INTERNATIONAL
FOOD POLICY
STUDY

TECHNICAL REPORT

2021 SURVEY (WAVE 5)

SEPTEMBER 5, 2024

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should not accept industry funding for any work related to this project and should declare all potential conflicts of interest.

METHODS

The primary objective of the International Food Policy Study (IFPS) is to evaluate the impact of national-level food policies. Repeat cross-sectional studies are being conducted in each of five countries—Australia, Canada, Mexico, the United Kingdom (UK), and the United States (USA)—to examine dietary patterns and policy-relevant behaviours across countries. The study provides a quasi-experimental design for evaluating federal-level policies by providing both 'within' and 'between-country' measures over time.

SAMPLE & RECRUITMENT

Online surveys were conducted in 2021 with a total of 26,285 respondents from five countries: Australia (n=4,105), Canada (n=4,572), Mexico (n=5,958), UK (n=4,196), and USA (n=7,454). The first wave of the survey was conducted in December 2017, with subsequent waves conducted annually in November-December from 2018 to 2021.

A total of 1,383 respondents completed surveys in both Wave 1 and Wave 2 (6.1% of the Wave 2 sample). A total of 1,684 respondents completed surveys in both Wave 2 and Wave 3 (8.0% of the Wave 3 sample). A total of 342 respondents completed surveys in both Wave 3 and Wave 4 (1.6% of the Wave 4 sample). A total of 583 respondents completed surveys in Waves 1 to 3 (2.8% of Wave 3 sample). A total of 134 respondents completed surveys in Waves 2 to 4 (0.6% of the Wave 4 sample). A total of 73 respondents completed surveys in waves 1 to 4 (0.3% of Wave 4 sample). A total of 453 respondents completed surveys in both Wave 4 and Wave 5 (1.7% of the Wave 5 sample). A total of 71 respondents completed surveys in Waves 3 to 5 (0.3% of the Wave 5 sample). A total of 30 respondents completed surveys in waves 2 to 5 (0.1% of Wave 4 sample). A total of 19 respondents completed surveys in all 5 waves (0.1% of Wave 5 sample).

The main sample was recruited from the Nielsen Consumer Insights Global Panel, which maintains and/or has partner panels in each country. The panels are recruited using both probability and non-probability sampling methods. The Nielsen panel provides standardized recruitment sampling across countries. For the current study, Nielsen drew random samples stratified for age and sex from the online panels in each country based on the quotas described below. Oversamples of respondents with lower educational attainment from Mexico and Mexican Americans from the United States were recruited from Qualtrics, and their partner panels.

Quotas for age and sex were applied to facilitate recruitment of a diverse sample that approximated the known proportions in each country for males and females in four age groups: 18-29, 30-44, 45-64, and 65+. Sample targets were also used to recruit English- and French- speaking respondents in Canada proportional to the population distribution; and to recruit Spanish-speaking respondents in the USA. Sample targets were also used to recruit a proportion of respondents with low education resembling the population distribution in each country; this was considered a target rather than a strict quota: Nielsen's Mexico panel had limited sample with low education so the targets could not be strictly enforced in the main sample, but respondents in Mexico with lower educational attainment were over-sampled by Qualtrics. In addition, respondents in the United States who identified as Mexican, Mexican-American or Chicano were over-sampled by Qualtrics to facilitate comparisons with respondents in Mexico. Furthermore, respondents in Canada residing in the province of Newfoundland and Labrador were oversampled by Nielsen to support analyses in this provincial subsample.

Individuals were eligible to participate if they were 18 to 100 years of age, and resided in the target country. Invitations with unique survey access links were shared with a random sample of panelists within each country after targeting for demographics; panelists known to be ineligible were not invited. Potential respondents were screened for eligibility and quota requirements using age, and sex. Additional potential respondents for the Mexico over-sample were also screened for eligibility based on educational attainment, and respondents for the US over-sample were screened for eligibility based on Mexican, Mexican-American or Chicano origin. After screening, all potential respondents were provided with information about the study and were asked to provide consent before participating.

Respondents received remuneration in accordance with their panel's usual incentive structure, which includes points-based or monetary rewards that can be redeemed for e-gift cards, catalog items, cash, donations and/or chances to win monthly prizes. These incentives have been shown to increase response rates and decrease response bias in sub-groups under-represented in surveys, including disadvantaged subgroups.[1,2,3]

All data collection was conducted online, which provides several advantages, including the use of product images to assess beverage consumption and in experimental tasks, and the use of 'skip patterns' and questionnaire routing to account for differential patterns of use. Online surveys can also reduce social desirability bias, compared to in-person and phone surveys, by providing greater anonymity for sensitive topics such as weight bias and stigma.[4,5]

Online survey methods are well-established, and are emerging as the preferred mode for population-based surveys given declining response rates from random digit dialled (RDD) phone surveys.[6,7,8,9] Until recently, online surveys were constrained by limited internet penetration. However, internet penetration now exceeds "landlines", even among lower socioeconomic groups: in Australia, Canada, UK and USA, internet usage in the population approximates 90% or more.[10,11,12,13] Internet penetration is lower in Mexico, but still widespread with approximately 70% of Mexicans using the internet.[14]

Respondents were permitted to complete the survey on desktop or laptop computers, or mobile devices including smartphones or tablets. Some survey measures rendered differently on devices with smaller screen sizes. Measures involving scales from 0 to 10 displayed the scale horizontally on desktops and laptops, and vertically on smartphones and tablets. Overall, 52% of respondents completed the survey on a smartphone. Completion on a smartphone was highest in Mexico and USA, particularly among those recruited for the oversamples: about two-thirds of all respondents in USA and Mexico used a smartphone, with 78% and 90% of those in the US and Mexico oversamples using a smartphone, respectively.

PARTICIPATION RATES

Table 1 indicates the number of survey invitations sent in each country. The survey was 'closed' when target quotas were met.

For commercial panels that include non-probability based samples, the American Association for Public Opinion Research (AAPOR) recommends reporting the 'participation rate', also referred to as a 'completion rate'. The participation rate is defined as "the number of respondents who have provided a usable response divided by the total number of initial personal invitations requesting participation".[15] Participation rates are largely a product of sample management and the amount of sample that is 'released' prior to reaching target quotas.

TABLE 1: Dispositions of potential respondents for the International Food Policy Study, by country, 2021

Disposition	Total		Australia		Canada		Mexico		United Kingdom		United States	
	n	%	n	%	n	%	n	%	n	%	n	%
Invitations sent	297,128		39,608		50,194		51,396		70,308		85,622	
Did not access survey	258,308	86.9	34,188	86.3	43,944	87.5	42,385	82.5	64,506	91.7	73,285	85.6
Total accessed survey	38,820	13.1	5,420	13.7	6,250	12.5	9,011	17.5	5,802	8.3	12,337	14.4
Accessed survey link, unknown eligibility[a]	431	0.1	53	0.1	68	0.1	88	0.2	54	0.1	168	0.2
Eligible, no consent	2,995	1.0	457	1.2	659	1.3	443	0.9	510	0.7	926	1.1
Ineligible[b]	1,502	0.5	15	0.0	20	0.0	203	0.4	11	0.0	1,253	1.5
Completes	33,892	11.4	4,895	12.4	5,503	11.0	8,277	16.1	5,227	7.4	9,990	11.7
Excluded, data quality[c]	7,607	2.6	790	2.0	931	1.9	2,319	4.5	1,031	1.5	2,536	3.0
No/ineligible region	6,209	2.1	620	1.6	759	1.5	1,937	3.8	832	1.2	2,061	2.4
Fail data quality check	1,216	0.4	149	0.0	149	0.3	346	0.7	157	0.2	415	0.5
Speeding	95	0.0	1	0.0	13	0.0	26	0.1	20	0.0	35	0.0
Other quality issue	87	0.0	20	0.1	10	0.0	10	0.0	22	0.0	25	0.0
Complete, retained	26,285	8.8	4,105	10.4	4,572	9.1	5,958	11.6	4,196	6.0	7,454	8.7

[a] Respondent closed the survey link before the age and sex screening questions (and where applicable, the ethnicity, education and region screening questions) were completed and eligibility determined.
[b] Respondent screened ineligible due to ineligible age (<18), ineligible ethnicity for the US Mexican-American oversample, or ineligible education for the Mexico low education oversample.
[c] Respondent quit the survey prior to completing the region question, otherwise failed to state their region, or stated their region as in another country or an ineligible region (i.e., a territory in Canada), and/or failed to answer or incorrectly answered the data quality check question,"What is the current month?", and/or completed the survey in less than 10 minutes (or 15 minutes in the Mexico samples or US Spanish main sample), indicating "speeding" and presumably lack of attention, and/or had unreasonable or extreme responses to at least three of 21 open-ended measures.

Participation rates for eligible participants were calculated for the current study as follows:

Participation Rate = Completes / Total Eligible Invites

Total Eligible Invites = Unknown Eligible - [Unknown Eligible * (Ineligible / (Known Eligible + Unknown Eligible + Ineligible))] + Eligible, no consent + Completes

Unknown Eligible = Did not access survey + Accessed survey, unknown eligibility

The total participation rate was 11.5%. As shown in Table 1, 297,128 invitations were sent to panelists; 38,820 potential respondents (13.1%) accessed the survey link; and 26,285 respondents (8.8%) completed the IFPS survey and were retained in the sample.

The cooperation rate represents "the proportion of all cases interviewed of all eligible units ever contacted".[15] Across all countries, the cooperation rate was 70.5%, which was calculated based on AAPOR Cooperation Rate #2, as the percentage of respondents who completed the survey (26,285) of those eligible who accessed the survey link (37,301).

SURVEY CONTENT AND DEVELOPMENT

The study assessed seven primary policy domains: price/taxation, food packaging and labelling, retail food policies, food marketing, nutritional labelling in restaurants, nutrition information and education, and food guide/dietary recommendations. The study has a particular focus on sugary drink policies and beverage intake, in addition to the following consumer perceptions and behaviours: sources of food purchases and food preparation, weight loss behaviour, nutrition knowledge, food security, and weight bias/stigma. In Australia, Canada, the United Kingdom and the United States (main sample only), respondents were also asked to complete a 24-hour dietary recall.

The majority of questionnaire items were drawn or adapted from national surveys or selected based on previous research. Several new measures were also developed by the research team. Cognitive interviewing was previously conducted with 50 young adults in Canada to evaluate and improve several new items including the food source and beverage frequency measures.[16,17]

Surveys were conducted in English in Australia and the United Kingdom; Spanish in Mexico; English or French in Canada; and English or Spanish in the United States (based on the panelist's known language preference). The 2017 baseline questionnaire was translated to French by Communications Parisella, etc. Inc (Montreal, Canada) and Spanish by Benton & Associates (Mexico City, Mexico). In 2018, updates to both French and Spanish surveys were completed by Communications Parisella, etc. Inc. In 2019 and 2020, updates to the French survey were completed by Sirois French Translation Services, and updates to the Spanish surveys were completed by Communications Parisella, etc. Inc. In 2021, updates to the translations were completed by Communications Parisella, etc. Inc. (French and Spanish) and the Mexican National Institute of Public Health (Spanish). Members of the research team who were native in each language reviewed the French and Spanish translations independently, and confirmed nutrition-related terminology.

Surveys were also adapted for country-specific terminology (e.g., "soda or pop" in Canada vs. "fizzy drinks" in the United Kingdom). Survey teams in each country also reviewed beverage and food lists and images to ensure that the measures were representative of the products available in each market.

The median survey completion time across countries was 34 minutes (see Table 2 for time, by country).

TABLE 2: Median survey time, by country, 2021

Country	Median survey time
	minutes
Australia [a]	33
Canada – overall [a]	33
Canada – English [a]	33
Canada – French [a]	35
Mexico	44
United Kingdom [a]	30
United States – overall [a]	31
United States – English [a]	31
United States – Spanish [a]	40
OVERALL	34

[a] Median survey time for Australia, Canada, United Kingdom and United States excludes time to complete 24-hour dietary recall.

24-HOUR DIETARY RECALL

Upon completion of the main survey module, all respondents except those in Mexico and the US Mexican-American oversample were asked to complete a 24-hour dietary recall.

Respondents in Australia, Canada, and the United States (main sample only) were redirected to a US National Institutes of Health website to complete the Automated Self-Administered 24-hour Recall (ASA24®), developed by the National Cancer Institute.[18] Versions ASA24-Australia-2016, ASA24-Canada-2018, and ASA24-2020, were used in each of Australia, Canada and the United States, respectively. Modules for 'location', 'ate with' and 'supplements' were turned on in the ASA24 system.

Respondents in the United Kingdom were redirected to a website operated by the University of Cambridge to complete the Intake24 dietary recall. The Intake24 system was originally developed by Newcastle University, and is now operated by the National Institute for Health Research (NIHR) - Cambridge Biomedical Research Centre Measurement Platform.[19]

For all 24-hour dietary recalls (ASA24 and Intake24), the intake frame was from midnight to midnight of the previous day. Respondents were required to complete reporting in a single session. A total of 11,740 respondents completed a 24-hour dietary recall, including 2,759 respondents from Australia (67.2%); 3,057 respondents from Canada (66.9%); 3,122 respondents from the United Kingdom (74.4%); and 2,802 respondents from the United States (68.5% of the main US sample).

DATA INTEGRITY

As a data integrity check, part of the way through the survey, respondents were asked to select the current month from a list. The month selected by the respondent was compared to the month when the survey was submitted (November or December). Respondents who failed to answer the question and those with month discrepancies were excluded from the analytic sample, unless the selected month was within two days of the date the survey was submitted (e.g., selected November but submitted on December 1st or 2nd).

Respondents who completed surveys below a minimum survey completion time based on the median survey time were considered "speeders", and were excluded from the analytic sample. Specifically, respondents who completed surveys that had a country/language median completion time of less than 35 minutes *before* exclusions based on data integrity checks (Australia, Canada EN and FR, UK, USA EN main sample, US EN and SP oversample) were considered "speeders" if they finished the survey in less than 10 minutes. Respondents who completed surveys that had a country/language median completion time of ≥35 minutes (Mexico samples and USA SP main sample) were considered "speeders" if they finished the survey in less than 15 minutes.

Additional data integrity analyses were conducted during data cleaning. A total of 21 numeric or text open-ended measures were reviewed within which problematic responses were flagged. The numeric open-ended measures reviewed included beverage intake amounts, fruit and vegetable consumption amounts, and self-reported height and weight, and years of US residence (US oversample). The text open-ended measures reviewed included descriptions of public education campaigns, responses to the newest vital sign measure, as well as 'other' responses for the types of locations where meals were prepared away from home, purchase locations for food prepared at home, purchase methods for food food prepared at home, gender, occupation, children's age, living situation, ethnicity, religious practices for eating, weight loss/maintenance methods, sources of nutrition information, menu labelling information locations, marketing exposure locations, and food guide use. Participants who had unreasonable responses, such as extreme numeric values, nonsensical typing, or response content not related to the survey question, for at least three of these measures were excluded from the analytic sample.

ETHICS CLEARANCE

The study was reviewed by and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE # 30829).

SURVEY WEIGHTS

Post-stratification sample weights were constructed for each country separately based on known population totals by age, sex at birth, region, education, and ethnicity (except in Canada). Respondents were classified into sex-by-age-by-region groups, ethnicity-by-region groups (except in Canada), Hispanic status groups (in the US only), and education groups. Corresponding population estimates (sex, age, region populations) from each country were obtained.[20,21,22,23,24] Census data on ethnicity and education from each country were also obtained[25,26,27,28,29,30,31,32,33,34,35,36] Separately by country, a raking algorithm was applied to compute weights that are calibrated to these groupings. The SAS macro "RAKE_AND_TRIM_G4_V5" was used, with trimming to 5 (rescaled) if necessary.[37,38] Finally, the weights were rescaled to sum to the sample size in each country. Note: the approach to weighting ethnicity in the United States was enhanced beginning in 2020, as described below. Furthermore, in 2021, an additional specialized weight for use when excluding the oversamples was constructed using the same process as outlined above, except that, it is calibrated for the smaller sample, and for Mexico, the weight was not calibrated to education, as described below.

The tables below indicate the age, sex at birth, region, ethnicity and education categories used for weighting by country.

AUSTRALIA

Age groups	Sex at birth	Regions	Ethnicity	Education
1) 18-29 years 2) 30-44 years 3) 45-59 years 4) 60+ years	1) Male 2) Female	1) New South Wales 2) Victoria 3) Queensland 4) Western Australia 5) South Australia 6) Tasmania/Australian Capital Territory/ Northern Territory	1) Speak language other than English in the home 2) Speak English only in the home	1) Year 12 or lower 2) Trade certificate/diploma/ some university (below bachelor's level) 3) Bachelor's degree or more

Note: Respondents from Tasmania, Australian Capital Territory and Northern Territory were collapsed into one category due to small sample sizes. This means that the Australian data are adjusted to the age, sex and ethnicity of the five larger states but not to Tasmania, Australian Capital Territory, nor Northern Territory individually.

The survey weights for Australia ranged from 0.29 to 5.04.

CANADA

Age groups	Sex at birth	Regions	Education
1) 18-29 years 2) 30-44 years 3) 45-59 years 4) 60+ years *Newfoundland and Labrador* 1) 18-34 years 2) 35-44 3) 45-59 4) 60+ years	1) Male 2) Female	1) New Brunswick, Nova Scotia, Prince Edward Island 2) Quebec 3) Ontario 4) Prairie Provinces 5) British Columbia 6) Newfoundland and Labrador	1) Less than high school diploma 2) High school diploma 3) Trade certificate/diploma/ some university (below bachelor's level) 4) Bachelor's degree or more

Note: 2 respondents from each of the Northwest Territories, Nunavut, and the Yukon were excluded from the sample. Ages were grouped differently in Newfoundland and Labrador to accommodate small cell numbers. Ethnicity was not incorporated in the development of weights for Canada due to inconsistent collection methods/response options used in national surveys/census.

The survey weights in Canada ranged from 0.08 to 5.02.

MEXICO

Age groups	Sex at birth	Regions	Ethnicity	Education
1) 18-29 years	1) Male	1) North region	1) Indigenous	1) Secondary or less
2) 30-44 years	2) Female	2) South region	2) Not Indigenous	2) Tertiary or more
3) 45-54 years		3) Centre region		
4) 55+ years		4) Mexico City region		

Note: Upper age group categories were altered from other countries due to small sample sizes for females aged 60+ years.

The survey weights for Mexico ranged from 0.04 to 5.13.

In 2021, an additional specialized weight intended for use with select analyses involving measures from 2021 where the Mexico oversample was excluded, was constructed; this specialized weight was calibrated to the smaller sample size and not calibrated to education. Without the oversample, the Mexico sample included so few respondents with lower education that education could not be used, as was the case in previous rounds.

Categories used in specialized survey weight for measures excluding low education oversample:

Age groups	Sex at birth	Regions	Ethnicity
1) 18-29 years	1) Male	1) North region	1) Indigenous
2) 30-44 years	2) Female	2) South region	2) Not Indigenous
3) 45-54 years		3) Centre region	
4) 55+ years		4) Mexico City region	

Note: Education was not incorporated in the development of this weight for Mexico because the proportion of respondents with lower educational attainment was so much smaller than in population estimates from census data that weights could not be obtained.

The specialized survey weights for measures excluding the oversample for Mexico ranged from 0.17 to 5.12.

UNITED KINGDOM

Age groups	Sex at birth	Regions	Ethnicity	Education
1) 18-29 years	1) Male	1) North East	1) White alone	1) No qualification/Level 1
2) 30-44 years	2) Female	2) North West	2) Other	2) Level 2 (incl. 5+ O level, etc.)/ Apprenticeship/Foreign qualification (level unknown)/ not stated
3) 45-59 years		3) Yorkshire and the Humber		
4) 60+ years		4) East Midlands		
		5) West Midlands		3) Level 3 (incl. 2+ A levels, etc)
Northern Ireland		6) East of England		4) Level 4 (incl. degree or higher / professional qualifications)
1) 18-44 years		7) London		
2) 45+ years		8) South East		
		9) South West		
		10) Scotland		
		11) Wales		
		12) Northern Ireland		

Note: Age group categories were collapsed for Northern Ireland only due to small sample sizes in the region. North East, South West, Scotland, Wales, and Northern Ireland were collapsed for the ethnicity-by-region groups due to low numbers in the 'Other' ethnicity cells.

The survey weights for the United Kingdom ranged from 0.33 to 5.03.

UNITED STATES

Age groups	Sex at birth	Regions	Ethnicity	Hispanic Status	Education
1) 18-29 years 2) 30-44 years 3) 45-59 years 4) 60+ years	1) Male 2) Female	1) New England 2) Middle Atlantic 3) East North Central 4) West North Central 5) South Atlantic 6) East South Central 7) West South Central 8) Mountain 9) Pacific	1) White alone and not Hispanic 2) Other	1) Hispanic 2) Not Hispanic	1) 11th Grade or lower 2) High school diploma (or some college) 3) Associates's degree / vocational certificate 4) Bachelor's degree or more

The survey weights for the United States ranged from 0.07 to 5.05.

Beginning in the 2020 survey wave, the method previously used to construct weights for US respondents was revised. Papers completed before 2022 using data from 2018-2019 IFPS survey waves employed weights for US respondents where ethnicity was categorized as 'White alone' (regardless of Hispanic status) or 'Other'. In the 2020 and 2021 waves, ethnicity was instead categorized as 'White alone and not Hispanic' or 'Other' to better align with census estimates. Revised weights were also constructed retroactively for the 2018-2019 US datasets; any new papers using 2018-2019 US data should use these revised weights.

In 2021, an additional specialized weight intended for use with select analyses involving measures from 2021 where the US oversample was excluded, such as the ASA24 data, was constructed and calibrated to the smaller sample size (no change in categories used for weighting).

Categories used in specialized survey weight for measures excluding Mexican American oversample:

Age groups	Sex at birth	Regions	Ethnicity	Hispanic Status	Education
1) 18-29 years 2) 30-44 years 3) 45-59 years 4) 60+ years	1) Male 2) Female	1) New England 2) Middle Atlantic 3) East North Central 4) West North Central 5) South Atlantic 6) East South Central 7) West South Central 8) Mountain 9) Pacific	1) White alone and not Hispanic 2) Other	1) Hispanic 2) Not Hispanic	1) 11th Grade or lower 2) High school diploma (or some college) 3) Associates's degree / vocational certificate 4) Bachelor's degree or more

The specialized survey weights for measures excluding the oversample for the US ranged from 0.19 to 4.60.

SAMPLE CHARACTERISTICS

The demographic characteristics of the sample, by country, are shown in Table 3.

TABLE 3: Sample Demographics, by country, 2021 n=26,285

Disposition	Australia n=4,105		Canada n=4,572		Mexico n=5,958		United Kingdom n=4,196		United States n=7,454	
	Unweighted % (n)	Weighted % (n)	Unweighted % (n)	Weighted % (n)	Unweighted % (n)	Weighted % (n)	Unweighted % (n)	Weighted % (n)	Unweighted % (n)	Weighted % (n)
Sex										
Male	48.0% (1,970)	49.1% (2,016)	49.5% (2,264)	49.4% (2,257)	49.7% (2,964)	48.0% (2,857)	49.5% (2,077)	48.9% (2,052)	47.1% (3,510)	49.1% (3,658)
Female	52.0% (2,135)	50.9% (2,089)	50.5% (2,308)	50.6% (2,315)	50.3% (2,994)	52.0% (3,101)	50.5% (2,119)	51.1% (2,144)	52.9% (3,944)	50.9% (3,796)
Age										
(mean; SD)	49.4 years (SD=17.35)	47.2 years (SD=17.29)	49.1 years (SD=16.97)	48.2 years (SD=16.98)	38.7 years (SD=13.54)	40.6 years (SD=15.24)	49.2 years (SD=17.55)	48.5 years (SD=17.19)	43.3 years (SD=16.71)	47.3 years (SD=17.34)
Education										
Low	33.0% (1,355)	41.9% (1,720)	25.7% (1,177)	42.3% (1,934)	41.7% (2,486)	74.9% (4,461)	30.9% (1,296)	49.8% (2,089)	43.5% (3,243)	54.8% (4,082)
Medium	34.2% (1,405)	32.1% (1,317)	38.1% (1,743)	33.1% (1,514)	11.9% (707)	10.4% (622)	26.5% (1,112)	21.2% (888)	22.2% (1,655)	9.9% (470)
High	32.3% (1,327)	25.6% (1,050)	35.7% (1,632)	24.2% (1,105)	46.3% (2,760)	14.6% (870)	41.8% (1,754)	28.2% (1,182)	34.0% (2,536)	34.9% (2,603)
Not stated	0.4% (18)	0.5% (19)	0.4% (20)	0.4% (19)	0.1% (5)	0.1% (5)	0.8% (34)	0.9% (37)	0.3% (20)	0.4% (29)
Ethnicity										
Majority	82.6% (3,392)	72.7% (2,983)	77.3% (3,535)	76.3% (3,487)	76.8% (4,575)	78.4% (4,672)	88.4% (3,709)	88.2% (3,702)	40.9% (3,051)	62.5% (4,660)
Minority	17.0% (696)	26.9% (1,103)	21.2% (970)	22.2% (1,015)	20.8% (1,237)	18.7% (1,112)	10.9% (459)	11.2% (470)	58.3% (4,349)	36.8% (2,742)
Not stated	0.4% (17)	0.5% (19)	1.5% (67)	1.5% (71)	2.5% (146)	2.9% (175)	0.7% (28)	0.6% (25)	0.7% (54)	0.7% (52)
BMI										
Underweight	3.3% (137)	3.7% (152)	3.1% (143)	3.8% (172)	2.0% (121)	1.9% (116)	3.0% (125)	3.3% (138)	2.4% (182)	2.7% (198)
Normal weight	32.7% (1,342)	33.6% (1,378)	35.0% (1,598)	33.9% (1,550)	35.2% (2,100)	30.3% (1,803)	34.8% (1,460)	32.7% (1,373)	30.6% (2,281)	32.7% (2,440)
Overweight	26.8% (1,099)	25.6% (1,049)	28.5% (1,301)	26.7% (1,222)	29.5% (1,760)	28.7% (1,707)	26.3% (1,104)	25.1% (1,052)	28.3% (2,109)	27.7% (2,066)
Obese	21.6% (888)	20.6% (845)	20.7% (948)	21.3% (972)	15.0% (895)	16.8% (1,003)	15.0% (628)	15.6% (653)	26.7% (1,987)	25.6% (1,910)
Missing	15.5% (639)	16.6% (680)	12.7% (582)	14.3% (656)	18.2% (1082)	22.3% (1,328)	21.0% (879)	23.3% (980)	12.1% (895)	11.3% (839)

COMPARISONS WITH NATIONAL BENCHMARK SURVEYS

Australia

Table 4 compares estimates of education, ethnicity, and BMI from Wave 5 (2021) with Australian estimates from the Australian Census of Population and Housing conducted in August 2016 and Organisation for Economic Co-operation and Development (OECD) collected in 2017.

TABLE 4: Prevalence estimates for education, ethnicity and BMI in Australia

Table 4a. Education	Census of Population and Housing 2016, age 15+ [a]	IFPS 2021, age 18+ (n=4,105)
	%	Weighted %
No qualification	39.9	41.9 [b]
Vocational	18.8	12.7
Advanced diploma or diploma	8.9	19.4 [c]
Bachelor or higher degree	22.0	25.6
Not stated	10.5	0.5

[a] Australian Bureau of Statistics. 2016 Census of Population and Housing: Highest qualification achieved 2016. Available at: https://profile.id.com.au/australia/qualifications.
[b] IFPS estimate includes 'Did not complete secondary school' and 'Year 12 or equivalent'.
[c] IFPS estimate includes 'Diploma or certificate from CAE' and 'Some university, or university certificate/diploma below the bachelor's level'.

Table 4b. Ethnicity	Census of Population and Housing 2016, all ages [d]	IFPS 2021, age 18+ (n=4,105)
	%	Weighted %
Only speaks English at home	72.7	76.5
Speaks a language besides English at home	20.8	23.0
Not stated	6.5	0.5

[d] Australian Bureau of Statistics. 2016 Census of Population and Housing: Language spoken at home, 2016. Available at: https://profile.id.com.au/australia/language.

Table 4c. BMI	OECD 2017, age 15+, directly measured [e]	IFPS 2021, age 18+, self-reported (n=4,105)
	%	Weighted %
Overweight or obese	65.2 [f]	55.3 excluding missing/not stated
	--	46.2 including missing/not stated

[e] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Measured, 2017. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from 2017 National Health Survey.
[f] A total of 34.4% of respondents aged 15 years and over did not have their height, weight or both measured. For these respondents, imputation was used to obtain height, weight and BMI scored.

Canada

Table 5 compares estimates of education, ethnicity, and BMI from Wave 5 (2021) with Canadian estimates from the Canadian Census conducted in 2016, the Canadian Community Health Survey (CCHS) conducted in 2015 and 2018 and OECD collected in 2019.

TABLE 5: Prevalence estimates for education, ethnicity and BMI in Canada

Table 5a. Education	Census 2016, age 15+ [a]	IFPS 2021, age 18+ (n=4,572)
	%	Weighted %
No certificate, diploma or degree	18.3	16.3
Secondary (high) school diploma or equivalency certificate	26.5	26.0
Apprenticeship or trades certificate or diploma	9.8	7.1
College, CEGEP or other non-university certificate or diploma	19.4	17.6
University certificate or diploma below bachelor level	2.8	8.4
University certificate, diploma or degree at bachelor level or above	23.3	24.2
Not stated	--	0.4

[a] Statistics Canada. Census 2016 – Education Highlight Tables: Highest level of educational attainment (general), age groups 15 years and over, both sexes, 2016. Available at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/hlt-fst/edu-sco/Table.cfm?Lang=E&T=11&Geo=00&SP=1&view=2&age=1&sex=1

Table 5b. Ethnicity	CCHS 2015, age 12+ [b]	IFPS 2021, age 18+ (n=4,572)
	%	Weighted %
White only	77.0	76.3
Chinese only [c]	3.3	8.5
South Asian only	3.4	3.2
Black only	2.0	2.7
Indigenous inclusive	4.7	3.3
Mixed/other/not stated/missing	9.6	5.9

[b] Statistics Canada. 2015 Canadian Community Health Survey (CCHS): Ethnic origin, 2015.

[c] IFPS estimate includes 'East/Southeast Asian (Chinese, Korean, Japanese, Taiwanese descent; Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent)'

Table 5c. BMI	OECD 2019, age 15+, directly measured [d]	OECD 2020, age 15+, self-reported [e]	CCHS 2018, age 18+, adjusted self-report [f]	IFPS 2021, age 18+, self-reported (n=4,572)
	%	%	%	Weighted %
Overweight or obese	59.8	54.4	63.1 [g]	56.0 excluding missing/not stated
	--	--	--	48.0 including missing/not stated

[d] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Measured, 2019. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from the 2019 Canadian Health Measures Survey (CHMS).

[e] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Self-reported, 2020. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from the 2020 Canadian Community Health Survey (CCHS).

[f] Statistics Canada. Overweight and obese adults, 2018. Available at: https://www150.statcan.gc.ca/n1/en/pub/82-625-x/2019001/article/00005-eng.pdf?st=YPrJKhW5

[g] Non-responses were removed from the CCHS self-reported calculation.

Mexico

Table 6 compares estimates of education, ethnicity, and BMI from Wave 5 (2021) with Mexican estimates from the Instituto Nacional de Estadística y Geografía (INEGI) collected in 2015, and 2020, and OECD collected in 2018.

TABLE 6: Prevalence estimates for education, ethnicity and BMI in Mexico

Table 6a. Education	INEGI 2020, age 15+ [a]	IFPS 2021, age 18+ (n=5,958)
	%	Weighted %
Less than primaria [b]	13.4	0.3
Educación primaria	16.3	1.9
Educación secundaria baja [c]	31.4	22.2
Educación secundaria alta [d]	22.8	58.5
Educación terciaria de ciclo corto [e]	1.4	2.5
Educación terciaria (Superior) or above [f]	14.5	14.6
Not stated	0.2	0.1

[a] Instituto Nacional de Estadística y Geografía (INEGI): Censo de Polbacíon y Vivienda 2020: Tabulados del Custionairio Básico. Tabulado 14: Poblacíon de 15 anos y más por entidad federative, sexo y grupos quinquenales de edad según Clasificación Internacional Normalizada de la Educación (CINE o ISCED) y grado promedio de escolaridad. Fecha de elaboración: 16/03/2021. Available at: https://www.inegi.org.mx/programas/ccpv/2020/#Tabulados
[b] Includes: Ninguno; Preescolar
[c] Includes: Secundaria; Estudios técnicos o comerciales con primaria terminada
[d] Includes: Preparatoria o bachillerato; Normal básica; Estudios técnicos o comerciales con secundaria terminada
[e] Includes: Estudios técnicos o comerciales con preparatoria terminada
[f] Includes: Normal de licenciatura; Licenciatura/professional; Maestría; Doctorado

Table 6b. Ethnicity	INEGI 2020, age 3+[e]	IFPS 2021, age 18+ (n=5,958)
	%	Weighted %
Indigenous	19.4	18.7
Not indigenous/not stated	80.6	81.3

[e] Instituto Nacional de Estadística y Geografía (INEGI): Censo de Polbacíon y Vivienda 2020: Tabulados del Custionairio Ampliado. Tabulado 2: Estimadores de la poblacíon de 3 anos y más y su distribución porcentual según condición de autoadscripción indígena por entidad federative, sexo y condición de habla indígena. Fecha de elaboración: 16/03/2021. Available at: https://www.inegi.org.mx/programas/ccpv/2020/#Tabulados

Table 6c. BMI	OECD 2020, age 15+, directly measured [f]	IFPS 2021, age 18+, self-reported (n=5,958)
	%	Weighted %
Overweight or obese	74.1	58.5 excluding missing/not stated
	--	45.5 including missing/not stated

[f] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Measured, 2020. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from the 2020 Encuesta Nacional de Salud y Nutrición (ENSANUT).

United Kingdom

Table 7 compares estimates of education, ethnicity, and BMI from Wave 5 (2021) with British estimates from the UK Census conducted in March 2011 and OECD collected in 2019.

TABLE 7: Prevalence estimates for education, ethnicity and BMI in the United Kingdom

Table 7a. Education	UK Census 2011, age 18+, England and Wales [a]	IFPS 2021, age 18+ (n=4,196)
	%	Weighted %
No qualifications	22.6	7.4
Level 1	13.0	29.6
Level 2	14.1	18.6
Apprenticeship	3.7	2.6
Level 3	12.2	12.1
Level 4+	28.6	28.2
Other[b]	5.8	1.5

[a] Office for National Statistics. 2011 Census – Key Statistics for England and Wales, 2011. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuskeystatisticsforenglandandwales/2012-12-11

[b] In the IFPS data, the 'other' category includes foreign qualifications (if level unknown) and 'not stated' responses.

Table 7b. Ethnicity	2019 Annual Population Survey Estimates, all ages [c]	IFPS 2021, age 18+ (n=4,196)
	%	Weighted %
White (including Gypsy/Traveller/Irish Traveller)	84.8	88.2
Mixed/Multiple Ethnic Groups	1.8	3.4
Asian/Asian British	8.0	5.1
Black/African/Caribbean/Black British	3.5	2.0
Other Ethnic Group	1.9	0.6
Not stated	--	0.6

[c] Office for National Statistics. Annual Population Survey, mid-year population estimates, and Census 2011 data. Ethnic group by country and region, England and Wales, 2019. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/datasets/populationestimatesbyethnicgroupenglandandwales

Table 7c. BMI	OECD 2019, age 15+, directly measured [d]	IFPS 2021, age 18+, self-reported (n=4,196)
	%	Weighted %
Overweight or obese	64.2 [e]	53.0 excluding missing/not stated 40.7 including missing/not stated

[d] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Measured, 2019. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from 2019 Health Survey for England (England only).

[e] OECD data were weighted for non-response.

United States

Table 8 compares estimates of education, ethnicity, and BMI from Wave 5 (2021) with American estimates from the US Current Population Survey conducted in 2021, US Census conducted in 2020 and OECD collected in 2018 and 2021.

TABLE 8: Prevalence estimates for education, ethnicity and BMI in the United States

Table 8a. Education	Current Population Survey 2021, age 18+ [a]	IFPS 2021, age 18+ (n=7,454)
	%	Weighted %
8th grade or lower	3.3	2.4
9th grade	1.2	1.6
10th grade	1.4	1.4
11th grade	3.8	4.1
High school graduate or some college with no degree	45.4	45.2
Associate's degree	10.0	9.9
Bachelor's degree or more	35.0	34.9
Not stated	--	0.4

[a] U.S. Census Bureau. Current Population Survey, 2021 Annual Social and Economic Supplement (CPS ASEC): Educational Attainment of the Population 18 Years and Over, by Age, Sex, Race, and Hispanic Origin: 2021. Available at: https://www.census.gov/data/tables/2021/demo/educational-attainment/cps-detailed-tables.html

Table 8b. Ethnicity	US Census 2020, age 18+ [b]	IFPS 2021, age 18+ (n=7,454)
	%	Weighted %
White only (and not Hispanic)	62.5	62.5
Black or African American only (and not Hispanic)	12.3	9.8
Other race only (and not Hispanic)	6.9	7.3
Two or more races, and/or Hispanic	18.3	19.6
Not stated	--	0.7

[b] United States Census Bureau, Population Division. Annual State Resident Population Estimates for 6 Race Groups (5 Race Alone Groups and Two or More Races) by Age, Sex, and Hispanic Origin: April 1, 2020 to July 1, 2021. June 2022. Accessed July 20, 2022. Available from https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-detail.html

Table 8c. BMI	OECD 2018, age 20+, directly measured [c]	OECD 2021, age 18+, self-reported [d]	IFPS 2021, age 18+, self-reported (n=7,454)
	%	%	Weighted %
Overweight or obese	73.1 [e]	67.5 [e]	60.1 excluding missing/not stated
	--	--	53.3 including missing/not stated

[c] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Measured, 2018. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from the 2018 National Health and Nutrition Examination Survey (NHANES).

[d] Organisation for Economic Co-operation and Development (OECD). Overweight or obese population: Self-reported, 2021. Available at: https://data.oecd.org/healthrisk/overweight-or-obese-population.htm. Source data obtained from the 2021 National Health Interview Survey (NHIS).

[e] Estimates were weighted to represent the U.S. civilian non-institutionalised population.

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