with purchasing changes that may have implications for broader diet quality and health.

4.3. Strengths and limitations

This study is among the first to assess consumer perceptions of the 2022 food price crisis across five high- and upper-middle-income countries using harmonized measures, enabling rigorous cross-country comparison. The large sample size and consistent survey design increase the robustness and comparability of findings. However, this study has several limitations common to online survey research.

First, although quota sampling and post-stratification weights were

applied, respondents were recruited using both probability and nonprobability-based sampling, meaning that the findings are not necessarily nationally representative. An important limitation is the small sample of respondents with low levels of education in Mexico, which meant that the use of weighting procedures to fully address this bias was not feasible, potentially resulting in the underrepresentation of individuals of low socioeconomic status in this specific country. This should be considered in the interpretation of the data for Mexico, as these analyses may not fully reflect the perspectives and experiences of adults with low education or low income in Mexico. Moreover, observed cross-country comparisons should be interpreted with caution, as differences in sample composition across countries may have partly contributed to the observed variations.

Second, despite relatively high cooperation among eligible respondents, the use of a commercial online panel remains subject to self-selection and coverage biases that cannot be fully addressed through high cooperation rates or post-stratification weighting. Third, the cross-sectional design of the study means changes over time cannot be captured. Fourth, all measures were self-reported and therefore may be subject to unconscious biases such as social desirability or recall bias. Nevertheless, self-reported information provides valuable insight into respondents' lived experiences and perceived impacts of the food price crisis. A further limitation concerns the exclusion of respondents with missing data on key variables of interest. As shown in Table S1, excluded respondents differed from the analytic sample on key sociodemographic characteristics, suggesting potential underrepresentation of socioeconomically disadvantaged individuals. However, only a small proportion of respondents ($n = 744$; 3.5%) were excluded, and models adjusted for core sociodemographic factors with post-stratification weights applied, which may have partially mitigated this bias. Additionally, the study did not consider subnational differences, which may mask important regional variation in how the crisis was experienced.

Finally, the assessment of food purchasing relied on a limited number of broad food groups that were further collapsed into core and non-core categories and summarized using equally weighted composite scores. This approach does not capture differences in the nutritional contribution, consumption quantity, or relative importance of individual food groups and therefore represents a simplified summary of perceived purchasing changes, which do not intend to comprehensively represent respondents' entire diets. Moreover, the framing of the survey questions did not allow for assessment of the magnitude of reported changes in food purchases or what foods were substituted, if any, which limits the interpretation of the health implications of these shifts. However, by capturing perceived changes across both core and non-core food groups, the study provides important cross-country insights into the direction of the reported dietary shifts in response to rising food prices.

4.4. Policy implications and future research

This study demonstrates that adults in Australia, Canada, Mexico, the UK, and the US perceived food as less affordable in 2022 and reported diverse changes in purchasing behaviors. The findings further suggest that the 2022 food price crisis may have exacerbated existing inequities. Thus, policy responses aimed at mitigating the potential impacts of periods of high food inflation for everyone, but especially for individuals at risk of food insecurity, such as younger and low-income individuals, should be thoughtfully considered.

With regards to food assistance, our findings revealed low reported food bank use in response to higher food prices across all countries. This pattern may reflect the multiple barriers documented as limiting access to food banks among food-insecure populations, as well as the socio-psychological consequences associated with receiving charitable food assistance (Middleton et al., 2018). Moreover, this finding is consistent with existing literature suggesting that food assistance alone plays a limited role in addressing the structural drivers of high food prices and food insecurity (Bazerghi et al., 2016).

Finally, future research should examine whether the observed changes in reported purchasing patterns have persisted beyond the crisis period and whether they are reflected in objective indicators of food purchasing and overall diet quality, particularly amid ongoing macro-economic and geopolitical pressure (FAO, 2025a).

5. Conclusion

The findings of this study suggest that in 2022, most adults across the five countries perceived food as less affordable and reported reducing and adjusting their food purchasing as a result, with mostly similar sociodemographic correlates of these perceptions within countries. These results underscore the need for social and nutrition policies that promote equitable access to affordable food, including nutritious options, particularly during periods of economic instability.

CRedit authorship contribution statement

Juliette Cauchon: Writing – original draft, Formal analysis, Conceptualization. **Rachel B. Acton:** Writing – review & editing. **Sharon I. Kirkpatrick:** Writing – review & editing. **Adrian J. Cameron:** Writing – review & editing. **Gary Sacks:** Writing – review & editing. **Christine M. White:** Writing – review & editing, Data curation, Conceptualization. **David Hammond:** Writing – review & editing, Conceptualization. **Marie-Ève Labonté:** Writing – review & editing. **Lana Vanderlee:** Writing – review & editing, Conceptualization.

Data statement

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Ethical statement

The study was reviewed by and received ethics clearance through a University of Waterloo Research Ethics Board (REB# 30829) and the Université Laval Research Committee (#2021-318 Phase II A-3 R-3/04-12-2024).

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Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: David Hammond reports a relationship with Public Health Authority that includes: paid expert testimony. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.appet.2026.108769>.

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