The Overconsumption of Ultra-Processed Foods in the United States

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FOOTNOTES

- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 2. Yin Zhang and Edward L. Giovannucci, "Ultra-Processed Foods and Health: A Comprehensive Review," *Critical Reviews in Food Science and Nutrition* 63, no. 31 (2022): 10836–10848, https://doi.org/10.1080/10408398.2022.2084359.
- Seyadeh Narges Mazloomi et al., "The Association of Ultra-Processed Food Consumption with Adult Mental Health Disorders: A Systematic Review and Dose-Response Meta-Analysis of 260,385 Participants," *Nutritional Neuroscience* 26, no. 10 (2022): 913–31, https://doi.org/10.1080/1028415X.2022.2110188.
- Fernanda Helena Marrocos Leite et al., "Ultra-Processed Foods Should Be Central to Global Food Systems Dialogue and Action on Biodiversity," *BMJ Global Health*, 7 no. 3 (2022): e008269, https://doi.org/10.1136/bmjgh-2021-008269.
- G. Th. Kroyer, "Impact of Food Processing on the Environment—An Overview," *LWT-Food Science and Technology* 28, no. 6 (1995): 547–552, https://doi.org/10.1016/0023-6438(95)90000-4.
- 6. Dariush Mozaffarian et al., "Role of Government Policy in Nutrition—Barriers to and Opportunities for Healthier Eating," *BMJ 2018* 13, no. 361 (June 2018), http://doi.org/10.1136/bmj.k2426.
- 7. "Food Additives," *World Health Organization,* November 2023, https://www.who.int/news-room/fact-sheets/detail/food-additives.
- 8. P. Michael Davidson and R. Paul Singh, "Food Additive," *Encyclopaedia Britannica*, July 2023, https://www.britannica.com/topic/food-additive.
- 9. Sharon Basabara, "What Does All-Cause Mortality Mean?" *Verywell Health,* June 2023, https://www.verywellhealth.com/what-is-all-cause-mortality-2223349.
- "Assessing Your Weight and Health Risk" National Heart, Lung, and Blood Institute, accessed February 2024, https://www.nhlbi.nih.gov/health/educational/lose_wt/risk.htm#:~:text=Body%20Mass%20Index% 20(BMI),-BMI%20is%20a&text=BMI%20is%20an%20estimate%20of,breathing%20problems%2C
- 20(BMI),-BMI%20is%20a&text=BMI%20is%20an%20estimate%20of,breathing%20problems%2C %20and%20certain%20cancers. 11. "Cardiovascular Disease," *NHS*, April 2022,
- https://www.nhs.uk/conditions/cardiovascular-disease/#:~:text=Cardiovascular%20disease%20(C VD)%20is%20a,increased%20risk%20of%20blood%20clots.
- "Deforestation," National Geographic, October 2023, https://education.nationalgeographic.org/resource/deforestation/.
- "What is Hermetic Sealing," Gallagher Seals, September 2022, https://www.gallagherseals.com/blog/what-is-hermetic-sealing
- **14.** "Industrial Agriculture 101," *NRDC,* January 2020, https://www.nrdc.org/stories/industrial-agriculture-101.

- Katie Garrity, "Here's Everything You Need to Know About Monocropping (And How It's Hurting the Environment)," *Greenmatters*, May 2020, https://www.greenmatters.com/p/what-is-monocropping.
- **16.** "Noncommunicable Diseases," *World Health Organization,* September 2023, https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases.
- **17.** "Slash-and-Burn Agriculture," *Encyclopedia Britannica*, January 2022, https://www.britannica.com/topic/slash-and-burn-agriculture.
- "What Does Shelf Stable Mean?" SIG, July 2020, https://www.scholleipn.com/resources/what-does-shelf-stable-mean/#:~:text=Shelf%20stable%20 means%20that%20the,conditions%20without%20refrigeration%20or%20freezing.
- **19.** Marta Tristan Asensi et al., "Low-Grade Inflammation and Ultra-Processed Foods Consumption: A Review," *Nutrients*, 15, no. 6 (2023): 1546, https://doi.org/10.3390/nu15061546.
- **20.** Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 22. Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- Carlos Augusto Monteiro et al., *Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System* (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 24. Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- **26.** Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 28. Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- P. Michael Davidson and R. Paul Singh, "Food Additive," *Encyclopaedia Britannica*, July 2023, https://www.britannica.com/topic/food-additive.
- 31. "The Evolution of the Processed Foods Industry," *Cablevy Blog,* accessed February 2024, https://cablevey.com/the-evolution-of-the-processed-foods-industry/.
- **32.** Carlos A. Monteiro et al., "Ultra-Processed Products are Becoming Dominant in the Global Food System," *Obesity Reviews* (November 2013): 21–28, https://doi.org/10.1111/obr.12107.
- **33.** Babak Ravandi et al., "GroceryDB: Prevalence of Processed Food in Grocery Stores," *MedRxiv,* April 2022, https://doi.org/10.1101/2022.04.23.22274217.
- 34. Mirko Marino et al., "A Systematic Review of Worldwide Consumption of Ultra-Processed Foods: Findings and Criticisms," *Nutrients* 13, no. 8 (2021): 2778, https://doi.org/10.3390/nu13082778.

- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- Carlos Augusto Monteiro et al., Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 37. Larissa Galastri Baraldi et al., "Consumption of Ultra-Processed Foods and Associated Sociodemographic Factors in the USA Between 2007 and 2012: Evidence from a Nationally Representative Cross-Sectional Study," *BMJ Open* 8, no. 3 (2018): e020574, https://doi.org/10.1136/bmjopen-2017-020574.
- 38. Gramza-Michałowska A., "The Effects of Ultra-Processed Food Consumption-Is There Any Action Needed?" *Nutrients* 12, no. 9 (2020): 2556, https://doi.org/10.3390/nu12092556.
- Cindy W. Leung et al., "Food Insecurity and Ultra-Processed Food Consumption: The Modifying Role of Participation in the Supplemental Nutrition Assistance Program (SNAP)," *The American Journal of Clinical Nutrition* 116, no. 1 (2022): 197–205, https://doi.org/10.1093/ajcn/nqac049.
- 40. Heather Alexander, "What are Ultra-Processed Foods?" MD Anderson Cancer Center, The University of Texas, March 2022, https://www.mdanderson.org/cancerwise/what-are-ultra-processed-foods.h00-159538167.html.
- 41. "How Big Companies Are Targeting Middle-Income Countries to Boost Ultra-Processed Food Sales," *The Conversation,* September 2021, https://theconversation.com/how-big-companies-are-targeting-middle-income-countries-to-boostultra-processed-food-sales-166927.
- 42. Brian A. Nummer, "Historical Origins of Food Preservation," *National Center for Home Food Preservation*, May 2002, https://nchfp.uga.edu/publications/nchfp/factsheets/food pres hist.html.
- **43.** "Pasteurization," *Virginia Department of Health,* accessed February 2024, https://www.vdh.virginia.gov/environmental-health/food-safety-in-virginia/milk-safety/pasteurizatio n/.
- 44. "The Crude Processing of Prehistoric Ages," *Automated Processing Equipment Corporation,* accessed February 2024,

https://www.apecusa.com/blog/evolution-food-processing-equipment/#:~:text=Hermetic%20bottlin g%20techniques%20were%20invented,dairy%20products%20among%20other%20foods.

- **45.** "The Evolution of the Processed Foods Industry," *Cablevy Blog,* accessed February 2024, https://cablevey.com/the-evolution-of-the-processed-foods-industry/.
- "Processed Foods History: 1910s to 1950s," *Modern Pioneer Mom*, July 2012, https://modernpioneermom.com/2012/07/05/processed-foods-history-1910s-to-1950s/.
- 47. Ibid.
- 48. Ibid.
- 49. Babak Ravandi et al., "GroceryDB: Prevalence of Processed Food in Grocery Stores," *MedRxiv,* April 2022, https://doi.org/10.1101/2022.04.23.22274217.
- **50.** Carlos Augusto Monteiro et al., *Ultra-Processed Foods, Diet Quality, and Health Using the NOVA Classification System* (Rome: Food and Agriculture Organization of the United Nations, 2019): 3–33, https://www.fao.org/3/ca5644en/ca5644en.pdf.
- 51. Ibid.
- 52. Bee Wilson, "How Ultra-Processed Food Took Over Your Shopping Basket," *The Guardian,* February 2020,

https://www.theguardian.com/food/2020/feb/13/how-ultra-processed-food-took-over-your-shoppin g-basket-brazil-carlos-monteiro.

- 53. Google Scholar, "Ultra Processed Food America," filtered range 2009–2023, see: https://scholar.google.com/scholar?q=Ultra+Processed+Food+America&hl=en&as_sdt=0%2C5&a s_ylo=2009&as_yhi=2023.
- 54. Google Scholar, "Ultra Processed Food America," filtered range 0–2008, see: https://scholar.google.com/scholar?q=Ultra+Processed+Food+America&hl=en&as_sdt=0%2C5&a s_ylo=&as_yhi=2008.
- 55. Carlos A. Monteiro et al., "Ultra-Processed Foods: What They Are and How to Identify Them," *Public Health Nutrition* 22, no. 5 (2019): 936–41, https://doi.org/10.1017/S1368980018003762.
- 56. "How Big Companies Are Targeting Middle-Income Countries to Boost Ultra-Processed Food Sales," *The Conversation*, September 2021, https://theconversation.com/how-big-companies-are-targeting-middle-income-countries-to-boostultra-processed-food-sales-166927.
- **57.** Mirko Marino et al., "A Systematic Review of Worldwide Consumption of Ultra-Processed Foods: Findings and Criticisms," *Nutrients* 13, no. 8 (2021): 2778, https://doi.org/10.3390/nu13082778.
- Fernanda Rauber et al., "Ultra-Processed Food Consumption and Chronic Non-Communicable Diseases-Related Dietary Nutrient Profile in the UK (2008–2014)," *Nutrients* 10, no. 5 (2018): 587, https://doi.org/10.3390/nu10050587.
- **59.** Jean-Claude Moubarac et al., "Processed and Ultra-Processed Food Products: Consumption Trends in Canada from 1938 to 2011," *Canadian Journal of Dietetic Practice and Research* 75, no. 1 (2014): 15–21, https://doi.org/10.3148/75.1.2014.15.
- Jennifer M. Poti, Bianca Braga, and Bo Qin, "Ultra-Processed Food Intake and Obesity: What Really Matters for Health-Processing or Nutrient Content?" *Current Obesity Reports* 6, no. 4 (2017): 420–431, https://doi.org/10.1007/s13679-017-0285-4.
- 61. "Obesity Rates by Country 2024," *World Population Review,* accessed February 2024, https://worldpopulationreview.com/country-rankings/obesity-rates-by-country.
- 62. Ibid.
- 63. Justyna Godos et al., "Ultra-Processed Food Consumption and Relation with Diet Quality and Mediterranean Diet in Southern Italy," *International Journal of Environmental Research and Public Health* 19, no. 18 (2022): 11360, https://doi:/10.3390/ijerph191811360.
- **64.** Mirko Marino et al., "A Systematic Review of Worldwide Consumption of Ultra-Processed Foods: Findings and Criticisms," *Nutrients* 13, no. 8 (2021): 2778, https://doi.org/10.3390/nu13082778.
- **65.** "History of Agriculture," *John Hopkins Center for a Livable Future,* accessed November 2024, https://foodsystemprimer.org/production/history-of-agriculture.
- 66. "How Did Humans Come to Live Longer and Healthier Lives?" *World 101,* October 2022, https://world101.cfr.org/contemporary-history/prelude-global-era/how-did-humans-come-live-long er-and-healthier-lives.
- 67. "Germ Theory," *Harvard Library,* accessed February 2024, https://curiosity.lib.harvard.edu/contagion/feature/germ-theory.
- 68. Max Roser and Hannah Ritchie, "How Has World Population Growth Changed Over Time," *Our World in Data,* June 2023, https://ourworldindata.org/population-growth-over-time.
- **69.** Craig Stanbury et al., "What to Do About Overpopulation?" *Journal of Applied Philosophy* 39, no. 5 (November 2022): 841–56, doi:10.1111/japp.12587.
- **70.** "How Many People Can Earth Actually Support?" *Australian Academy of Science,* accessed February 2024,

https://www.science.org.au/curious/earth-environment/how-many-people-can-earth-actually-supp ort.

71. Hannah Ritchie, "How Much of the World's Land Would We Need in Order to Feed the Global Population With the Average Diet of a Given Country?" *Our World in Data,* October 2017, https://ourworldindata.org/agricultural-land-by-global-diets.

72. "Research and extrapolation provided by T. Colin Campbell Center for Nutrition Studies Board Member J. Morris Hicks, author of Healthy Eating, Healthy World," *Plantrician Project,* accessed February 2024,

https://plantricianproject.org/food-math-101/footnotes#:~:text=The%20FAO%20reports%207.9%20billion,of%20almost%20three%20planet%20Earths.

- **73.** Calculations modified to fit the updated population of the planet (3.25 acres * 8 billion people = 26 billion acres).
- 74. Kenneth Arrow et al., "Are We Consuming Too Much?" *Journal of Economic Perspectives* 18, no. 3 (2004): 147–172, https://doi.org/10.1257/0895330042162377.
- **75.** Camila Mendes los Passos, "Association Between the Price of Ultra-Processed Foods and Obesity in Brazil," *Nutrition, Metabolism and Cardiovascular Diseases* 30, no. 4 (2020): 589–598, https://doi.org/10.1016/j.numecd.2019.12.011.
- Jean Adams et al., "Public Health Response to Ultra-Processed Food and Drinks," BMJ 369 (2020), https://doi.org/10.1136/bmj.m2391.
- 77. Shilpi Gupta, Terry Hawk, Anju Aggarwal, and Adam Drewnowski, "Characterizing Ultra-Processed Foods by Energy Density, Nutrient Density, and Cost," *Frontiers in Nutrition* 6, no. 70 (2019), https://doi.org/10.3389/fnut.2019.00070.
- 78. 2,000 calorie diet / 100 calories = 20. 20 * \$1.45 per unprocessed foods = \$29 for a daily unprocessed diet & 20 times \$0.55 for UPFs = \$11 for a daily UPF diet
- **79.** Jillian Kubala, "Healthy Food vs. Highly Processed Food: What to Know," *Healthline*, March 2023, https://www.healthline.com/nutrition/junk-food-vs-healthy-food#:~:text=In%20general%2C%20ultr a%2Dprocessed%20foods,potato%20contains%20only%2095%20calories.
- 80. Ibid.
- 81. "Increasing Urbanization Population Distribution by City Size, 1790 to 1890," *United States Census Bureau*, July 2012, https://www.census.gov/dataviz/visualizations/005/.
- 82. "Nation's Urban and Rural Populations Shift Following 2020 Census," United States Census Bureau, December 2022, https://www.census.gov/newsroom/press-releases/2022/urban-rural-populations.html#:~:text=Des pite%20the%20increase%20in%20the,down%20from%2080.7%25%20in%202010.
- Hania Zlotnik, "World Urbanization: Trends and Prospects." in *New Forms of Urbanization* (London, England: Routledge, 2004): 43–64, https://www.taylorfrancis.com/books/edit/10.4324/9781315248073/new-forms-urbanization-tony-c hampion-graeme-hugo.
- 84. "US Population Density Map," Kontur, accessed February 2024, https://www.kontur.io/portfolio/united-states-population-density/#:~:text=New%20York%20City%2 0is%20the,10%20least%20populated%20US%20states.
- 85. "Most Rural Counties in New York," *Stacker*, July 2022, https://stacker.com/new-york/most-rural-counties-new-york.
- Mireya Vilar-Compte et al., "Urban Poverty and Nutrition Challenges Associated with Accessibility to a Healthy Diet: A Global Systematic Literature Review," *International Journal for Equity in Health* 20, no. 40 (2021), https://doi.org/10.1186/s12939-020-01330-0.
- 87. "Urban Malnutrition: The Solution Must Start With the Cities' Poorest," *SNV*, January 2018, https://www.snv.org/update/urban-malnutrition-solution-must-start-cities-poorest.
- 88. Mireya Vilar-Compte et al., "Urban Poverty and Nutrition Challenges Associated with Accessibility to a Healthy Diet: A Global Systematic Literature Review," *International Journal for Equity in Health* 20, no. 40 (2021), https://doi.org/10.1186/s12939-020-01330-0.
- 89. Ilya Rahkovsky, Young Jo, and Andrea Carlson, "What Drives Consumers to Purchase Convenience Foods?" *US Department of Agriculture*, July 2018,

https://www.usda.gov/media/blog/2018/07/24/what-drives-consumers-purchase-convenience-food s.

- **90.** "How Far Does Your Food Travel to Get to Your Plate?" *Foodwise,* accessed February 2024, https://foodwise.org/learn/how-far-does-your-food-travel-to-get-to-your-plate/
- 91. Ilya Rahkovsky, Young Jo, and Andrea Carlson, "What Drives Consumers to Purchase Convenience Foods?" US Department of Agriculture, July 2018, https://www.usda.gov/media/blog/2018/07/24/what-drives-consumers-purchase-convenience-food s.
- 92. Mireya Vilar-Compte et al., "Urban Poverty and Nutrition Challenges Associated with Accessibility to a Healthy Diet: A Global Systematic Literature Review," *International Journal for Equity in Health* 20, no. 40 (2021), https://doi.org/10.1186/s12939-020-01330-0.
- 93. Ilya Rahkovsky, Young Jo, and Andrea Carlson, "What Drives Consumers to Purchase Convenience Foods?" US Department of Agriculture, July 2018, https://www.usda.gov/media/blog/2018/07/24/what-drives-consumers-purchase-convenience-food s.
- 94. Roberto A. Ferdman, "The Cities Where People Work the Most in the United States," The Washington Post, March 2015, https://www.washingtoppost.com/news/work/wp/2015/03/19/the cities where people work the

https://www.washingtonpost.com/news/wonk/wp/2015/03/19/the-cities-where-people-work-the-mo st-in-the-united-states/.

- 95. "Average Weekly Working Hours US 2023," Statista, November 2023, https://www.statista.com/statistics/215643/average-weekly-working-hours-of-all-employees-in-theus-by-month/.
- 96. Carmen Byker Shanks et al., "Food Insecurity in the Rural United States: An Examination of Struggles and Coping Mechanisms to Feed a Family among Households with a Low-Income," *Nutrients* 14, no. 24 (2022): 5250, https://doi.org/10.3390/nu14245250.
- Ilya Rahkovsky, Young Jo, and Andrea Carlson, "What Drives Consumers to Purchase Convenience Foods?" US Department of Agriculture, July 2018, https://www.usda.gov/media/blog/2018/07/24/what-drives-consumers-purchase-convenience-food s.
- 98. Robert Clarke and Sarah Lewington, "Trans Fatty Acids and Coronary Heart Disease," *BMJ Clinical Research Ed.* 333, no. 7561 (2006): 214, https://doi.org/10.1136/bmj.333.7561.214.
- **99.** Dariush Mozaffarian et al., "Role of Government Policy in Nutrition—Barriers to and Opportunities for Healthier Eating," *BMJ 2018* June 13, no. 361 (2018): http://doi.org/10.1136/bmj.k2426.
- 100. Ibid.
- 101. Ibid.
- 102. Ibid.
- **103.** Babak Ravandi et al., "GroceryDB: Prevalence of Processed Food in Grocery Stores," *MedRxiv,* April 2022, https://doi.org/10.1101/2022.04.23.22274217.
- **104.** Kelsi Trinidad, "History of the Supermarket Industry in America," *Stacker*, March 2020, https://stacker.com/business-economy/history-supermarket-industry-america.
- 105. "Global Food Processing Market Size By Type (Depositors, Extruding Machines, Mixers), By Application (Beverages, Dairy, Meat & Poultry, Bakery), By Geographic Scope And Forecast," *Verified Market Ressearch*, February 2023, https://www.weifiedmanule.texposer.texpos

https://www.verifiedmarketresearch.com/product/food-processing-market/.

106. Kathleen Kassel and Anikka Martin, "Ag and Food Sectors and the Economy," US Department of Agriculture Economic Research Service, February 2024, https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-foo d-sectors-and-the-economy/?topicId=b7a1aba0-7059-4feb-a84c-b2fd1f0db6a3.

- 107. "PLoS Medicine Series on Big Food: The Food Industry is Ripe for Scrutiny." PLoS Medicine 9, no. 6 (2012): e1001246, https://doi.org/10.1371/journal.pmed.1001246.
- **108.** "Database Indicates U.S. Food Supply Is 73 Percent Ultra-Processed," *Foodtank,* accessed February 2024,

https://foodtank.com/news/2022/11/database-indicates-u-s-food-supply-is-73-percent-ultra-proces sed/#:~:text=Recent%20research%20from%20Northeastern%20University's,products%20and%2 0find%20healthier%20alternatives.

109. "Global Food Processing Market Size By Type (Depositors, Extruding Machines, Mixers), By Application (Beverages, Dairy, Meat & Poultry, Bakery), By Geographic Scope And Forecast," *Verified Market Ressearch*, February 2023,

https://www.verifiedmarketresearch.com/product/food-processing-market/.

- **110.** Marta Tristan Asensi et al., "Low-Grade Inflammation and Ultra-Processed Foods Consumption: A Review," *Nutrients*, 15, no. 6 (2023): 1546, https://doi.org/10.3390/nu15061546.
- 111. Sarah McKay, This Is Your Brain on Junk Food (According to a Neuroscientist, Part 6), *Dr. Sarah McKay*, May 2015,

https://drsarahmckay.com/this-is-your-brain-on-junk-food-according-to-a-neuroscientist-part-6/.

- 112. "NIH Study Finds Heavily Processed Foods Cause Overeating and Weight Gain," National Institute of Health, May 2019, https://www.nih.gov/news-events/news-releases/nih-study-finds-heavily-processed-foods-cause-o
 - vereating-weight-gain.
- 113. Ibid.
- 114. Yin Zhang and Edward L. Giovannucci, "Ultra-Processed Foods and Health: A Comprehensive Review," *Critical Reviews in Food Science and Nutrition* 63, no. 31 (2022): 10836–10848, https://doi.org/10.1080/10408398.2022.2084359.
- **115.** Hyunju Kim, Emily A Hu and Casey M Rebholz, "Ultra-Processed Food Intake and Mortality in the USA: Results from the Third National Health and Nutrition Examination Survey (NHANES III, 1988–1994)," *Public Health Nutrition* 22, no. 10 (2019): 1777–1785, https://doi.org/10.1017/S1368980018003890.
- 116. Daniela Neri et al., "Associations Between Ultra-processed Foods Consumption and Indicators of Adiposity in US Adolescents: Cross-Sectional Analysis of the 2011-2016 National Health and Nutrition Examination Survey," *Journal of the Academy of Nutrition and Dietetics* 122, no. 8 (2022): 1474–1487, https://doi.org/10.1016/j.jand.2022.01.005.
- 117. C. S. Costa et al., "Ultra-Processed Food Consumption and its Effects on Anthropometric and Glucose Profile: A Longitudinal Study During Childhood," *Nutrition, Metabolism and Cardiovascular Diseases* 29, no. 2 (2019): 177–184, https://doi.org/10.1016/j.numecd.2018.11.003.
- **118.** K. Megari, "Quality of Life in Chronic Disease Patients," *Health Psychology Research* 1, no. 3 (2013): e27, https://doi.org/10.4081/hpr.2013.e27.
- 119. Kevin D. Hall, "From Dearth to Excess: The Rise of Obesity in an Ultra-Processed Food System," *Philosophical Transactions of the Royal Society B: Biological Sciences* 378, no. 1885 (2023): 1–6. doi:10.1098/rstb.2022.0214.
- 120. J. Fuhrman, "The Hidden Dangers of Fast and Processed Food," American Journal of Lifestyle Medicine 12, no. 5 (2018): 375–381, https://doi.org/10.1177/1559827618766483.
- **121.** "Insulin Resistance," *Cleveland Clinic,* accessed February 2024, https://my.clevelandclinic.org/health/diseases/22206-insulin-resistance.
- 122. Shruti Bhargava et al., "Lipids and Lipoproteins in Cardiovascular Diseases: A Classification," *Trends in Endocrinology and Metabolism* 33, no. 6 (March 2022): 409–423, https://doi.org/10.1016/j.tem.2022.02.001.

https://www.cell.com/trends/endocrinology-metabolism/fulltext/S1043-2760%2822%2900021-2#:~ :text=Lipids%20and%20lipoproteins%2C%20their%20metabolism,in%20plaque%20formation%2 0and%20inflammation.

- 123. Ibid.
- 124. J. Fuhrman, "The Hidden Dangers of Fast and Processed Food," *American Journal of Lifestyle Medicine* 12, no. 5 (2018): 375–381, https://doi.org/10.1177/1559827618766483.
- 125. Institute of Medicine (US) Committee on Diet and Health, Chapter 5, Calories, Energy Balance, And Chronic Diseases in *Eat for Life: The Food and Nutrition Board's Guide to Reducing Your Risk of Chronic Disease*, ed. Woteki CE, Thomas PR (Washington, DC: National Academies Press (US), 1992), https://www.ncbi.nlm.nih.gov/books/NBK235013/.
- **126.** E. Vissers, J. Wellens, and J. Sabino, "Ultra-Processed Foods as a Possible Culprit for the Rising Prevalence of Inflammatory Bowel Diseases," *Frontiers in Medicine* 9 (2022): 1058373, https://doi.org/10.3389/fmed.2022.1058373.
- **127.** Megan Dix and Erika Klein, "Signs of an Unhealthy Gut and What to Do About It," *Healthline,* January 2024, https://www.healthline.com/health/gut-health#signs-of-an-unhealthy-gut.
- **128.** "Mental Health Disorder Statistics," *John Hopkins Medicine*, accessed February 2024, https://www.hopkinsmedicine.org/health/wellness-and-prevention/mental-health-disorder-statistics
- **129.** "Mental Health," *World Health Organization,* accessed February 2024, https://www.who.int/health-topics/mental-health#tab=tab_2.
- 130. Seyadeh Narges Mazloomi et al., "The Association of Ultra-Processed Food Consumption with Adult Mental Health Disorders: A Systematic Review and Dose-Response Meta-Analysis of 260,385 Participants," *Nutritional Neuroscience* 26, no. 10 (2022): 913–31, https://doi.org/10.1080/1028415X.2022.2110188.
- 131. Ibid.
- 132. Ibid.
- 133. D. Głąbska et al., "Fruit and Vegetable Intake and Mental Health in Adults: A Systematic Review," *Nutrients* 12, no. 1 (2020): 115, https://doi.org/10.3390/nu12010115.
- 134. Melissa M. Lane et al., "High Ultra-Processed Food Consumption is Associated with Elevated Psychological Distress as an Indicator of Depression in Adults from the Melbourne Collaborative Cohort Study," *Journal of Affective Disorders* 335 (2023): 57–66, https://doi.org/10.1016/j.jad.2023.04.124.
- **135.** Maria Laura da Costa Louzada et al., "Impact of Ultra-Processed Foods on Micronutrient Content in the Brazilian Diet," *Rev Saude Publica* 49 (2015), https://doi.org/10.1590/S0034-8910.2015049006211.
- **136.** Jess Thompson, "Scientosts Link Ultraprocessed Foods to Depression," *Newsweek,* September 20, 2023,

https://www.newsweek.com/ultraprocessed-food-linked-depression-scientists-1828461#:~:text=S o%20one%20simple%20explanation%20is,an%20increased%20risk%20of%20depression.%22.

- 137. "The Microbiome," *School of Public Health,* Harvard, accessed February 2024, https://www.hsph.harvard.edu/nutritionsource/microbiome/.
- **138.** J. Appleton, "The Gut-Brain Axis: Influence of Microbiota on Mood and Mental Health," *Integrative Medicine* 17 no. 4 (2018): 28–32, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6469458/.
- **139.** "Serotonin," *Cleveland Clinic*, accessed February 2024, https://my.clevelandclinic.org/health/articles/22572-serotonin.
- 140. Oren Contreras-Rodriguez et al., "Consumption of Ultra-Processed Foods Is Associated with Depression, Mesocorticolimbic Volume, and Inflammation," *Journal of Affective Disorders* 335 (August 2023): 340–48, https://doi.org/10.1016/j.jad.2023.05.009.

- 141. N. Yuan et al., "Inflammation-Related Biomarkers in Major Psychiatric Disorders: A Cross-Disorder Assessment of Reproducibility and Specificity in 43 Meta-Analyses," *Translational Psychiatry* 9, no. 233 (2019), https://doi.org/10.1038/s41398-019-0570-y.
- 142. Ning Yuan et al., "Inflammation-Related Biomarkers in Major Psychiatric Disorders: A Cross-Disorder Assessment of Reproducibility and Specificity in 43 Meta-Analyses," *Translational Psychiatry* 9, no. 233 (2019), https://www.nature.com/articles/s41398-019-0570-y
- 143. G. Th. Kroyer, "Impact of Food Processing on the Environment—An Overview," *LWT-Food Science and Technology* 28, no. 6 (1995): 547–552, https://doi.org/10.1016/0023-6438(95)90000-4.
- 144. "Unsustainable Agriculture," *CELDF,* accessed February 27, 2024, https://celdf.org/unsustainable-agriculture/.
- 145. Ibid.
- **146.** Fernanda Helena Marrocos Leite et al., "Ultra-Processed Foods Should Be Central to Global Food Systems Dialogue and Action on Biodiversity," *BMJ Global Health* 7, no. 3 (2022): e008269, https://doi.org/10.1136/bmjgh-2021-008269.
- 147. "Unsustainable Agriculture," *CELDF,* accessed February 27, 2024, https://celdf.org/unsustainable-agriculture/.
- **148.** Fernanda Helena Marrocos Leite et al., "Ultra-Processed Foods Should Be Central to Global Food Systems Dialogue and Action on Biodiversity," *BMJ Global Health* 7, no. 3 (2022): e008269, https://doi.org/10.1136/bmjgh-2021-008269.
- 149. Water Use in Livestock Production Systems and Supply Chains (Rome, Italy: Food and Agriculture Organization of the United Nations, 2019), https://www.fao.org/3/ca6649en/ca6649en.pdf.
- **150.** *Livestock Landscapes* (Food and Agriculture Organization of the United Nations, 2019), https://www.fao.org/3/ar591e/ar591e.pdf
- **151.** "Livestock and Landscapes," (Food and Agriculture Organization of the United Nations, 2012), https://www.fao.org/3/ar591e/ar591e.pdf.
- 152. Ibid.
- 153. "High-Yield Crops," Plant Life, accessed February 2024, https://lifeofplant.blogspot.com/2011/03/high-yield-crops.html#:~:text=The%20major%20high%2D yielding%20crops,yielding%20plants%20in%20the%20world.
- **154.** Colin K. Khuory, "Crop Genetic Erosion: Understanding and Responding to Loss of Crop Diversity," *New Phytologist* 233, no. 1 (2021): 84–118, https://doi.org/10.1111/nph.17733.
- **155.** "Chestnut Blight," *Forest Pathology,* February 2024, https://forestpathology.org/canker/chestnut-blight/.
- **156.** Björn Ólafsson, "What Monoculture Farming Is, and Why It Matters," *Sentient,* September 2023, https://sentientmedia.org/monoculture/#:~:text=Pests%2C%20insects%20and%20diseases%20c an,rely%20heavily%20on%20synthetic%20pesticides.
- **157.** Irene Hoffmann, "Declining Biodiversity Threatens Food Security," *Welt Hunger Hilfe,* May 2021, https://www.welthungerhilfe.org/news/latest-articles/2021/the-loss-of-biodiversity-threatens-worldfood-security.
- 158. K. Anastasiou et al., "A Conceptual Framework for Understanding the Environmental Impacts of Ultra-Processed Foods and Implications for Sustainable Food Systems," *Journal of Cleaner Production* 368 (2022): 133155, https://doi.org/10.1016/j.jclepro.2022.133155.
- **159.** "Overview of Greenhouse Gases," *EPA,* February 2024, https://www.epa.gov/ghgemissions/overview-greenhouse-gases.
- **160.** "Food systems account for over one-third of global greenhouse gas emissions," *UN News,* March 2021, https://news.un.org/en/story/2021/03/1086822.

161. Hannah Ritchie, Pablo Rosado and Max Roser, "Environmental Impacts of Food Production," Our World in Data, 2022, https://www.science.com/actions.com/actio

https://ourworldindata.org/environmental-impacts-of-food#:~:text=Food%20systems%20are%20r esponsible%20for,of%20global%20greenhouse%20gas%20emissions.

- 162. Environmental Effects of the U.S. Food System in A Framework for Assessing Effects of the Food System, ed. Nesheim MC, Oria M, and Yih PT (Washington, DC: National Academies Press (US), June 2015), https://www.ncbi.nlm.nih.gov/books/NBK305182/.
- **163.** Courtney Lindwall, "Industrial Agricultural Pollution 101," *NRDC*, July 2022, https://www.nrdc.org/stories/industrial-agricultural-pollution-101#crop.
- **164.** Dariush Mozaffarian et al., "Role of Government Policy in Nutrition—Barriers to and Opportunities for Healthier Eating," *BMJ* 13, no. 361 (June 2018), https://doi.org/10.1136/bmj.k2426.
- 165. Ibid.
- 166. Ibid.
- 167. Ibid.
- 168. B. M. Popkin et al., "Towards Unified and Impactful Policies to Reduce Ultra-Processed Food Consumption and Promote Healthier Eating," *Personal View* 9, no. 7 (2021): 462–470, https://doi.org/10.1016/S2213-8587(21)00078-4.
- 169. Ibid.
- **170.** Dariush Mozaffarian et al., "Role of Government Policy in Nutrition—Barriers to and Opportunities for Healthier Eating," *BMJ* 13, no. 361 (June 2018), https://doi.org/10.1136/bmj.k2426.
- 171. Shauna M Downs, Anne Marie Thow, and Stephen R Leeder, "The Effectiveness of Policies for Reducing Dietary Trans Fat: A Systematic Review of the Evidence," *Bulletin of the World Health Organization* 91, no. 4 (2013): 262–9H, https://doi.org/10.2471/BLT.12.111468.
- 172. Ibid.
- 173. Matthew J Albers et al., "2006 Marketplace Survey of Trans-Fatty Acid Content of Margarines and Butters, Cookies and Snack Cakes, and Savory Snacks," *Journal of the American Diet Association* 108, no. 2 (2008): 367–70, https://doi.org/10.1016/j.jada.2007.10.045.
- 174. Patrick Carroll, "Why These Popular Chocolate Easter Eggs Are Banned in the US, despite Being Legal Almost Everywhere Else," *Fee Stories*, March 2023, https://fee.org/articles/why-these-popular-chocolate-easter-eggs-are-banned-in-the-us-despite-bei ng-legal-almost-everywhere-else/#:~:text=Kinder%20Surprise%20eggs%20are%20banned,illegal %20to%20import%20and%20sell.
- **175.** "CPSC Warns of Banned 'Kinder Chocolate Eggs' Containing Toys Which Can Pose Choking, Aspiration Hazards to Young Children," *United States Consumer Product Safety Commission,* April 2006,

https://www.cpsc.gov/Newsroom/News-Releases/2006/CPSC-Warns-of-Banned-Kinder-Chocolat e-Eggs-Containing-Toys-Which-Can-Pose-Choking-Aspiration-Hazards-to-Young-Children#:~:text =In%20August%201997%2C%20CPSC%20conducted,than%203%20years%20of%20age.

- **176.** "Sassafras Purported Benefits, Side Effects & More," *Memorial Sloan Kettering Cancer Center,* June 2023, https://www.mskcc.org/cancer-care/integrative-medicine/herbs/sassafras.
- 177. Claudia Lee, "How Does Lobbying Impact our Food and Agricultural Policies?" *Foodunfolded,* July 2023

https://www.foodunfolded.com/article/how-does-lobbying-impact-our-food-and-agricultural-policies

- **178.** Markham Heid "Experts Say Lobbying Skewed the U.S. Dietary Guidelines," *Time,* January 2016, https://time.com/4130043/lobbying-politics-dietary-guidelines/.
- 179. Megha Kaveri, "Many Ways for Governments to Improve 'Deeply Unhealthy' Food Environment," *Health Policy Watch Independent Global Health Reporting,* October 2022, https://healthpolicy-watch.news/many-ways-for-governments-to-improve-deeply-unhealthy-food-e nvironment/