

Notes and Data Sources

Chapter 1

Page 3 Data on climate change due to human activity is from “Public and scientists’ views on science and society,” Pew Research Center report by Cary Funk and Lee Rainie, January 29, 2015; available online at <https://www.pewresearch.org/science/2015/01/29/chapter-3-attitudes-and-beliefs-on-science-and-technology-topics/>.

This survey contains data on the opinions about several other issues of U.S. adults and AAAS scientists.

Page 3 The MLive.com poll is described in the article “Take our online poll: Should Michigan legalize marijuana”; available online at http://www.mlive.com/news/kalamazoo/index.ssf/2014/02/take_our_poll_should_michigan.html.

Page 5 Example 1 is suggested by Maxine Pfannkuch and Chris J. Wild, “Statistical thinking and statistical practice: themes gleaned from professional statisticians,” unpublished manuscript, 1998.

Page 7 Example 3: M. S. Linet et al., “Residential exposure to magnetic fields and acute lymphoblastic leukemia in children,” *New England Journal of Medicine*, 337 (1997), pp. 1–7. For recent research articles, see K. J. Bunch et al., “Residential distance at birth from overhead high-voltage powerlines: Childhood cancer risk in Britain 1962–2008,” *British Journal of Cancer*, 110 (2014), pp. 1402–1408, and “Childhood leukaemia and distance from power lines in California: A population-based case-control study,” *British Journal of Cancer*, 115 (2016), pp. 122–126.

Page 10 Exercise 1.1: From “About six-in-ten Americans support marijuana legalization”; available online at <http://www.pewresearch.org/fact-tank/2018/01/05/americans-support-marijuana-legalization/>.

Page 11 The estimates of the census overcount and undercount are available online at http://www.census.gov/newsroom/releases/archives/2010_census/cb12-95.html.

Page 15 Exercise 1.3: This problem is based on information in the article, “The racial confidence gap in police performance”; available online at <http://www.pewsocialtrends.org/2016/09/29/the-racial-confidence-gap-in-police-performance/>.

Page 15 Exercise 1.5: Richard Westfall, Murray Millar, and Mandy Walsh, “Effects of instructor attractiveness on learning,” *Journal of General Psychology*, 143 (2016), pp. 161–171.

Page 17 Exercise 1.12: Jeffrey M. Jones, “U.S. death penalty support lowest since 1972,” *Gallup News Service*, October 26, 2017; available online at <https://news.gallup.com/poll/221030/death-penalty-support-lowest-1972.aspx>.

Page 17 Exercise 1.14(c): The website for the American Community Survey is www.census.gov/acs/.

Page 18 Exercise 1.16: Valerie Strauss, “Schools waking up to teens’ unique sleep needs,” *Washington Post*, January 10, 2006, p. A08.

Page 18 Exercise 1.19: This problem is based on information in the article, L. C. Tapsell et al., “Including walnuts in a low-fat/modified-fat diet improves HDL cholesterol-to-total

cholesterol ratios in patients with type 2 diabetes," *Diabetes Care*, 27 (2004), pp. 2777–2783.

Page 18 Exercise 1.20: Joe Dziemianowicz, "Study: For those over 90, alcohol better than exercise for longevity," *Chicago Tribune*, February 20, 2018; available online at <http://www.chicagotribune.com/lifestyles/health/ct-drinking-alcohol-living-past-90-20180220-story.html>.

Page 19 Exercise 1.21: Karen Kaplan, "Bullying seen at root of may adults' woes," *Columbus Dispatch*, June 4, 2015, p. A6.

Chapter 2

Page 21 Case Study. The MLive.com poll is described in the article "Take our online poll: Should Michigan legalize marijuana"; available online at www.mlive.com/news/kalamazoo/index.ssf/2014/02/take_our_poll_should_michigan.html.

Page 22 "Acadian ambulance officials, workers flood call-in poll," *Baton Rouge Advocate*, January 22, 1999.

Page 29 Example 5: "Record-high 75% of Americans say immigration is a good thing," Gallup News Service press release by Megan Brenan, June 21, 2018; available online at <https://news.gallup.com/poll/235793/record-high-americans-say-immigration-good-thing.aspx>.

Page 31 Exercise 2.4: Google uses this method for conducting online polls.

Page 32 Exercise 2.9: The link to the *Green Car Reports* poll results is https://www.greencarreports.com/news/1118090_which-modern-electric-car-will-be-the-first-classic-twitter-poll-results.

The article in *Green Car Reports* goes on to state that the "poll got a healthy number of responses, almost reaching 500. As always though, remember that our Twitter polls are not scientific, because of their small sample size and because our respondents are self selected."

Page 32 Exercise 2.10: The link to the *Washington Examiner* story is [www.washingtonexaminer](http://www.washingtonexaminer.com/news/two-thirds-of-people-dont-want-hillary-clinton-to-run-for-president-one-last-time-poll)

[.com/news/two-thirds-of-people-dont-want-hillary-clinton-to-run-for-president-one-last-time-poll](http://www.washingtonexaminer.com/news/two-thirds-of-people-dont-want-hillary-clinton-to-run-for-president-one-last-time-poll).

Page 32 Exercise 2.11 : The link to the story about the poll by the *Drudge Report* is <http://thehill.com/homenews/administration/379025-drudge-poll-three-quarters-say-trump-should-fire-mueller>.

Page 33 Exercise 2.14: "Clarification," *San Francisco Bay Times*, November 15, 2005.

Chapter 3

Page 37 The Gallup Organization, "In U.S., percentage saying vaccines are vital dips slightly"; available online at www.gallup.com. Also see www.immunize.org/laws/exemptions.pdf.

Page 44 The Gallup Organization, "More in U.S. say drug abuse has caused family trouble"; available online at <https://news.gallup.com/poll/238184/say-drug-abuse-caused-family-trouble.aspx>.

Page 46 Example 6: This example comes from results posted at the website <http://www.surveyusa.com/PollHistory.aspx?d=2016,10>.

Page 51 Exercise 3.6: This exercise comes from results posted at the website <http://www.uofmhealth.org/news/archive/201506/powdered-alcohol>.

Page 51 Exercise 3.7: This exercise comes from results posted at the website <https://www.pewinternet.org/2013/12/11/libraries-in-communities/>.

Page 51 Exercise 3.8: News releases about unemployment can be found online at www.bls.gov.

Page 51 Exercise 3.9: Information about Brexit polls came from the websites <https://www.independent.co.uk/news/uk/politics/eu-referendum-poll-brexit-remain-vote-leave-live-latest-who-will-win-results-populus-a7097261.html>; <https://www.ipsos.com/sites/default/files/migrations/en-uk/files/Assets/Docs/Polls/eu>

- referendum-charts-23-june-2016.pdf; https://www.populus.co.uk/wp-content/uploads/2016/06/EU_Pre_Referendum_Online_Public.pdf.
- Page 51** Exercise 3.10: The Gallup Organization, “Record-high 42% of Americans identify as Independents”; available online at <https://news.gallup.com/poll/166763/record-high-americans-identify-independents.aspx>.
- Page 52** Exercise 3.11: This exercise comes from results posted at the website <https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf>.
- Page 53** Exercise 3.15: Warren McIsaac and Vivek Goel, “Is access to physician services in Ontario equitable?,” Institute for Clinical Evaluative Sciences in Ontario, October 18, 1993.
- Page 53** Exercise 3.16: The Gallup Organization, “Americans Want Government to Do More on Environment”; available online at <https://news.gallup.com/poll/232007/americans-want-government-more-environment.aspx>.
- Page 54** Exercise 3.19: The Gallup Organization, “U.S. healthcare quality ratings among lowest since ‘12”; available online at <https://news.gallup.com/poll/222992/personal-national-healthcare-quality-high-marks.aspx>.
- Page 54** Exercise 3.21: This exercise comes from results posted at the website <https://www.smh.com.au/politics/nsw/nsw-mp-sets-up-facebook-poll-to-determine-abortion-policy-vote-20180606-p4zjru.html>.
- Page 55** Exercise 3.25: The Gallup Organization, “Record-high 75% of Americans say immigration is good thing”; available online at <https://news.gallup.com/poll/235793/record-high-americans-say-immigration-good-thing.aspx>.
- Page 56** Exercise 3.27: This exercise comes from results posted at the website <https://collegereadiness.collegeboard.org/pdf/sat-percentile-ranks-gender-race-ethnicity.pdf>.
- Page 56** Exercise 3.28: The Gallup Organization, “U.S. death penalty support lowest since 1972”; available online at <https://news.gallup.com/poll/221030/death-penalty-support-lowest-1972.aspx>.
- Page 56** Exercise 3.32: The Pew Research Center, “When americans say they believe in God, what do they mean?”; available online at <http://www.pewforum.org/2018/04/25/when-americans-say-they-believe-in-god-what-do-they-mean/>.
- Page 56** Exercise 3.33: This exercise comes from results posted at the websites <http://thehill.com/homenews/news/385018-poll-support-for-legal-marijuana-hits-all-time-high>; <https://poll.qu.edu/national/release-detail?ReleaseID=2539>.
- Page 57** Exercise 3.38: See <https://theharrispoll.com/facebook-users-are-having-a-hard-time-detoxing-from-their-feeds/>.
- Page 57** Exercise 3.39: This exercise comes from results posted at the websites <https://www.politico.com/interactives/2018/school-shooting-poll>; <https://www.politico.com/f/?id=00000163-8a21-dbc0-a56b-ae167c10001>.

Chapter 4

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- Page 59** The data in the Case Study are from Andrew Kohut, Scott Keeter, Carroll Doherty, Michael Dimock, and Leah Christian, “Assessing the representativeness of public opinion surveys,” Pew Research Center for the People and the Press, 2012; available online at www.people-press.org/2012/05/15/assessing-the-representativeness-of-public-opinion-surveys/. A 2017 study by the Pew Research Center suggests that similar results held in 2017; see <http://www.pewresearch.org/2017/05/15/what-low-response-rates-mean-for-telephone-surveys/>.
- Page 63** For more detail on the limits of memory in surveys, see N. M. Bradburn, L. J. Rips, and S. K. Shevell, “Answering autobiographical questions: The impact of memory and

- inference on surveys," *Science*, 236 (1987), pp. 157–161.
- Page 63** Example 3: For more on the effect of race, see Gregory Flemming and Kimberly Parker, "Race and reluctant respondents: Possible consequences of non-response for pre-election surveys," Pew Research Center for the People and the Press, 1997; available online at www.people-press.org. For concerns about the Bradley effect in the 2008 presidential election, go to www.politico.com/news/stories/0508/10397.html and www.nytimes.com/2008/10/12/weekinreview/12zernike.html; www.washingtonpost.com/news/monkey-cage/wp/2016/11/22/peoples-views-about-race-mattered-more-in-electing-trump-than-in-electing-obama/?utm_term=.738ceaed0039; www.washingtonpost.com/news/monkey-cage/wp/2016/03/03/how-political-science-helps-explain-the-rise-of-trump-the-role-of-white-identity-and-grievances/?utm_term=.ec4b00e8c07c; www.prii.org/research/poll-1950s-2050-divided-nations-direction-post-election/.
- Page 63** For more detail on nonsampling errors, along with references, see P. E. Converse and M. W. Traugott, "Assessing the accuracy of polls and surveys," *Science*, 234 (1986), pp. 1094–1098.
- Page 64** Example 4: For information about the response rates for the American Community Survey of households (there is a separate sample of group quarters), go to <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/response-rates/>. See also Aaron Smith and Monica Anderson's "Social media update 2018," (2018). The Pew press release and the full report can be found at http://assets.pewresearch.org/wp-content/uploads/sites/14/2018/03/01105133/PI_2018.03.01_Social-Media_FINAL.pdf.
- Page 66** Example 5: This example comes from a report "Polling when public attention is limited: Different questions, different results," at <http://www.pewresearch.org/fact-tank/2013/05/22/polling-when-public-attention-is-limited-different-questions-different-results/>.
- Page 67** Example 6: The questions are from a Gallup Poll, April 2–11, 2018; available online at <https://news.gallup.com/poll/232361/less-half-say-taxes-high.aspx>.
- Page 68** The quotation on weighting is from Adam Clymer and Janet Elder, "Poll finds greater confidence in Democrats," *New York Times*, November 10, 1999.
- Page 68** Example 7: The most recent account of the design of the CPS is the "Labor force statistics from the current population survey"; available online at www.bls.gov/cps/cps_over.htm#methodology. An update can be found at https://www.bls.gov/cps/sample_redesign_2014.pdf.
The account in Example 7 omits many complications, such as the need to separately sample "group quarters" like college dormitories.
- Page 72** A detailed description of the methods Gallup uses in its World Poll can be found online at <https://news.gallup.com/poll/105226/world-poll-methodology.aspx>.
A detailed description of the methods Gallup uses in its Well-Being Index can be found online at www.well-beingindex.com/methodology.asp. See <https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201712.pdf> for information on cell only households.
- Page 72** For more information on Web surveys, see the special issue for Web surveys by *Public Opinion Quarterly* at <http://poq.oxfordjournals.org/content/72/5.toc>.
- Page 73** Example 10: Rachel Sherman and John Hickner, "Academic physicians use placebos in clinical practice and believe in the mind-body connection," *Journal of General Internal Medicine*, 23 (2008), pp. 7–10.
- Page 79** Exercise 4.10: See "Football Still Americans' Favorite Sport to Watch"; available online at <https://news.gallup.com/poll/224864/football-americans-favorite-sport-watch.aspx>.

- Page 79** Exercise 4.11: See “U.S. Workers’ Fears of Job Loss Rise Slightly”; available online at <https://news.gallup.com/poll/232160/workers-fears-job-loss-rise-slightly.aspx>.
- Page 79** Exercise 4.12: Details of the survey can be found online at www.collegeparents.org/files/2007-Current-Parent-Survey-Summary.pdf.
- Page 80** Exercise 4.14: Giuliana Coccia, “An overview of non-response in Italian telephone surveys,” *Proceedings of the 99th Session of the International Statistical Institute, 1993*, Book 3, pp. 271–272.
- Page 80** Exercise 4.15: The first question is from an CBS News/*New York Times* Poll, April 30 May 3, 2015. The second question is from a *USA Today*/Gallup Poll, March 5–8, 2015.
- Page 80** Exercise 4.16: The first question is from an CBS News/*New York Times* Poll, December 4–8, 2009. The second question is from a *USA Today*/Gallup Poll, December 11–13, 2009.
- Page 80** Exercise 4.18: The questions are from a Quinnipiac University Poll, April 20–24, 2018; available online at <http://www.pollingreport.com/drugs.htm>.
- Page 81** Exercise 4.21: The results come from “Poll: 64 percent of Americans say racism remains a major problem,” NBC News, May 29, 2018; available online at <https://www.nbcnews.com/politics/politics-news/poll-64-percent-americans-say-racism-remains-major-problem-n877536> with more details at http://media1.s-nbcnews.com/i/today/z_creative/NBCNewsSurveyMonkey%20PollToplines_Methodology5.29.pdf.
- Page 81** Exercise 4.22: The results come from “Millennial poll: 42 percent know someone who has dealt with opioid addiction,” NBC News, June 15, 2018; available online at <https://www.nbcnews.com/politics/politics-news/millennial-poll-42-percent-know-someone-who-has-dealt-opioid-n883366> with more details at <http://genforwardsurvey.com/assets/uploads/2016/12/NBC-GenForward-June-2018-Toplines.pdf>.
- Page 82** Exercise 4.24: D. Goleman, “Pollsters enlist psychologists in quest for unbiased results,” *New York Times*, September 7, 1993.
- Page 83** Exercise 4.32: From the online “Supplementary Material” for G. Gaskell et al., “Worlds apart? The reception of genetically modified foods in Europe and the U.S.,” *Science*, 285 (1999), pp. 384–387.
- Page 84** Exercise 4.39: All questions are from a Quinnipiac University Poll conducted April 6–9, 2018; available online at <http://www.pollingreport.com/crime.htm>.
- Page 85** What’s the verdict: Savin-Williams, R.C. and Joyner, K., “The dubious assessment of gay, lesbian, and bisexual adolescents of add health,” *Arch Sex Behav*, 43 (2014); available online at doi.org/10.1007/s10508-013-0219-5. Also summarized in “Young ‘pranksters’ skewed landmark sexuality study,” *Science Daily*, January 14, 2014; available online at www.sciencedaily.com/releases/2014/01/140114130729.htm.

Chapter 5

- Page 87** Case Study: Steven Stack, “Learning outcomes in an online vs traditional course,” *International Journal for the Scholarship of Teaching and Learning*, 9 (2015); available online at <https://digitalcommons.georgiasouthern.edu/ij-sotl/vol9/iss1/5/>.
- Page 88** Example 1: Allan H. Schulman and Randi L. Sims, “Learning in an online format versus an in-class format: an experimental study,” *T.H.E. Journal*, June 1999, pp. 54–56.
- Page 88** Example 2: Charlene Y. Senn et al., “Efficacy of a sexual assault resistance program for university women,” *New England Journal of Medicine*, 372 (2015), pp. 2326–2335.
- Page 91** Example 3: David W. Dodick et al., “Effect of fremanezumab compared with placebo for prevention of episodic migraine,” *JAMA*, 319 (2018), pp. 1999–2008.

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- Page 92** Example 4: Samuel Charache et al., "Effects of hydroxyurea on the frequency of painful crises in sickle cell anemia," *New England Journal of Medicine*, 332 (1995), pp. 1317–1322.
- Page 93** H. Sacks, T. C. Chalmers, and H. Smith Jr., "Randomized versus historical controls for clinical trials," *American Journal of Medicine*, 72 (1982), pp. 233–240.
- Page 98** Example 6: Lucy Bowes et al., "Peer victimisation during adolescence and its impact on depression in early adulthood: Prospective cohort study in the United Kingdom," *BMJ*, 350 (2015), h2469.
- Page 99** Example 7: Dr. Daniel B. Mark, in Associated Press, "Age, not bias, may explain differences in treatment," *New York Times*, April 26, 1994. Dr. Mark was commenting on Daniel B. Mark et al., "Absence of sex bias in the referral of patients for cardiac catheterization," *New England Journal of Medicine*, 330 (1994), pp. 1101–1106. See the correspondence from D. Douglas Miller and Leslee Shaw, "Sex bias in the care of patients with cardiovascular disease," *New England Journal of Medicine*, 331 (1994), p. 883, for comments on a study with opposing results.
- Page 102** Exercise 5.2: Laura E. Wallace et al., "Does religious affiliation stave off the grave? Religious affiliation in one's obituary and longevity," *Social Psychology and Personality Science*, 20 (2018), pp. 1–9.
- Page 103** Exercise 5.7: Chaelin K. Ra et al., "Association of digital media use with subsequent symptoms of Attention Deficit/Hyperactivity Disorder among adolescents," *JAMA*, 320 (2018), pp. 255–263.
- Page 103** Exercise 5.8: A. Swanson, "Study: Birth month might affect health," *Columbus Dispatch*, June 20, 2015.
- Page 103** Exercise 5.9: Kashmira Gander, "What is leaky gut syndrome? Marital spats may be bad for your gut health," online at www.newsweek.com/what-leaky-gut-syndrome-marital-spats-may-be-bad-your-gut-health-1079962.
- Page 103** Exercise 5.11: Information about the Physicians' Health Study is available online at <http://phs.bwh.harvard.edu/phs1.htm>.
- Page 104** Exercise 5.12: Pam A. Mueller and Daniel M. Oppenheimer, "The pen is mightier than the keyboard: Advantages of longhand over laptop note taking," *Psychological Science*, 25 (2014), pp. 1159–1168.
- Page 104** Exercise 5.16: G. Kolata, "New study finds vitamins are not cancer preventers," *New York Times*, July 21, 1994. For the details, look in the *Journal of the American Medical Association* for the same date.
- Page 105** Exercise 5.18: Julia Belluz, "Is one drink per day really unsafe? That new alcohol study explained," *Vox*, August 29, 2018. Online at www.vox.com/science-and-health/2018/8/29/17790118/alcohol-lancet-health-study. The research paper referred to in the article is Max G. Griswold et al., "Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016," *Lancet*, August 23, 2018, published online at [dx.doi.org/10.1016/S0140-6736\(18\)31310-2](https://doi.org/10.1016/S0140-6736(18)31310-2).
- Page 105** Exercise 5.19: Michael L. Lowe and Kelly L. Haws, *Journal of Marketing Research*, 54 (2017), pp. 331–346.
- Page 105** Exercise 5.20 is based on Christopher Anderson, "Measuring what works in health care," *Science*, 263 (1994), pp. 1080–1082.
- Page 106** Exercise 5.24: A. R. Paley, "Software's benefits on tests in doubt," *Washington Post*, April 5, 2007.
- Page 106** Exercise 5.25: This problem is based on an ongoing study, known as the COSMO study, conducted by the Brigham and Women's Hospital, an affiliate of Harvard Medical School (Boston, MA) and the Fred Hutchinson Cancer Research Center (Seattle, WA). You can find more information about the study online at <https://www.cosmostrial.org>.

Page 107 Exercise 5.29: Trine Madsen et al., “Association between traumatic brain injury and risk of suicide,” *JAMA*, 320 (2018), pp. 15–24 and 580–588.

Chapter 6

Page 112 Example 1: For the study on rats, see E. Street and M. B. Carroll, “Preliminary evaluation of a new food product,” in J. M. Tanur et al. (eds.), *Statistics: A Guide to the Unknown*, 3rd edition, Wadsworth, 1989, pp. 161–169. For the *Nature* paper, see Robert E. Sorge et al., “Olfactory exposure to males, including men, causes stress and related analgesia in rodents,” *Nature Methods*, 11 (2014), pp. 629–632.

Page 113 Example 2: The placebo effect examples are from Sandra Blakeslee, “Placebos prove so powerful even experts are surprised,” *New York Times*, October 13, 1998. The “three-quarters” estimate is cited by Martin Enserink, “Can the placebo be the cure?,” *Science*, 284 (1999), pp. 238–240. An extended treatment is Anne Harrington (ed.), *The Placebo Effect: An Interdisciplinary Exploration*, Harvard University Press, 1997. The pain study is discussed in Susan Scutti, “The real—and growing—effects of fake pills,” *CNN*, October 27, 2016. Online at www.cnn.com/2016/10/27/health/placebo-effect-back-pain/index.html.

Page 114 The flu trial quotation is from Kristin L. Nichol et al., “Effectiveness of live, attenuated intranasal influenza virus vaccine in healthy, working adults,” *Journal of the American Medical Association*, 282 (1999), pp. 137–144.

Page 114 Example 3: “Cancer clinical trials: Barriers to African American participation,” *Closing the Gap*, newsletter of the Office of Minority Health, December 1997–January 1998.

Page 115 Example 4: Michael H. Davidson et al., “Weight control and risk factor reduc-

tion in obese subjects treated for 2 years with orlistat: A randomized controlled trial,” *Journal of the American Medical Association*, 281 (1999), pp. 235–242.

Page 117 Example 6: Details of the Carolina Abecedarian Project, including 15–24 and references to published work, can be found online at <https://fpg.unc.edu/resources/sustaining-gains-early-childhood-intervention-abecedarian-program>.

Page 119 Example 8: This is a simpler version of an experiment described in Brian Wansik and Pierre Chandon, “Can ‘low-fat’ nutrition labels lead to obesity?” *Journal of Marketing Research*, 43 (November 2006), pp. 605–617.

Page 121 Example 9: “How to win the battle of the bugs,” *Consumers Reports*, July 2015, pp. 34–37.

Page 126 Exercise 6.3: Chittaranhan Andrade, “Prayer and healing: A medical and scientific perspective on randomized controlled trials,” *Indian Journal of Psychiatry*, 51 (2009), pp. 247–253.

Page 126 Exercise 6.4: Monic Sun and Remi Trudel, “The effect of recycling versus trashing on consumption: Theory and experimental evidence,” *Journal of Marketing Research*, 54 (April 2017), pp. 293–305.

Page 127 Exercise 6.8: David Brown, “Drug’s mystical properties confirmed,” *Washington Post*, July 11, 2006. Look online at www.springer.com/biomed/pharmaceutical+science/journal/213 in the journal *Psychopharmacology*, 187, no. 3 (August 2006), pp. 263–268, for the details.

Page 127 Exercise 6.10: Christopher N. Blesso et al., “Whole egg consumption improves lipoprotein profiles and insulin sensitivity to a greater extent than yolk-free egg substitute in individuals with metabolic syndrome,” *Metabolism*, 62 (2013), pp. 400–410.

Page 128 Exercise 6.12: “A carefully scheduled high-fat diet resets metabolism and

prevents obesity, researchers find," *Science News*, September 12, 2012.

- Page 128** Exercise 6.13: Nathan Seppa, "Blood-chilling device could save stroke victims from brain damage," *Science News*, February 26, 2010.
- Page 128** Exercise 6.15: Hypericum Depression Trial Study Group, "Effect of *Hypericum perforatum* (St. John's wort) in major depressive disorder: A randomized, controlled trial," *Journal of the American Medical Association*, 287 (2002), pp. 1807–1814.
- Page 129** Exercise 6.17: Lindsey Tanner, "Study says ibuprofen is best painkiller for children," *Washington Post*, March 5, 2007, p. A09.
- Page 129** Exercise 6.18: Donald G. McNeil Jr., "Flu shots in children can help community," *New York Times*, March 10, 2010, p. A16.
- Page 130** Exercise 6.19: B. Sekalska et al., "Effect of ibuprofen on the development of fat-induced atherosclerosis in New Zealand rabbits," *Journal of Experimental Animal Science*, 43 (2007), pp. 283–299. In the article, two of the treatment groups had eight rabbits and two had seven rabbits, but for simplicity we assumed eight rabbits had been assigned to all four treatments.
- Page 130** Exercise 6.21: Found at www.forbes.com, January 14, 2014.
- Page 131** Exercise 6.23: Anne Mangen et al., "Handwriting versus keyboard writing: Effect on word recall," *Journal of Writing Research*, 7 (2015), pp. 227–247. In the actual experiment, a third method for writing down words using an iPad was also used.
- Page 131** Exercise 6.24: Sterling C. Hilton et al., "A randomized controlled experiment to assess technological innovations in the classroom on student outcomes: An overview of a clinical trial in education," manuscript, no date. A brief report is Sterling C. Hilton and Howard B. Christensen, "Evaluating the impact of multimedia lectures on student learning and attitudes," *Proceedings of*

the 6th International Conference on the Teaching of Statistics, at https://iase-web.org/Conference_Proceedings.php?p=ICOTS_6_2002.

- Page 132** Exercise 6.30: Christopher A. Bail et al., "Exposure to opposing views on social media can increase political polarization," *Proceedings of the National Academy of Sciences of the United States of America*, online at www.pnas.org/content/early/2018/08/27/1804840115.

Chapter 7

- Page 135** Case Study: Thomas Marcotte and Barth Wilsey, "A Randomized, Controlled Trial of Cannabis in Healthy Volunteers Evaluating Simulated Driving, Field Performance Tests and Cannabinoid Levels," participant solicitation January 2017 through June 2019, information can be found at <https://www.cmcrc.ucsd.edu/index.php/studies/active-studies/62-ab266>.
- Page 136** Example 1: John C. Bailar III, "The real threats to the integrity of science," *Chronicle of Higher Education*, April 21, 1995, pp. B1–B2.
- Page 137** This quotation can be found at the *JAMA* website: <https://jamanetwork.com/journals/jama/pages/instructions-for-authors>.
- Page 137** The quotation is from the introduction to the University of Pittsburgh's Human Research Protections Office, specifically the institutional review board; available online at <https://www.irb.pitt.edu/content/chapter-2-purpose-human-research-protection-office-and-institutional-review-board>.
- Page 138** Example 2: The difficulties of interpreting guidelines for informed consent and for the work of institutional review boards in medical research are a main theme of Beverly Woodward, "Challenges to human subject protections in U.S. medical research," *Journal of the American Medical Association*, 282 (1999), pp. 1947–1952. The references in this paper point to other discussions.

- Page 139** The quotation in the Statistics in Your World nugget can be found at <https://www.independent.co.uk/voices/greece-prosecution-andreas-georgiou-democracy-politics-a8403076.html>.
- Page 142** Exercise 7.3: Two types of HIV testing are described at <https://www.plannedparenthood.org/learn/stds-hiv-safer-sex/hiv-aids/should-i-get-tested-hiv>.
- Page 142** Quote from WMA's Declaration of Helsinki can be found at <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>.
- Page 142** Example 4: The quotation is from the *Report of the Tuskegee Syphilis Study Legacy Committee*, May 20, 1996. A detailed history is James H. Jones, *Bad blood: The Tuskegee syphilis experiment*, Free Press, 1993. Another reference is Susan M. Reverby, *More than fact and fiction: Cultural memory and the Tuskegee syphilis study*, Hastings Center Report, 0093-0334, September 1, 2001, Vol. 31, Issue 5. More recent information from "More than Tuskegee: Understanding mistrust about research participation," *Journal of Health Care for the Poor and Underserved*, 21 (2010), pp. 879–897, found at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4354806/>.
- Page 143** The quotation from Dr. Hennekens is from an interview in the Annenberg/Corporation for Public Broadcasting video series *Against All Odds: Inside Statistics*.
- Page 144** Example 6: The quotation is from Thomas B. Freeman et al., "Use of placebo surgery in controlled trials of a cellular-based therapy for Parkinson's disease," *New England Journal of Medicine*, 341 (1999), pp. 988–992. Freeman supports the Parkinson's disease trial. The opposition is represented by Ruth Macklin, "The ethical problems with sham surgery in clinical research," *New England Journal of Medicine*, 341 (1999), pp. 992–996.
- Page 145** The quotations are from Gina Kolata and Kurt Eichenwald, "Business thrives on unproven care leaving science behind," *New York Times*, October 3, 1999. Background and details about the first clinical trials appear in a National Cancer Institute press release: "Questions and answers: High-dose chemotherapy with bone marrow or stem cell transplants for breast cancer," April 15, 1999. That one of the studies reported there involved falsified data is reported by Denise Grady, "Breast cancer researcher admits falsifying data," *New York Times*, February 5, 2000.
- Page 146** Exercise 7.4: Ezekial J. Emanuel, David Wendler, and Christine Grady, "What makes clinical research ethical?" *JAMA*, 283 (2000), pp. 2701–2711.
- Page 146** Example 7: R. D. Middlemist, E. S. Knowles, and C. F. Matter, "Personal space invasions in the lavatory: Suggestive evidence for arousal," *Journal of Personality and Social Psychology*, 33 (1976), pp. 541–546.
- Page 151** Exercise 7.15: See the details on the website of the Office for Human Research Protections of the Department of Health and Human Services, <https://www.hhs.gov/ohrp/>.
- Page 152** Exercise 7.17: Information about subject recruitment at the University of Virginia can be found at http://www.virginia.edu/vpr/irb/hsr/subjects_recruitment.html.
- Page 154** Exercise 7.27: Dr. C. Warren Olanow, chief of neurology, Mt. Sinai School of Medicine, quoted in Margaret Talbot, "The placebo prescription," *New York Times Magazine*, January 8, 2000, pp. 34–39, 44, 58–60.
- Page 154** Exercise 7.29: For extensive background, see Jon Cohen, "AIDS trials ethics questioned," *Science*, 276 (1997), pp. 520–523.
- Page 155** Exercise 7.32: The article about the ethics behind "The Immortal Life of Henrietta Lacks" can be found at <http://www.blackpast.org/perspectives/henrietta-lacks-and-debate-over-ethics-bio-medical-research>.

Chapter 8

- Page 161** Case Study: One article addressing brain size and intelligence is “Sex differences in brain size and general intelligence (g),” *Intelligence*, 63 (2017), pp. 78–88.
- Page 162** Example 1: “Coaching patients saves lives and money,” *The American Journal of Medicine*, 131(4), 2018, pp. 415–421.
- Page 165** Example 4: Data from the Fatality Analysis Reporting system was retrieved from <https://www-fars.nhtsa.dot.gov/Main/index.aspx>.
- Page 167** Example 7: Information from the World Happiness Report was retrieved from <http://worldhappiness.report/>. The quote comes from <https://news.gallup.com/opinion/gallup/206468/happiest-unhappiest-countries-world.aspx>.
- Page 168** Example 8: Information from the American Enterprise Institute retrieved from <http://www.aei.org/publication/2016-sat-test-results-confirm-pattern-thats-persisted-for-45-years-high-school-boys-are-better-at-math-than-girls/>. Specific values for the gender difference were found at <https://secure-media.collegeboard.org/digitalServices/pdf/sat/total-group-2016.pdf>. Cultural bias information came from *The New York Times* article “Tutors see stereotypes and gender bias in SAT. Testers see none of the above,” retrieved from <https://www.nytimes.com/2016/06/27/us/tutors-see-stereotypes-and-gender-bias-in-sat-testers-see-none-of-the-above.html>.
- Page 169** Controversy: Information from the American Enterprise Institute retrieved from <http://www.aei.org/wp-content/uploads/2018/05/What-Matters-Most-for-College-Completion.pdf>. Additional information and graph from <https://www.forbes.com/sites/prestoncooper2/2018/06/11/what-predicts-college-completion-high-school-gpa-beats-sat-score/#18c47f194b09>.
- Page 173** Exercise 8.2: Information about Consumer Reports’ cell phones and service plans was retrieved from <https://www.consumerreports.org/products/smart-phone/ratings-overview/> on October 13, 2018.
- Page 174** Example 11: The deviations of NIST time from BIPM time are from the website of the NIST Time and Frequency Division.
- Page 176** Example 13: “Cognitive ability and authoritarianism: Understanding support for Trump and Clinton,” *Personality and Individual Differences*, 106 (2017), pp. 287–291.
- Page 179** Exercise 8.3: Data retrieved from <https://www.samhsa.gov/data/report/2015-2016-nsduh-state-specific-tables>.
- Page 180** Exercise 8.11: Data retrieved from <https://www-fars.nhtsa.dot.gov/People/PeopleRestrains.aspx>.
- Page 180** Exercise 8.13: Data retrieved from <https://www.oecd.org/els/health-systems/Obesity-Update-2017.pdf>.
- Page 180** Exercise 8.14: Data retrieved from <https://deathpenaltyinfo.org/executions-united-states>.
- Page 182** Exercise 8.27: The website for the Uniform Crime Reporting Program is www.fbi.gov/about-us/cjis/ucr/ucr. The website for the National Crime Victimization Survey is www.bjs.gov/index.cfm?ty=dcdetail&iid=245.
- Page 183** Exercise 8.32: Data retrieved from <https://www.forbes.com/best-places-for-business/list/>.

Chapter 9

- Page 185** Case Study: The *Scientific American* article discussed in the Case Study was found online at <https://www.scientificamerican.com/article/how-do-you-estimate-crowd-size/>.

- Page 186** Example 1: R. J. Newan, "Snow job on the slopes," *US News & World Report*, December 17, 1994, pp. 62–65.
- Page 186** Example 2: Reported by Robert Niles of the *Los Angeles Times*, at www.nilesonline.com.
- Page 187** Example 3: J. Futura, "Rationalization and Student/School Personhood in U.S. College Admissions: The Rise of Test-optional Policies, 1987 to 2015," *Sociology of Education*, 90(3), 2017, pp. 236–254. "The other side of 'test optional,'" *New York Times*, July 20, 2009.
- Page 187** Example 4: The "missing vans" case is based on news articles in the *New York Times*, April 18, 1992, and September 10, 1992.
- Page 188** Example 5: Christopher Ingraham, "19 times Trump called jobs numbers 'fake' before they made him look good," *The Washington Post*, March 17, 2017. Glenn Kessler, "Donald Trump still does not understand the unemployment rate," *The Washington Post*, December 12, 2016.
- Page 189** Example 6: B. Yuncker, "The strange case of the painted mice," *Saturday Review /World*, November 30, 1974, p. 53.
- Page 191** Example 8: The first example was retrieved from <https://www.the-scientist.com/the-nutshell/kyoto-university-finds-stem-cell-researcher-guilty-of-data-fabrication-30372>.
- Page 191** Example 9: E. Marshall, "San Diego's tough stand on research fraud," *Science*, 234 (1986), pp. 534–535.
- Page 192** Example 10: The second item is from *Chance News*, www.causeweb.org/wiki/chance/index.php/Main_Page.
- Page 192** Example 11: Darryl Nester spotted this ad.
- Page 193** Example 12: *Science*, 192 (1976), p. 1081.
- Page 194** Example 13: Historical prices of the NASDAQ composite index can be found at https://www.nasdaq.com/aspx/historical_nocp.aspx?symbol=IXIC&selected=IXIC. Stock market news retrieved from <https://www.nasdaq.com/article/stock-market-news-for-mar-26-2018-cm939758>.
- Page 195** Example 14: Quotation from the American Heart Association statement "Cardiovascular disease in women," found at www.americanheart.org.
- Page 195** Example 15: Edwin S. Rubenstein, "Inequality," *Forbes*, November 1, 1999, pp. 158–160; and Bureau of the Census, *Money Income in the United States, 1998*.
- Page 198** Exercise 9.8: *Providence (R.I.) Journal*, December 24, 1999. We found the article in *Chance News* 9.02.
- Page 199** Exercise 9.11: *Fine Gardening*, September /October 1989, p. 76.
- Page 199** Exercise 9.13: *Condé Nast Traveler* magazine, June 1992.
- Page 199** Exercise 9.14: *Science*, 189 (1975), p. 373.
- Page 199** Exercise 9.15: *Lafayette (Ind.) Journal and Courier*, October 23, 1988.
- Page 199** Exercise 9.16: This example is courtesy of Professor Steve Samuels, Purdue University.
- Page 200** Exercise 9.17: Letter by L. Jarvik in the *New York Times*, May 4, 1993. The editorial, "Muggings in the kitchen," appeared on April 23, 1993.
- Page 200** Exercise 9.18: *New York Times*, April 21, 1986.
- Page 200** Exercise 9.21: Found online at https://www.dissentmagazine.org/online_articles/curbing-carbon-sustaining-development-the-tensions-in-climate-change-mitigation.
- Page 201** Exercise 9.24: *Organic Gardening*, July 1983.
- Page 201** Exercise 9.25: *Organic Gardening*, March 1983.

- Page 201 Exercise 9.28: Historical Income Tables: Households found online at <https://www.census.gov>.
- Page 201 Exercise 9.29: Historical Income Tables: Households found online at <https://www.census.gov>.
- Page 202 Exercise 9.30: Found online at <https://www.uscgboating.org/library/accident-statistics/Recreational-Boating-Statistics-2017.pdf>.

Part I Review

- Page 208 Exercise I.11: Gallup polls are described on the Gallup website, www.gallup.com. Exercise I.10 is from “Nearly half of smartphone users can’t imagine life without it,” Gallup press release dated July 13, 2015.
- Page 208 Exercise I.12: Exercise I.12 is from “Americans say Caitlyn Jenner’s public transition will grow acceptance of transgender persons,” NBC News Online Survey press release dated June 9, 2015.
- Page 209 Exercises I.17 to I.20: J Michael Gaziano et al., “Use of aspirin to reduce risk of initial vascular events in patients at moderate risk of cardiovascular disease (ARRIVE): a randomised, double-blind, placebo-controlled trial,” *Lancet*, (2018), online at [http://dx.doi.org/10.1016/S0140-6736\(18\)31924-X](http://dx.doi.org/10.1016/S0140-6736(18)31924-X).
- Page 210 Exercises I.24: Found online at www.leafly.com/news/health/the-top-medical-cannabis-studies-of-2017.

Chapter 10

- Page 213 Case Study. Data on leading causes of death in 2015 can be found at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_06.pdf.
A second source is: https://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2015-a.pdf.

- Pages 214, 215, 228, 236 The data for Examples 1, 2, and 9, and Exercise 10.19, can be found at <https://www.census.gov/data/tables/2017/demo/education-attainment/cps-detailed-tables.html>.
- Page 219 Exercise 10.1: Found online at <https://files.taxfoundation.org/20180313143458/Tax-Foundation-FF572.pdf>.
- Page 219 Data from Example 4 can be found at <https://files.taxfoundation.org/20180322141501/Tax-Foundation-FF581.pdf>.
- Page 222 The data for Example 6 can be found at <https://www.bls.gov/charts/employment-situation/unemployment-rates-for-persons-25-years-and-older-by-educational-attainment.htm>.
- Page 224 Exercise 10.2: Found online at https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_w.htm.
- Page 226 The data for Example 8 can be found at <https://www.leggmason.com/content/dam/legg-mason/documents/en/insights-and-education/brochure/long-term-investing-has-had-rewards.pdf>.
- Page 232 Exercise 10.11: Found online at <https://www.census.gov/data/tables/2017/demo/families/cps-2017.html>.
- Page 233 Exercise 10.14: Found online at: <https://www.iie.org/en/Research-and-Insights/Open-Doors/Data/International-Students/Places-of-Origin>.
- Page 234 Exercise 10.15: These data are available online at www.indexmundi.com/commodities/.
- Page 234 Exercise 10.16: Found online at https://nces.ed.gov/programs/digest/d17/tables/dt17_322.10.asp?current=yes.
- Page 237 Exercise 10.23: F Norris, Market Watch column, *New York Times*, July 15, 1992.
- Page 237 Exercise 10.25: Found online at https://www.bts.gov/archive/publications/national_transportation_statistics/table_01_17.

Page 237 Exercise 10.26: Found online at <https://www.edmunds.com/industry-center/data/sales-by-manufacturer.html>.

Page 237 Exercise 10.28: Found online at <https://www1.nyc.gov/site/nypd/stats/crime-statistics/historical.page>.

Page 239 Exercise 10.29: Found online at <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2016/NSDUH-FFR1-2016.htm>.

Page 239 Exercise 10.30: Found online at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_06.pdf.

Page 240 Exercise 10.32: Found online at https://en.wikipedia.org/wiki/List_of_winners_of_the_Boston_Marathon.

Chapter 11

Page 243 Data on apartment rentals can be found at <https://www.abodo.com/blog/2017-annual-rent-report/>.

Page 244 Data from Table 11.1 and Example 6 can be found online at <https://www.census.gov/prod/cen2010/briefs/c2010br-09.pdf>.

Page 248 Data from Example 3 can be found online at <http://www.isac.org/students/during-college/paying-for-college/college-costs.html>.

Page 258 Exercise 11.9: Found online at <https://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>.

Page 259 Exercise 11.10: Found online at <https://www.pro-football-reference.com/awards/super-bowl-mvp-award.htm>.

Page 261 Exercise 11.14: Found online at <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkml>.

Page 261 Exercise 11.15: Found online at <https://www.usatoday.com/sports/mlb/twins/salaries/2018/player/all/>.

Page 263 Exercise 11.18: Found online at <https://www.census.gov/prod/cen2010/briefs/c2010br-11.pdf>.

Page 263 Exercise 11.19: *Consumer Reports*, June 1986, pp. 366–367. A more recent study of hot dogs appears in *Consumer Reports*, July 1993, pp. 415–419. The newer data cover few brands of poultry hot dogs and take calorie counts mainly from the package labels, resulting in suspiciously round numbers.

Page 264 Table 11.5: Source: 2010 *Statistical Abstract of the United States*, <https://www.census.gov/prod/2002pubs/censr-4.pdf> and <https://www.census.gov/prod/1/pop/p25-1130/p251130.pdf>.

Page 264 The report of a possible new record rainfall in Hawaii in 2018 comes from <https://www.usatoday.com/story/news/nation/2018/04/27/small-town-hawaii-may-have-just-had-rainiest-day-u-s-history/557654002/>.

Page 265 Exercise 11.24: Found online at <https://www.ers.usda.gov/data-products/fruit-and-vegetable-prices/>.

Chapter 12

Page 267 Data on income and education are from the Census Bureau Web site. Tables for 2017 can be found at <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-03.html>.

Page 267 The application of statistical methods to baseball is often referred to as “baseball analytics” or “sabermetrics.” The use of statistics in baseball was highlighted in the movie *Moneyball* about Billy Beane’s use of sabermetrics to build the Oakland Athletics.

Page 270 The calculation of the quartiles of incomes for Hispanic households is only approximate. It is based on summary tables from the Census Bureau website, found at <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-hinc.html>.

- Page 272** This description of the boxplot is sometimes referred to as a simple boxplot. More complicated versions of boxplots exist and are sometimes referred to as modified boxplots. Most statistical software packages produce modified boxplots. Modified boxplots extend lines out from the boxes to (i) the larger of either the smallest observation or the value $Q1 - 1.5 \times (Q3 - Q1)$, and to (ii) the smaller of the largest observation or the value $Q3 + 1.5 \times (Q3 - Q1)$. Any observations outside these limits are considered outliers and indicated by separate points on the plot.
- Pages 275 and 276** The data for Figures 12.4 and 12.5 come from historical income tables that can be found at the Census Bureau website www.census.gov/hhes/www/income/data/historical/household/.
- Page 286** Exercise 12.11: Found online at <https://www.seattlemag.com/advertise/>.
- Page 287** Exercise 12.16. These numbers are estimated from data from the U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. Data on the richest 5% of households are readily available in tables available online at <https://www.census.gov/topics/income-poverty/income/data/tables.html>. Data on the richest 1% are more difficult to obtain.
- Pages 287 and 290** Exercises 12.17 and 12.29: Data from *Consumer Reports*, June 1986, pp. 366–367.
- Page 288** Exercise 12.21: Data from the Department of Homeland Security website; available online at www.dhs.gov/immigration-statistics/yearbook/2017/table4.
- Page 288** The raw data behind Exercises 12.23 and 12.27 come from College Board Online, reports.collegeboard.org/sat-suite-program-results/state-results.
- Page 289** Exercise 12.28: Data from www.fueleconomy.gov.
- Page 291** Exercise 12.35: Part of the larger set of data in Table 15.2. See the source note for that table.
- Page 291** Exercise 12.38: The data are from a *Money Nation*, March 1, 2016 article found online at moneynation.com/nba-salary/.

Chapter 13

- Page 294** The text message data presented in Figure 13.1 come from the American Statistical Association's Census at School project. Data from this project can be accessed online at www.amstat.org/censusatschool/.
- Page 294, 295, and 296** The body temperature data presented in Figures 13.2, 13.3, 13.4a, and 13.4b come from the article by Allen L. Shoemaker, "What's Normal?—Temperature, Gender, and Heart Rate," *Journal of Statistics Education*, 1996.
- Page 311** Exercise 13.13: Stephen Jay Gould, "Entropic homogeneity isn't why no one hits .400 anymore," *Discover*, August 1986, pp. 60–66.
- Page 313** Exercise 13.30: Ulric Neisser, "Rising scores on intelligence tests," *American Scientist*, September–October 1997, online edition, www.americanscientist.org.

Chapter 14

- Page 315** SAT data from 2017 can be found at <https://blog.collegevine.com/here-are-the-average-sat-scores-by-state/>.
- Page 317** Example 1 is based on data obtained from the following online article: <https://www.nytimes.com/interactive/2016/07/05/upshot/is-sushi-healthy-what-about-granola-where-americans-and-nutritionists-disagree.html>.
- Page 319** Data for Example 2 comes from <https://data.worldbank.org/>.
- Page 322** Example 3: M. A. Houck et al., "Allometric scaling in the earliest fossil bird, *Archaeopteryx lithographica*," *Science*, 247 (1990), pp. 195–198. The authors conclude from a variety of evidence that all specimens represent the same species.

- Page 323** MPG and number of cylinders from Figures 14.4 and 14.6 comes from <https://www.fueleconomy.gov/feg/download.shtml>.
- Page 324** Vehicle weight from Figures 14.4 and 14.6 comes from <https://cars.usnews.com/cars-trucks>.
- Page 324** Figure 14.7 comes from www.gapminder.org.
- Page 333** Exercises 14.12 and 14.14, manatee deaths: Found online at <https://myfwc.com/research/manatee/rescue-mortality-response/statistics/mortality/>.
- Pages 333 and 334** Exercises 14.12 and 14.14, boat registration data: Found online at <https://www.flhsmv.gov/motor-vehicles-tags-titles/vessels/vessel-owner-statistics/>.
- Pages 334 and 336** Exercises 14.18 and 14.22: From Amador et al. (2015) "Eyelashes divert airflow to protect the eye," *Journal of the Royal Society Interface*, 12(105).
- Page 334** Exercise 14.19: The homicide and suicide rates were found online at <https://odh.ohio.gov/wps/portal/gov/odh/known-our-programs/violence-injury-prevention-program/resources/vdrs>.
- Page 338** Exercise 14.31: Quotation from the *T. Rowe Price Report*, Winter 1997, p. 4.
- Page 338** Exercise 14.32 and Table 14.2: Hot dog prices found online at <https://blog.cheapism.com/mlb-hot-dog-beer-prices/>.
- Page 338** Exercise 14.32 and Table 14.2: Beer prices found online at <https://www.statista.com/statistics/202666/beer-prices-in-major-league-baseball-by-team/>.
- Page 338** Exercise 14.33: These data can be found at the website of the National Oceanic and Atmospheric Administration, www.climate.gov/maps-data/datasets.
- Page 339** Exercise 14.34: W. L. Colville and D. P. McGill, "Effect of rate and method of planting on several plant characters and yield of irrigated corn," *Agronomy Journal*, 54 (1962), pp. 235–238.

Chapter 15

- Page 350** In Example 4, latest deficit figures come from <https://home.treasury.gov/>. Other Congressional Budget Office annual reports can be found at the Congressional Budget Office website, www.cbo.gov.
- Page 354** Example 7: Laura L. Calderon et al., "Risk factors for obesity in Mexican-American girls: Dietary factors, anthropometric factors, physical activity, and hours of television viewing," *Journal of the American Dietetic Association*, 96 (1996), pp. 1177–1179.
- Page 356** The controversy is based on the following article: Bindu Kalesan, Matthew E. Mobily, Olivia Keiser, Jeffrey A. Fagan, and Sandro Galea, (2016), "Firearm legislation and firearm mortality in the USA: A cross-sectional, state-level study," *The Lancet*, 387, pp. 1847–1855.
- Page 356** The published comments on the gun control study from the controversy come from David Hemenway, (2016), "Firearm legislation and mortality in the USA," *The Lancet*, 387, pp. 1796–1797.
- Page 356** The *Washington Post Article* written by Carolyn Y. Johnson and referenced in the controversy can be found online at https://www.washingtonpost.com/news/wonk/wp/2016/03/10/why-this-gun-control-study-might-be-too-good-to-be-true/?utm_term=.0141f1cc25b9.
- Page 357** Information about cancer statistics can be obtained from the U.S. Cancer Statistics Working Group, <https://www.cdc.gov/cancer/uscs/index.htm>.
- Page 358** For more discussion of issues surrounding big data see Tim Harford, "Big data: Are we making a big mistake?" *Significance*, 11 (2014)11, pp. 14–19.
- Page 362** Exercise 15.15: Data estimated from graphs found at the World Health Organization website, www.who.int/substance_abuse/publications/globalstatusreportalcoholprofiles/en/index.html.

- Page 364** Exercise 15.17: The data are available at www.ncdc.noaa.gov/sotc/global/2014. The website explains that the twentieth century average global temperature (combined land and ocean surface temperature) was 13.9°C.
- Page 365** Exercise 15.22: W. M. Lewis and M. C. Grant, "Acid precipitation in the western United States," *Science*, 207 (1980), pp. 176–177.
- Page 367** Exercise 15.32 based on an article found at <https://www.cnbc.com/2018/09/04/starbucks-openings-predict-higher-home-prices-says-harvard-study.html>.
- Page 367** Exercise 15.33: David E. Bloom and David Canning, "The health and wealth of nations," *Science*, 287 (2000), pp. 1207–1208.
- Page 367** Exercise 15.34 based on an article found at <https://news.utexas.edu/2015/01/07/short-words-predict-academic-success/>.

Chapter 16

- Page 377** Example 4: The data come from the website of the U.S. Census Bureau. Go to <https://www.census.gov/content/census/en/library/publications/2018/demo/p60-263.html>.
- Page 378** Information about the effects of changes in the Consumer Price Index are from the Bureau of Labor Statistics, "Updated response to the recommendations of the advisory commission to study the Consumer Price Index," June 1998. The entire December 1996 issue of the BLS *Monthly Labor Review* is devoted to the major revision of the CPI that became effective in January 1998. The effect of changes in the CPI is discussed by Kenneth J. Stewart and Stephen B. Reed, "CPI research series using current methods, 1978–98," *Monthly Labor Review*, 122 (1999), pp. 29–38. All of these are available on the BLS website.
- Page 380** The survey of government statistics offices is reported in "The good statistics guide," *Economist*, September 13, 1993, p. 65.

- Page 385** Exercise 16.8: The data are from the U.S. Department of Energy website, www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_a.htm.
- Page 385** Exercise 16.11: The data are from the U.S. Environmental Protection Agency's Toxic Release Inventory (TRI) Program website, <https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools>.
- Page 387** Exercise 16.24: The data are from the website en.wikipedia.org/wiki/PGA_Tour.
- Page 389** Exercise 16.36: Gordon M. Fisher, "Is there such a thing as an absolute poverty line over time? Evidence from the United States, Britain, Canada, and Australia on the income elasticity of the poverty line," U.S. Census Bureau Poverty Measurement Working Papers, 1995.
- Page 389** Exercise 16.37: G. J. Borjas, "The internationalization of the U.S. labor market and the wage structure," *Federal Reserve Bank of New York Economic Policy Review*, 1, No. 1 (1995), pp. 3–8. The quotation appears on p. 3. This entire issue is devoted to articles seeking to explain stagnant earnings and the income gap. The consensus: we don't know.

Part II Review

- Page 398** The data plotted in Figure II.3 come from G. A. Sacher and E. F. Staffelt, "Relation of gestation time to brain weight for placental mammals: Implications for the theory of vertebrate growth," *American Naturalist*, 108 (1974), pp. 593–613. We found them in Fred L. Ramsey and Daniel W. Schafer, *The Statistical Sleuth: A Course in Methods of Data Analysis*, Duxbury Press, 1997, p. 228.
- Page 399** Exercise II.23: For the gold prices, see kitco.com/charts/historicalgold.html.
- Page 399** Exercise II.24: Antoni Basinski, "Almost never on Sunday: Implications of the patterns of admission and discharge for common conditions," Institute for

Clinical Evaluative Sciences in Ontario, October 18, 1993.

- Page 400** Exercise II.28: Official final election results are from the website of the Federal Election Commission, www.fec.gov.
- Page 400** Exercise II.29: Correlations for 36 monthly returns ending in December 1999, reported in the *Fidelity Insight* newsletter for January 2000.

Chapter 17

- Page 405** <https://www.cbsnews.com/news/luke-hillary-cade-gardner-same-birthday-mom-dad-son-odds/>.
- Page 408** Example 3: See www.cdc.gov/nchs/deaths.htm for mortality statistics.
- Page 408** More historical detail can be found in the opening chapters of F. N. David, *Games, Gods and Gambling*, Courier Dover Publications, 1998. The historical information given here comes from this excellent and entertaining book.
- Page 410** Example 5: The most influential paper on the hot hand is T. Gilovich, R. Vallone, and A. Tversky, "The hot hand in basketball: on the misperception of random sequences," *Cognitive Psychology*, 17 (1985), pp. 295–314.

The story about Klay Thompson can be found online at www.espn.com/nba/story/_/page/presents-19573519/heating-fire-klay-thompson-truth-hot-hand-nba. This article discusses the question of the hot hand, and mentions research that suggests that there may be a hot hand effect after all.

- Page 412** Example 7: Information about the Clyde cancer cluster was found online at www.huffingtonpost.com/2013/03/05/clyde-cancer-cluster-ohio-pay-for-testing_n_2807723.html and at <https://www.pbs.org/video/nw-ohio-journal-clyde-cancer-cluster/>.

The Massachusetts studies are, for Randolph, see R. Day, J. H. Ware, D. Wartenberg, and M. Zelen, "An investigation of a

reported cancer cluster in Randolph, Ma.," Harvard School of Public Health Technical Report, June 27, 1988. For Woburn, see S. W. Lagakos, B. J. Wessen, and M. Zelen, "An analysis of contaminated well water and health effects in Woburn, Massachusetts," *Journal of the American Statistical Association*, 81 (1986), pp. 583–596.

- Page 413** For a discussion and amusing examples, see A. E. Watkins, "The law of averages," *Chance*, 8, No. 2 (1995), pp. 28–32.
- Page 415** The quotation is from Chapter 3 of C. S. Lewis, *Miracles*, Macmillan Co., 1947.
- Page 415** The presentation of personal probability and long-term proportion as distinct ideas is influenced by psychological research that appears to show that people judge single-case questions differently from distributional or relative frequency questions. At least some of the biases found in the classic work of Tversky and Kahneman on our perception of chance seem to disappear when it is made clear to subjects which interpretation is intended. This is a complex area and *SCC* is a simple book, but we judged it somewhat behind the times to put too much emphasis on the Tversky-Kahneman findings. See Gerd Gigerenzer, "How to make cognitive illusions disappear: beyond heuristics and biases," in Wolfgang Stroebe and Miles Hewstone (eds.), *European Review of Social Psychology*, Vol. 2, Wiley, 1991, pp. 83–115. Two additional references are G. Gigerenzer and R. Selten, *Bounded Rationality: The Adaptive Toolbox*, MIT Press, 2001; and G. Gigerenzer, P. M. Todd, and the ABC Research Group, *Simple Heuristics That Make Us Smart*, Oxford University Press, 1999.

- Page 416** The 1764 essay by Thomas Bayes, "An essay towards solving a problem in the doctrine of chances," was published in the *Philosophical Transactions of the Royal Society of London*, 53, 370–418. A facsimile is available online at http://www.socsci.uci.edu/~bskyrms/bio/readings/bayes_essay.pdf.

- Page 417** Example 9: Estimated probabilities are from R. D'Agostino, Jr., and R. Wilson, "Asbestos: The hazard, the risk, and public policy," in K. R. Foster, D. E. Bernstein, and P. W. Huber (eds.), *Phantom Risk: Scientific Inference and the Law*, MIT Press, 1994, pp. 183–210. See also the similar conclusions in B. T. Mossman et al., "Asbestos: Scientific developments and implications for public policy," *Science*, 247 (1990), pp. 294–301.
- Page 418** The quotation is from R. J. Zeckhauser and W. K. Viscusi, "Risk within reason," *Science*, 248 (1990), pp. 559–564.
- Page 421** Exercise 17.17: Based on 2015 data. Found online at www.statista.com/topics/3708/road-accidents-in-the-us/.
- Page 422** Exercise 17.21: See T. Hill, "Random-number guessing and the first digit phenomenon," *Psychological Reports*, 62 (1988), pp. 967–971.

Chapter 18

- Page 425** The data given are for 2018 and found online at www.census.gov/data/tables/2018/demo/families/cps-2018.html.
- Page 430** Example 18.3: www.researchamerica.org/sites/default/files/MAY182018_VaccinePressRelease_final.pdf.
- Page 438** Exercise 18.18: We found information about probabilities for the colors in a package of M&M's in C. Purtil, "A statistician got curious about M&M colors and went on an endearingly geeky quest for answers," *Quartz* (2017); available online at qz.com/918008/the-color-distribution-of-mms-as-determined-by-a-phd-in-statistics/.
- Page 438** Exercise 18.20: Information in the exercise comes from a June 2018 Gallup poll.

Chapter 19

- Page 447** Exercise 19.1: See Kevin Eagan et al., "The American freshman: National norms fall 2016," online at www.heri.ucla.edu/monographs/TheAmericanFreshman2016.pdf.

- Page 457** Exercise 19.20: F. N. David, *Games, gods and gambling*, Courier Dover Publications, 1998.

- Page 457** Exercise 19.21: Stochastic beetles are well known in the folklore of simulation, if not in entomology. They are said to be the invention of Arthur Engle of the School Mathematics Study Group.

- Page 458** Exercise 19.23: We could do this simulation by just rolling a pair of dice, but setting up the simulation as described in the problem would be an important step for doing the simulation on a computer.

Chapter 20

- Page 466** For the Statistical Controversies feature, visit the website of Stop Predatory Gambling at www.stoppredatorygambling.org. For the defense by the casino industry, visit the website of the American Gaming Association at www.americangaming.org. State lotteries make their case via the North American Association of State and Provincial Lotteries, www.naspl.org. The report of a commission established by Congress to study the impact of gambling is at govinfo.library.unt.edu/ngisc/. You'll find lots of facts and figures at all these sites.

- Page 469** The website for the Powerball lottery is www.powerball.com/games/home.

- Page 471** Exercise 20.12: Obituary by Karen Freeman, *New York Times*, June 6, 1996.

- Page 472** Exercise 20.13: Based on A. Tversky and D. Kahneman, "Extensional versus intuitive reasoning: The conjunction fallacy in probability judgment," *Psychological Review*, 90 (1983), pp. 293–315.

Chapter 21

- Page 487** Case Study: The Pew Research Center survey results can be found online at <http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/>.

- Page 488** Example 1: The NSSE survey results can be found online at http://nsse.indiana.edu/2018_institutional_report/pdf/Modules/NSSE18%20Module%20Summary-First-Year%20Experiences%20and%20Senior%20Transitions.pdf.
- Page 492** For the state of the art in confidence intervals for p , see Alan Agresti and Brent Coull, "Approximate is better than 'exact' for interval estimation of binomial proportions," *American Statistician*, 52 (1998), pp. 119–126. You can also consult the book *An Introduction to categorical data analysis*, Wiley, 1996, by Alan Agresti. We note that the accuracy of our confidence interval for p can be greatly improved by simply "adding 2 successes and 2 failures." That is, replace \hat{p} by $(\text{count of successes} + 2) / (n + 4)$. Texts on sample surveys give confidence intervals that take into account the fact that the population has finite size and also give intervals for sample designs more complex than an SRS.
- Page 497** Exercise 21.2 is based on a survey found online at <http://www.pewinternet.org/2018/11/07/many-turn-to-youtube-for-childrens-content-news-how-to-lessons/>.
- Page 501** Example 7: Information about the NAEP test can be found online at https://www.nationsreportcard.gov/reading_math_g12_2015/#mathematics?grade=12.
- Page 504** Exercise 21.4 is based on a survey found online at <http://www.pewsocialtrends.org/2017/06/22/americas-complex-relationship-with-guns/>.
- Page 504** Exercise 21.5 is based on a survey found online at https://www.aarp.org/content/dam/aarp/research/surveys_statistics/life-leisure/2017/2018-travel-trends.doi.10.26419%252Fres.00179.001.pdf.
- Page 505** Exercise 21.11: The poll can be found on the Gallup website. Go to www.gallup.com/poll/180455/lack-teacher-engagement-linked-million-missed-workdays.aspx.
- Page 505** Exercise 21.12: The poll can be found on the Pew Research Center website. Go to <https://news.gallup.com/poll/229562/preference-strict-gun-laws-highest-1993.aspx>.
- Page 506** Exercise 21.13: The poll results can be found at <http://www.pewinternet.org/2016/09/09/libraries-2016/>.
- Page 506** Exercise 21.14: The poll results can be found at <https://news.gallup.com/poll/244676/cybercrimes-remain-worrisome-americans.aspx>.
- Page 506** Exercise 21.16: The poll results can be found at <https://www.cbsnews.com/news/holiday-shopping-more-women-than-men-look-forward-to-it-according-to-cbs-news-poll/>.
- Page 506** Exercise 21.19: The survey results can be found at <http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2017.pdf>.
- Page 507** Exercise 21.21: Jeff Zeleny and Megan Thee-Brenan, "New poll finds a deep distrust of government," *New York Times*, October 25, 2011.
- Page 507** Exercise 21.22 is based on a report found at <https://www.latimes.com/business/la-xpm-2012-aug-20-la-fi-mo-harley-davidson-2013-models-110th-anniversary-20120820-story.html>.
- Page 508** Exercise 21.29: The poll results can be found at <https://news.gallup.com/poll/238169/americans-overlook-restaurants-nutrition-labels.aspx>.
- Page 508** Exercise 21.30: Sara J. Solnick and David Hemenway, "Complaints and disenrollment at a health maintenance organization," *Journal of Consumer Affairs*, 26 (1992), pp. 90–103.
- Page 508** Exercise 21.31: The data are from the CPS website, <https://www.bls.gov/news.release/pdf/empst.pdf>.
- Page 509** Exercise 21.34: Data provided by Darlene Gordon, Purdue University.

Chapter 22

- Page 513** Case Study: The case study is based on a survey conducted by the Higher Education Research Institute at UCLA. The 2015 survey results can be found at <https://www.heri.ucla.edu/monographs/TheAmericanFreshman2015.pdf>, and the 2016 survey results can be found at <https://www.heri.ucla.edu/monographs/TheAmericanFreshman2016.pdf>. The article from *Inside Higher Education* can be found at <https://www.insidehighered.com/news/2017/05/01/report-indicates-first-year-students-are-more-politically-polarized-ever>.
- Page 514** Example 1: An important historical version of this example is discussed by Sir Ronald A. Fisher, *The design of experiments*, Hafner Publishing, 1971, pp. 11–26. A reissue of this book is available from Oxford University Press (1990) in *Statistical methods, experimental design, and statistical inference*, by R. A. Fisher. Fisher's version discusses a tea-tasting experiment.
- Page 517** Example 2: This example is based on a media report at <https://learningenglish.voanews.com/a/college-students-working-too-much/4155230.html>.
- Page 520** Statistical significance: Discussion of the origins of 0.05 as a level of significance come from Michael Cowles and Caroline Davis, "On the origins of the .05 level of statistical significance," *American Psychologist*, 37 (1982), pp. 553–558.
- Page 522** Example 4: The inspiration for this example comes from a report published online at www.sciencedaily.com/releases/2013/08/130806203327.htm.
- Page 523** Example 5: The inspiration for this example comes from the Bureau of Labor Statistics' American Time Use Survey. Results from the 2017 survey can be found online at https://www.bls.gov/tus/a1_2017.pdf.
- Page 527** Exercise 22.4: The inspiration for this example comes from a Pew Research Center report posted in December, 2018 at <http://www.journalism.org/2018/12/03/americans-still-prefer-watching-to-reading-the-news-and-mostly-still-through-television/>.
- Page 528** Exercise 22.10: Manisha Chandalia et al., "Beneficial effects of high dietary fiber intake in patients with type 2 diabetes mellitus," *New England Journal of Medicine*, 342 (2000), pp. 1392–1398.
- Page 528** Exercise 22.11: Arthur Schatzkin et al., "Lack of effect of a low-fat, high-fiber diet on the recurrence of colorectal adenomas," *New England Journal of Medicine*, 342 (2000), pp. 1149–1155.
- Page 529** Exercise 22.12: Seung-Ok Kim, "Burials, pigs, and political prestige in Neolithic China," *Current Anthropology*, 35 (1994), pp. 119–141.
- Page 529** Exercise 22.13: Fekri A. Hassan, "Radio-carbon chronology of predynastic Nagada settlements, Upper Egypt," *Current Anthropology*, 25 (1984), pp. 681–683.
- Page 529** Exercise 22.14: Sara J. Solnick and David Hemenway, "The deadweight loss of Christmas: Comment," *American Economic Review*, 86 (1996), pp. 1299–1305.
- Page 529** Exercise 22.15: There is some evidence that part of the reason that 39% may be an overstatement of church attendance is that the same people who go to church are likely to agree to participate in national surveys run by the National Opinion Research Center. See Robert D. Woodberry, "When surveys lie and people tell the truth: How surveys oversample church attenders," *American Sociological Review*, 63 (1998), pp. 119–122.
- Page 530** Exercise 22.18: See the website: <https://www.heri.ucla.edu/monographs/TheAmericanFreshman2016.pdf> for details about this survey.
- Page 530** Exercise 22.19: See the website: <http://www.ncaa.org/about/resources/research/graduation-rates> for information on graduation rates of student athletes.
- Page 530** Exercise 22.21: Alexander Todorov et al., "Inferences of competence from faces

predict election outcomes," *Science*, 308 (2005), pp. 1623–1626.

Page 532 Exercise 22.30: The information shared in this exercise comes from a Pew Research Center report posted online at www.pewinternet.org/2015/09/10/what-the-public-knows-and-does-not-know-about-science/2015-09-10_science-knowledge_1_01/.

Page 532 Exercise 22.32: Eric Ossiander, letter to the editor, *Science*, 257 (1992), p. 1461.

Page 532 Exercise 22.33: N. Teed, K. L. Adrian, and R. Knoblouch, "The duration of speed reductions attributable to radar detectors," *Accident Analysis and Prevention*, 25 (1991), pp. 131–137. This is one of the Electronic Encyclopedia of Statistical Examples and Exercises (EESSEE) case studies, available at macmillanlearning.com/scc10e.

Page 533 Exercise 22.39: B. Rind and D. Strohmets, "Effect of beliefs about future weather conditions on restaurant tipping," *Journal of Applied Social Psychology*, 31 (2001), pp. 2160–2164.

Page 533 Exercise 22.40: Lawrence K. Altman, "Studies rebut earlier report on pledges of virginity," *New York Times*, June 15, 2005.

Chapter 23

Page 535 Case Study: The media report mentioned in the case study can be found at <https://www.newscientist.com/article/dn13754-breakfast-cereals-boost-chances-of-conceiving-boys/>. The original study can be accessed at https://www.researchgate.net/publication/5421539_You_Are_What_Your_Mother_Eats_Evidence_for_Maternal_Preconception_Diet_Influencing_Foetal_Sex_in_Humans.

Page 540 Example 2: Marilyn Elias, "Study: Anti-depressant barely better than placebo," *USA Today*, July 7, 2002.

Page 544 Robert Rosenthal is quoted in B. Azar, "APA statistics task force prepares to

release recommendations for public comment," *APA Monitor Online*, 30 (May 1999). The task force report, Leland Wilkinson et al., "Statistical methods in psychology journals: guidelines and explanations," *American Psychologist*, 54 (August 1999), offers a summary of the elements of good statistical practice.

Page 553 Exercise 23.10: The Gallup Poll results can be found online at www.gallup.com/poll/106915/Gallup-Daily-US-Mood.aspx.

Page 553 Exercise 23.11: The Gallup Poll results can be found online at <https://news.gallup.com/poll/243908/two-three-americans-support-legalizing-marijuana.aspx>.

Page 553 Exercise 23.12: Ross M. Stolzenberg, "Educational continuation by college graduates," *American Journal of Sociology*, 99 (1994), pp. 1042–1077.

Page 556 Exercise 23.27: The Gallup Poll results can be found online at <https://news.gallup.com/poll/244766/consumers-holiday-spending-estimate-down-solid.aspx>.

Chapter 24

Page 559 These data were obtained online at <https://news.gallup.com/poll/229085/college-students-say-campus-climate-deters-speech.aspx>.

Page 560 Example 1: The data were obtained online at https://nces.ed.gov/programs/digest/d17/tables/dt17_326.10.asp.

Page 562 Example 3: The data were obtained online at <http://www.journalism.org/2018/06/18/distinguishing-between-factual-and-opinion-statements-in-the-news/>.

Page 565 There are many computer studies of the accuracy of critical values for χ^2 . For a brief discussion and some references, see Section 3.2.5 of David S. Moore, "Tests of chi-squared type," in Ralph B. D'Agostino and Michael A. Stephens (eds.), *Goodness-of-Fit Techniques*, Marcel Dekker, 1986, pp. 63–95.

- Page 569** Example 6: Janice E. Williams et al., "Anger proneness predicts coronary heart disease risk," *Circulation*, 101 (2000), pp. 2034–2039.
- Page 573** Example 8: Data for Nationsbank, from S. A. Holmes, "All a matter of perspective," *New York Times*, October 11, 1995. Additional information obtained online at <https://www.ctfairhousing.org/center-joins-nfha-co-plaintiffs-in-lawsuit-alleging-housing-discrimination-by-bank-of-america/>.
- Page 576** Exercises 24.4–24.8: The data were obtained online at <http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/>.
- Page 576** Exercise 24.9: This General Social Survey exercise presents a table constructed using the information from <https://www.nsf.gov/statistics/2018/nsb20181/assets/404/tables/at07-12.pdf>. These data are from the 2016 GSS.
- Page 577** Exercise 24.10: K. Shamsuddin and M. Abdul Haris, "Family influence on current smoking habits among secondary school children in Kota Bharu, Kelantan," *Singapore Medical Journal*, 41 (2000), pp. 167–171.
- Page 577** Exercise 24.11: C. I. Vardavas et al., "Smoking habits of Greek preschool children's parents," *BMC Public Health*, 7, No. 112 (2007).
- Page 577** Exercise 24.13: R. Shine, T. R. L. Madsen, M. J. Elphick, and P. S. Harlow, "The influence of nest temperatures and maternal brooding on hatchling phenotypes in water pythons," *Ecology*, 78 (1997), pp. 1713–1721.
- Page 577** Exercise 24.14: These data were obtained online at https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_05.pdf.
- Page 578** Exercise 24.15: The data are from the 2014 *Digest of Education Statistics* at the website of the National Center for Education Statistics, nces.ed.gov.
- Page 578** Exercise 24.16: The data for the University of Michigan Health and Retirement Study (HRS) can be found at the website <https://hrs.isr.umich.edu/>.
- Page 578** Exercise 24.18: These data were obtained online at https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp?pn=1.
- Page 579** Exercise 24.19: I. Westbrooke, "Simpson's paradox: An example in a New Zealand survey of jury composition," *Chance*, 11 (1998), pp. 40–42.
- Page 580** Exercise 24.25: Brenda C. Coleman, "Study: Heart attack risk cut 74% by stress management," Associated Press dispatch appearing in the *Lafayette (Ind.) Journal and Courier*, October 20, 1997.
- Page 580** Exercise 24.26: David M. Blau, "The child care labor market," *Journal of Human Resources*, 27 (1992), pp. 9–39.

Part IV Review

- Page 584** Exercise IV.1: see www.rasmussenreports.com/public_content/politics/general_politics/january_2019/voters_believe_social_media_divides_us.
- Page 584** Exercise IV.2: see news.gallup.com/poll/238115/majority-americans-no-health-impact-few-drinks.aspx.
- Page 585** Exercise IV.5: see news.gallup.com/poll/245597/nurses-again-outpace-professions-honesty-ethics.aspx.
- Page 586** Exercise IV.10: see news.gallup.com/poll/237908/smoking-rate-hits-new-low.aspx.