

THE ANXIOUS GENERATION

HOW THE GREAT REWIRING
OF CHILDHOOD IS CAUSING AN
EPIDEMIC OF MENTAL ILLNESS

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SUPPLEMENTAL RESOURCES

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NOTES AND REFERENCES

NOTES

Introduction: Growing Up on Mars

1. Hamm et al. (1998); Milder et al. (2017).
2. Grigoriev & Egorov (1992); Strauss, M. (2016, November 30). We may finally know why astronauts get deformed eyeballs. *National Geographic*. www.nationalgeographic.com/science/article/nasa-astronauts-eyeballs-flattened-blurry-vision-space-science.
3. See, for example, Meta's response to Frances Haugen's revelations in the Facebook Files: Zuckerberg, M. (2021, October 5). Facebook. www.facebook.com/zuck/posts/10113961365418581. See also my rebuttal of Mark Zuckerberg's claim that the research shows that using Instagram is "generally positive for their mental health": Fridman, L. (2022, June 4). Jonathan Haidt: The case against social media. *Lex Fridman Podcast #291* (video). YouTube. www.youtube.com/watch?v=f0un-1L8Zw.
4. Once boys grew old enough, other companies began to sink their hooks into them, including sports-betting platforms and dating apps.
5. See here to learn about COPPA: Jargon, J. (2019, June 18). How 13 became the internet's age of adulthood. *Wall Street Journal*. www.wsj.com/articles/how-13-became-the-internets-age-of-adulthood-11560850201. In 2023, there was suddenly a great deal of bipartisan interest in protecting children from social media, with notable efforts in California and Utah, and a variety of bills introduced in the U.S. Congress, which I'll discuss in chapter 10.
6. Thorn & Benenson Strategy Group (2021); Canales (2021, May 13). 40% of kids under 13 already use Instagram and some are experiencing abuse and sexual

- solicitation, a report finds, as the tech giant considers building an Instagram app for kids. *Business Insider*. www.businessinsider.com/kids-under-13-use-facebook-instagram-2021-5.
7. In chapter 10, I will discuss the U.K.'s Age Appropriate Design Code, a version of which has been enacted in California too. Several U.S. states also passed age verification requirements and other regulations in 2023.
 8. Drum, K. (2016). Lead: America's real criminal element. *Mother Jones*. www.motherjones.com/environment/2016/02/lead-exposure-gasoline-crime-increase-children-health/; Kovarik, B. (2021, December 8). A century of tragedy: How the car and gas industry knew about the health risks of leaded fuel but sold it for 100 years anyway. *Conversation*. theconversation.com/a-century-of-tragedy-how-the-car-and-gas-industry-knew-about-the-health-risks-of-leaded-fuel-but-sold-it-for-100-years-anyway-173395. See both articles for reviews of the history of leaded gasoline and its effects on brain development and later criminality. Paint and water pipes were additional sources of lead poisoning.
 9. Pew Research identifies 1997 as the first year of Gen Z, but I believe 1997 is a bit too late; the new behaviors were clear in college students arriving on campus in 2014. See Parker & Igielnik (2020). Jean Twenge chose 1995 as the first year of "iGen." I split the difference between them and choose 1996 as the first year of Gen Z. Of course, generations are not separated by a bright line; nonetheless, they differ, as Twenge shows in her 2023 book, *Generations*.
 10. Of course, AI is looking like it will change *everything*, so we are likely to see a new generation beginning in the 2020s. But since AI is likely to pull children even farther away from the real world, my prediction is that it will lead to even higher levels of anxiety if we don't act now to reverse the Great Rewiring of Childhood.
 11. She lays this out in her book *Generations* (Twenge, 2023a). See also her earlier book *iGen* (Twenge, 2017).
 12. See for this story Haidt, J., & Rose-Stockwell, T. (2019). The dark psychology of social networks. *Atlantic*. www.theatlantic.com/magazine/archive/2019/12/social-media-democracy/600763/. I note that Tumblr had introduced a "reblog" feature in 2007, but its effects were small compared to Twitter's "retweet" in 2009.
 13. Steinberg (2023, Introduction).
 14. Examples include the rise of trigger warnings, safe spaces, and bias response teams, all of which were discussed in the *Atlantic* essay.
 15. Twenge, Martin, & Campbell (2018).
 16. See my summary of the research: Haidt (2023, February).
 17. Durocher, A. (2021, September 2). The general history of car seats: Then and now. *Safe Ride 4 Kids*. saferide4kids.com/blog/the-general-history-of-car-seats/.
 18. Food and Drug Administration (2010).
 19. Epictetus (1st–2nd century/1890, chapter 33). *The Enchiridion*.
 20. Marcus Aurelius (161–180 CE/2002, book 3, chapter 4).
 21. There has been a general rise in suicides among adults (ages 50 and above) in the United States, Canada, the U.K., and Australia since 2010, but these changes are generally smaller than the changes among younger populations (in relative terms). Importantly, the rises we see in the 2010s among adults were often preceded by decades of declining rates in the 1980s and 1990s. See Rausch & Haidt (2023, October).

22. See my essay with Eric Schmidt on how AI will supercharge four existing problems with social media: Haidt, J., & Schmidt, E. (2023, May 5). AI is about to make social media (much) more toxic. *Atlantic*. www.theatlantic.com/technology/archive/2023/05/generative-ai-social-media-integration-dangers-disinformation-addiction/673940/.

Chapter 1: The Surge of Suffering

1. Names and minor details have been changed to protect privacy.
2. The exception to this statement is suicide rates among American teens. Those rates generally declined in the early 2000s, hitting lows in 2007. The rates generally begin to rise in 2008, but they don't rise above where they had been in the early 2000s until after 2010. I will discuss suicide rates in a later section. If we look further back in time, we see that rates of depression, anxiety, and other disorders have been rising among American adolescents since the 1950s, with fluctuations. But there is nothing like the "hockey stick" increases in the early 2010s, which you'll see throughout this chapter and this book. See Twenge et al. (2010).
3. Data through 2021: Substance Abuse and Mental Health Services Administration. (2023).
4. Research note on demographic variation: Since 2010, an escalating trend in adolescent mental illness is evident across all groups in the United States, whether we look by sex, race, sexual orientation, or social class. Overall, Black teenagers have long had lower rates of anxiety, depression, self-harm, and suicide than their white counterparts, but both groups have seen a sharp increase since 2010, with larger absolute rises among white teens and larger relative (percentage) rises among Black teens (because they begin from a lower base rate). Data concerning social class is scarce, but depression follows similar trends across classes, with steep increases starting from 2010. Compared with heterosexual teens, LGBTQ teens report significantly higher rates in all the above measures. However, the evidence is inconclusive regarding the growth of self-harm and suicide rates among LGBTQ teens since 2010. For sources on these statistics and additional content, see the online supplement and see especially the link to Adolescent Mood Disorders Since 2010: A Collaborative Review.
5. As part of that process, I created a "collaborative review document" with Jean Twenge in 2019. This was a publicly visible Google Doc where we collected all of the studies, surveys, and data sets we could find that shed light on how teen mental health had changed from the early 2000s to the present day in the United States and the U.K. We invited other researchers to add to the doc and critique it. (You can view this collaborative review document and others that I will mention throughout this book at www.anxiousgeneration.com/reviews.)
6. Zahn-Waxler et al. (2008).
7. Askari et al. (2021).
8. The ACHA used only universities that had obtained representative samples using a standardized survey the ACHA had designed. The exact wording of the question was "Within the last 12 months, have you been diagnosed or treated by a professional for any of the following?"
9. American College Health Association (n.d.). You can see the data for female and

male students plotted separately in the online supplement. The patterns are the same, but the rates and increases for women are much higher for anxiety and for depression.

10. Each of the diagnoses in figure 1.2 is increasing, but only the three internalizing disorders are up more than 100%. (The eating disorder anorexia nervosa is related to anxiety and is therefore classified as an internalizing disorder.)
11. The exact wording of the question was “How often did you feel nervous during the past 30 days,” and the numbers graphed here are the percent who chose either of the highest two options, out of five: “all of the time” or “most of the time.” This question was asked only to those high school seniors who were 18 or older. U.S. National Survey on Drug Use and Health, re-graphed from Goodwin et al., (2020).
12. American Psychiatric Association (2022, p. 215).
13. Parodi et al. (2022). The nationally representative NSDUH survey found similar results with rates for 18–25-year-old girls increasing from 26.13% in 2010 to 40.03% in 2021, while boys increased from 17.35% to 20.26%.
14. The corresponding numbers for depression were 16% “always” or “most of the time,” 24% “about half the time,” and 60% “less than half the time” or “never.”
15. LeDoux (1996) showed that visual information takes two paths through the brain, one of which gets neural signals to the amygdala and hypothalamus nearly immediately, while information in the other path reaches the visual processing areas of the occipital cortex.
16. For a review of anxiety and anxiety disorders, see Wiedemann (2015) and Szuhany & Simon (2022).
17. My description of depression is taken primarily from the chapter on depressive disorders in the *DSM-5-TR*, American Psychiatric Association (2022).
18. Shakespeare, *Hamlet*, 1.2.133–134.
19. Friedman, R. (2018, September 7). The big myth about teenage anxiety. *New York Times*. www.nytimes.com/2018/09/07/opinion/sunday/teenager-anxiety-phones-social-media.html.
20. U.S. Centers for Disease Control, National Center for Injury Prevention and Control. I first encountered a version of this graph in Mercado et al. (2017). I then went to the original source to add on more recent years.
21. You can see graphs of all these trends in the online supplement. The rate for all women over 24 went *down* 25% in that time period.
22. Centers for Disease Control and Prevention. (n.d.).
23. The graph for older teens is quite similar, and can be viewed along with many other graphs in the online supplement.
24. Girls suffer more depression and make more suicide attempts, but they tend to use methods that are reversible, such as cutting their wrists or taking an overdose of sleeping pills. Boys make fewer attempts, but when they do attempt, they are more likely to use methods that can't be reversed, such as a gun or jumping from a tall building.
25. Ortiz-Ospina, E. (2019, September 18). The rise of social media. Our World in Data. ourworldindata.org/rise-of-social-media.
26. I note that the number of liberal democracies around the globe reached its peak during that decade, as I'll discuss in my next book, *Life After Babel*.
27. Chapters 2, 5, and 6 will explain the many mechanisms by which social media damages mental health.

28. Lenhart (2012).
29. Lauricella et al. (2016).
30. Rideout (2021).
31. The report notes, “Much of this frenzy of access is facilitated by mobile devices” (Lenhart, 2015).
32. The largest recipients of teenage attention were five platforms: YouTube, TikTok, Instagram, Snapchat, and Facebook. In fact, 35% of American teens said that they were on at least one of those platforms “almost constantly” (Vogels et al., 2022).
33. Turkle (2015, p. 3).
34. Samsung had introduced smartphones for the Android operating system in 2009.
35. Systrom, K. (2013, February 5). Introducing your Instagram feed on desktop. Instagram. about.instagram.com/blog/announcements/introducing-your-instagram-feed-on-desktop.
36. Protalinski, E. (2012, May 1). Instagram passes 50 million users. *ZDNET*. www.zdnet.com/article/instagram-passes-50-million-users/.
37. Iqbal, M. (2023, May 2). Instagram revenue and usage statistics (2023). *Business of Apps*. www.businessofapps.com/data/instagram-statistics/.
38. The Sandy Hook shooting was one of the most horrific of many mass shootings at American schools. A mentally ill young man charged into an elementary school in Newtown, Connecticut, and murdered 20 children—all aged six or seven—along with six adults.
39. Vermeulen (2021). Also see Twenge (2023, October 24) where she lays out 13 other theories that people have raised as possible explanations for the youth mental health crisis, and why 12 of them don’t hold up to scrutiny. Note that Twenge and I both believe that one of those alternative theories is right and important. Alternative #6: “It’s because children and teens have less independence.”
40. U.S. Bureau of Labor Statistics. (n.d.). Depression data is from the Substance Abuse and Mental Health Services Administration. (2023). *National Survey on Drug Use and Health*.
41. This was one of Durkheim’s (1897/1951) findings in his masterpiece *Suicide, a Study in Sociology*. It has been confirmed by later research, for example, Rojewicz (1971) and Lester (1993).
42. Bauer et al. (2016).
43. Klar & Kasser (2009). The quotation is from Petré, R. (2010, May 12). Smile, you’re an activist! *In These Times*. inthesetimes.com/article/smile-youre-an-activist.
44. Conner, Crawford & Galiotor (2023); Latkin et al. (2022).
45. Belsie, L. (2011). Why Canada didn’t have a banking crisis in 2008. National Bureau of Economic Research. www.nber.org/digest/dec11/why-canada-didnt-have-banking-crisis-2008.
46. See my review document, *The Coddling of the Canadian Mind? A Collaborative Review*, www.anxiousgeneration.com/reviews. See especially Garriguet (2021, p. 9, chart 6).
47. Garriguet (2021). *Portrait of youth in Canada: Data report*.
48. See the online supplement. Since 2010, suicide rates have been rising for Canadian adolescent girls, but not boys. For boys, this is a pattern I find in many

countries: Depression and anxiety rates tend to go together, while suicide rates are somewhat more variable. For girls, anxiety, depression, self-harm, and suicide rates tend to go together. And among girls, suicide rates have been rising across the five Anglophone countries. Note that suicide is complex and rare; it is influenced by many factors, such as the prevalence of guns in homes, the difficulty of getting emergency psychiatric care, and the level of social integration (as Émile Durkheim showed). It is by far the most serious mental health outcome, but it is not the most reliable indicator of the overall mental health of the population. See Rausch & Haidt (2023, October 30).

49. See my review document, *Adolescent Mood Disorders Since 2010: A Collaborative Review*, which you can find linked from the online supplement. It includes dozens of studies on trends in the U.K. and the United States. See especially Cybulski et al. (2021).
50. In the U.K., unlike the United States, the boys' self-harm rate goes up by more than the girls' rate in relative terms, although still much less in absolute terms. I should also note that suicide rates in England and Wales had been dropping overall since the 1980s and remained relatively steady through the early 2000s. Yet against that backdrop of decline, the overall suicide rate has been slowly rising since the 2010s, with a particularly rapid rise among teen boys and girls (along with adult males in their 50s and 60s). Note that the base rates for suicide among adolescents in England and Wales are much lower than in the United States. Once again, the relative increases for teen (15–19) girls are larger than for any other group. See Rausch & Haidt (2023, October 30).
51. I re-graphed the data to put boys and girls in the same figure. You can find the graphs for the other age groups in the online supplement. Cybulski et al. (2021). I thank Lukasz Cybulski for sending me the summary data.
52. Rausch & Haidt (2023, March 29). See also the international review docs that Zach Rausch and I curate for many countries, at www.anxiousgeneration.com/reviews.
53. Australian Institute of Health and Welfare (2022). Although this dataset begins in 2007, other measures of mental health outcomes (e.g., self-reported psychological distress) show no rise in the early 2000s, and increases beginning around 2010. See online supplement for more.
54. For Zach's full analysis of mental health changes in the Nordic countries, see Rausch & Haidt (2023, April 19). High level of distress in figure 1.11 refers to those who reported suffering from at least three psychological ailments at least once a week over the last six months. The ailments were selected from a list of four ailments.
55. There are only a few global surveys that examine adolescent mental health trends over time, with PISA and the Health Behavior in School-Aged Children Study (HBSC) being key sources. The HBSC, initiated in 1983, predominantly covers teens in Europe and North America. Using the HBSC, Cosma et al. (2020) found small declines in teenage mental well-being since 2002. However, this decrease was more pronounced in northern and western Europe and in Canada.
56. Health Behaviour in School-Aged Children (HBSC) (2002–2018). Graphs and data were organized and created by Thomas Potrebny and Zach Rausch.
57. I thank Oliver Hartwich at the New Zealand Initiative, who pointed me to these items.

58. Twenge et al. (2021).
59. Twenge et al. (2021). Data from PISA. Survey data on school alienation was not collected in 2006 and 2009. The PISA data is available for download: Organization for Economic Cooperation and Development (OECD). *PISA survey* [Data sets]. www.oecd.org/pisa/data/.
60. Zach and I have been looking for alternate explanations for a long time. Is there anything else, besides the arrival of smartphones and social media, that could affect teens all around the world at the same time, such as a new chemical released widely around 2012? Or perhaps something that happened in the mid-1990s that affected babies in utero? We consider a few such possibilities in our review document, *Alternative Hypotheses to the Adolescent Mental Illness Crisis: A Collaborative Review*, www.anxiousgeneration.com/reviews.
61. We are collecting international data, and Zach is writing a series of Substack posts exploring mental health trends around the world. You will find links to these posts with updates about our international findings in the online supplement for this chapter.

Chapter 2: What Children Need to Do in Childhood

1. For evidence of a rapid decline in time spent with friends, see Twenge, Spitzberg & Campbell (2019).
2. Walker et al. (2006).
3. Tanner (1990).
4. There are some documented cases of chimpanzee “culture,” where a trick about food gathering or processing is handed down within a community. But these cases are few and far between; cultural learning does not seem to be a major form of chimpanzee learning. See Tomasello (1994, pp. 301–317) for a review.
5. This phrase is often attributed either to the great developmental psychologist Jean Piaget or to Maria Montessori, founder of an educational movement that immerses children in opportunities for free play. As far as I can tell, nobody can find a place where either person wrote that phrase, but it is in keeping with both of their philosophies.
6. See the work of Peter Gray, especially Gray et al. (2023); see also my review document *Free Play and Mental Health: A Collaborative Review*, www.anxiousgeneration.com/reviews.
7. Gray (2018).
8. Gray (2011, p. 444).
9. Brussoni et al. (2012).
10. Gray (2013).
11. See principle 7. Child Rights International Network. (1959, November 20). *UN declaration on the rights of the child (1959)*. archive.crin.org/en/library/legal-database/un-declaration-rights-child-1959.html.
12. The wording of the item was changed in 2018, so later data is not available. The survey offered five response choices about how often students “get together with friends informally.” They ranged from “never” to “almost every day.” See further exploration in Twenge, Spitzberg & Campbell (2019).
13. Research note: Throughout this book, I’ll present a series of graphs that Zach Rausch and I created from the Monitoring the Future (MTF) survey data (like

figure 2.1). MTF surveys 8th, 10th, and 12th graders about many attitudes and behaviors every year. I will usually show graphs that take the average of all three grades, to give the most comprehensive picture of what is happening to American teens. I will almost always plot the data for boys and girls separately. While MTF began collecting 12th-grade data in 1976, the data gathering for 8th and 10th graders commenced only in 1991, and some variables were later introduced; for instance, weekly social networking usage was added in 2013. At times, I'll show data exclusively from the 12th graders to extend our historical perspective back to the 1970s. I deliberately end most graphs in 2019, even though data is available through 2021, because the COVID pandemic made responses jump around in ways that often distract from the main message about what happened during the Great Rewiring (2010–2015). Also, sample sizes were much smaller in 2020 and 2021, making them less reliable. All graphs show data with the recommended weighting applied and grouped into two-year buckets (for example, data for 2018 and 2019 are averaged together). I do this because plotting every single year often produces a spikiness that obscures underlying trends. Merging pairs of years effectively smooths out the lines to reveal the trends. However, to be complete in my presentation of data, I also show versions of each graph in the online supplement—versions that plot every single year and that run through 2021. For graphs where I showed only 12th graders in the text, I give the graph with the three grades pooled in the supplement if data is available for the younger grades. You can download the MTF data for yourself, along with all other data used this book, at github.com/AfterBabel.

14. Sherman et al. (2009).
15. Cohn & Tronick (1987); Beebe et al. (2010); Wass et al. (2020).
16. Auxier et al. (2020, July 28).
17. National Institute of Play. (n.d.). *Attunement Play*. www.nifplay.org/what-is-play/types-of-play/attunement-play.
18. Ehrenreich (2006); McNeill (1995).
19. Durkheim (1912/1951).
20. Wiltermuth & Heath (2009).
21. See, for example, GlobalWebIndex (2018), which estimated 3 hours per day for ages 16–24 back in 2018. In its 2021 report, GlobalWebIndex found Gen Z using social media platforms 3–4 hours per day in all regions of the world other than Asia-Pacific; Common Sense Media's (2021) census reports lower numbers in its survey of American teens: For those who said that they use social media, boys reported using it an average of 1 hour and 42 minutes per day, while girls reported an average of 2 hours and 22 minutes (Rideout et al., 2022).
22. George & Haidt (2023).
23. Richerson & Boyd (2004). The theory of gene-culture coevolution was developed by Boyd & Richerson (1985); Joe Henrich was a student of Boyd's who developed the theory further.
24. In chapter 5, I will offer a definition of social media. Although streaming platforms like Netflix and Hulu contribute to socialization, social media's unique elements such as social validation, frequent reinforcement for behaviors, public displays of followers and likes, and profiles of relatable peers slightly older than the user make it an even more potent force.
25. Henrich's first paper on prestige bias was written with Francisco Gil-White

- (2001). Henrich developed the argument in many later works, including his book *The Secret of Our Success* (2015).
26. Sean Parker in *Axios*: Allen, M. (2017, November 9). Sean Parker unloads on Facebook: “God only knows what it’s doing to our children’s brains.” *Axios*. www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792.
 27. According to Wikipedia, the phrase was first used by the British journalist Malcolm Muggeridge in 1967, writing that “in the past if someone was famous or notorious, it was for something—as a writer or an actor or a criminal; for some talent or distinction or abomination. Today one is famous for being famous. People who come up to one in the street or in public places to claim recognition nearly always say: ‘I’ve seen you on the telly.’”
 28. Black et al. (1998).
 29. McAvoy, T. D. (1955). Photograph of Dr. Lorenz studying unlearned habits of ducks and geese at Woodland Institute. Shutterstock.
 30. McCabe (2019).
 31. On sensitive periods, see Zeanah et al. (2011).
 32. Johnson & Newport (1989).
 33. Minoura (1992).
 34. Minoura (1992, p. 327).
 35. Orben et al. (2022). Note that there was also an unexpected appearance of a sensitive period around age 19 for both sexes, but this was thought to relate more to life circumstances, as teens often move away from home at that age, rather than indicating a biological sensitive period.
 36. See also a research project from Sapien Labs that surveyed tens of thousands of young adults around the world in 2023. They found that there was a direct linear relationship between the age at which young adults had received their first smartphone and their mental health as an adult: Those whose parents waited longer had better mental health on almost every measure than those who got a phone in elementary or middle school. This study of phone acquisition failed to find a specific sensitive period; rather, it found a cumulative effect of harm throughout childhood (Sapien Labs, 2023).

Chapter 3: Discover Mode and the Need for Risky Play

1. Ingraham, C. (2015, April 14). There’s never been a safer time to be a kid in America. *Washington Post*. www.washingtonpost.com/news/wonk/wp/2015/04/14/theres-never-been-a-safer-time-to-be-a-kid-in-america; Let Grow. (2022, December 16). Let Grow takes a look at crime statistics. letgrow.org/crime-statistics/.
2. Bowles, N., & Keller, M. H. (2019, December 7). Video games and online chats are “hunting grounds” for sexual predators. *New York Times*. www.nytimes.com/interactive/2019/12/07/us/video-games-child-sex-abuse.html.
3. Horwitz, J., & Blunt, K. (2023, June 7). Instagram connects vast pedophile network. *Wall Street Journal*. www.wsj.com/articles/instagram-vast-pedophile-network-4ab7189.
4. Richerson & Boyd (2004).
5. The BIS-BAS theory was originally proposed by Gray (1982). For a more recent review see Bijttebier et al. (2009).

6. I take the labels “discover mode” and “defend mode” from Caroline Webb’s excellent 2016 book, *How to Have a Good Day*.
7. See, for example, Petersen, A. (2016, October 10). Students flood college mental-health centers. *Wall Street Journal*. www.wsj.com/articles/students-flood-college-mental-health-centers-1476120902.
8. A version of this graph first appeared in *The Wall Street Journal*: Belkin, D. (2018, May 4). Colleges bend the rules for more students, give them extra help. *Wall Street Journal*. www.wsj.com/articles/colleges-bend-the-rules-for-more-students-give-them-extra-help-1527154200. Zach Rausch and I obtained the data from HERI and re-created the graph, adding additional years. Higher Education Research Institute (HERI). (2023).
9. See examples in *The Coddling of the American Mind* (2018), and also see Gosden, E. (2016, April 3). Student accused of violating university “safe space” by raising her hand. *Telegraph*. www.telegraph.co.uk/news/2016/04/03/student-accused-of-violating-university-safe-space-by-raising-he.
10. See my review document, The Coddling of the Canadian Mind? A Collaborative Review, www.anxiousgeneration.com/reviews.
11. Taleb (2012).
12. Gilbert, D. (2004). The surprising science of happiness. TED. www.ted.com/talks/dan_gilbert_the_surprising_science_of_happiness.
13. Phelan (2010).
14. Raudino et al. (2013); Shoebridge & Gowers (2000). For reviews and an updated list, see section 7 of Free Play and Mental Health: A Collaborative Review, www.anxiousgeneration.com/reviews.
15. Sandseter & Kennair (2010). See also their more recent essay: Sandseter et al. (2023).
16. Poulton & Menzies (2002a, 2002b).
17. Sandseter et al. (2023).
18. Used with permission from the collections of the Dallas History & Archives Division, Dallas Public Library.
19. Video games are certainly challenging and exciting, but they do not offer the anti-phobic benefits of risky play (although virtual reality has been found useful as part of exposure therapy in the treatment of specific types of phobias). See Botella et al. (2017).
20. See a collection of photos here: The dangerous playgrounds of the past through vintage photographs, 1880s–1940s. (2023, January 29). Rare Historical Photos. rarehistoricalphotos.com/dangerous-playgrounds-1900s.
21. Kitzman, A. (2023). *Merry go round* [Photograph]. Shutterstock.
22. See research on “adventure playgrounds,” described by Rosin, H. (2014, April). The overprotected kid. *Atlantic*. www.theatlantic.com/magazine/archive/2014/04/hey-parents-leave-those-kids-alone/358631/. See Barry, H. (2018, March 10). In Britain’s playgrounds, “bringing in risk” to build resilience. *New York Times*. www.nytimes.com/2018/03/10/world/europe/britain-playgrounds-risk.html; Whipple, T. (2019, January 25). Taking risk out of children’s lives is putting them in danger. *The Times*. www.thetimes.co.uk/article/taking-risk-out-of-children-s-lives-is-putting-them-in-danger-v7fzcs8b7.
23. Sagdejev, I. (2009). *Hampton forest apartment homes playground* [Photograph]. Wikimedia Commons. commons.wikimedia.org/wiki/File:2009-04-21_Hampton_Forest_Apartment_Homes_playground.jpg.

24. Photo by Jayne Riew.
25. Nauta et al. (2014).
26. See Brussoni's video and project at outsideplay.ca/.
27. Brussoni et al. (2012, p. 3134).
28. Hofferth & Sandberg (2001); Kemple et al. (2016).
29. Tremblay, M. S., & Brussoni, M. (2019, December 16). If in doubt, let them out—children have the right to play. *Conversation*. theconversation.com/if-in-doubt-let-them-out-children-have-the-right-to-play-128780. See also the decline in walking to school (Buliung et al., 2009); Canadian parents and legislators should read the work of Mariana Brussoni at spph.ubc.ca/faculty/mariana-brussoni/.
30. O'Brien & Smith (2002); Dodd et al. (2021); Shaw et al. (2015).
31. Thanks to Eli Finkel, who re-created the graph from the original study (Ramey & Ramey, 2009) in his book *The All-or-Nothing Marriage* and then provided me with the data points to create my own graph.
32. Hofferth & Sandberg (2001).
33. Mullan (2018, 2019).
34. This focus on rising competition and inequality is also the thesis of Doepke et al. (2019).
35. Lareau (2003).
36. DeLoache et al. (2010).
37. Ishizuka (2018).
38. See, for example, Putnam (2000).
39. Gemmel et al. (2023). Also, smaller families meant fewer kids to play with.
40. Furedi (2001). Greg and I had a chapter in *The Coddling of the American Mind* titled "Paranoid Parenting," which was influenced by Furedi, but to our great regret we had failed to quote or cite Furedi directly.
41. See summary in Tiffany, K. (2021, December 9). The great (fake) child-sex-trafficking epidemic. *Atlantic*. www.theatlantic.com/magazine/archive/2022/01/children-sex-trafficking-conspiracy-epidemic/620845/.
42. For an overview of the day care sex abuse panics and the false charges they engendered, see Casey, M. (2015, July 31). How the day care child abuse hysteria of the 1980s became a witch hunt. *Washington Post*. www.washingtonpost.com/opinions/a-modern-witch-hunt/2015/07/31/057effd8-2f1a-11e5-8353-1215475949f4_story.html. See also Day-care sex-abuse hysteria. (2023, June 23). In Wikipedia. Accessed June 28, 2023, en.wikipedia.org/wiki/Day-care_sex_abuse_hysteria.
43. Furedi (2001, p. v).
44. Hillman et al. (1990).
45. Coughlan, S. (2014, December 23). Childhood in the US "safer than in the 1970s." BBC. www.bbc.com/news/education-30578830.
46. For an infuriating recent example, see Skenazy, L. (2022, November 16). Suburban mom handcuffed, jailed for making 8-year-old son walk half a mile home. *Reason*. reason.com/2022/11/16/suburban-mom-jailed-handcuffed-cps-son-walk-home/.
47. For a review of the research indicating that the deprivation of play and autonomy can increase risk of anxiety disorders, see Gray et al. (2023).
48. Haslam (2016).

49. See the online supplement for the Ngram graph of the term “emotional safety.”
50. Edmondson (1999).
51. Haefeli, W. (2004) We’ve Created a Safe poster. *The New Yorker* © Condé Nast.
52. Lukianoff and Haidt (2018, p. 27). We thank Pamela Paresky for inventing the term.
53. Photo by Robert Strand.
54. See Pew Research Center (2015, pp. 50–51). The ages parents give are influenced by how safe they perceive their neighborhoods to be, but not by much. Parents who say that their neighborhood is an excellent or very good place to raise kids offer ages just one year less than those I listed in the text. See also for similar results Grose, J., & Rosin, H. (2014, August 6). The shortening leash. *Slate*. www.slate.com/articles/life/family/2014/08/slate_childhood_survey_results_kids_today_have_a_lot_less_freedom_than_their.html.
55. Fay, D. (2013). Diagram of a secure attachment [Photograph]. In *Becoming safely attached: An exploration for professionals in embodied attachment*. dfay.com/archives/3134. Box and right-hand text added by Haidt.
56. See chapter 7 of Ames and Ilg’s 1979 book, *Your Six-Year-Old: Loving and Defiant*, which lists the things a six-year-old should be able to do by the start of first grade, including “Can he travel alone in the neighborhood (4–8 blocks) to store, school, playground, or to a friend’s home?”

Chapter 4: Puberty and the Blocked Transition to Adulthood

1. Hebb (1949).
2. The cement analogy overstates the lockdown. The brain continues to be malleable for life in the sense of forming new synapses, and there are some areas of the brain where new neurons continue to grow during adulthood. Adults continue to learn, and all learning involves some kind of brain change. But structural change is far more limited after areas have transformed during puberty.
3. Steinberg (2023); Fuhrmann et al. (2015).
4. Steinberg (2023, p. 26).
5. See, for example, Hara Marano’s 2008 book, *A Nation of Wimps*. For evidence that the millennials developed an increasingly external locus of control, see Twenge et al. (2004).
6. Although Twenge (2023b) showed that there was a smaller rise among millennials, which began a year or two *after* the surge among Gen Z. Furthermore, Gray et al. (2023) have argued that children’s independence has been decreasing since the 1940s, and that some measures of psychopathology have been increasing, slowly, since then too. I acknowledge this point, this backstory, but because rates were generally flat or even improving in the 1990s and early 2000s, I am focused on why there was a surge of mental illness that began in the early 2010s.
7. The ability to process rapidly flashing images and written messages while multitasking on multiple screens was just not a selection pressure in human evolution, so it is not a skill that needs to be practiced in childhood. Even if today’s children will need to do that as adults, immersing children in such stimulation early does not make them better prepared for the future.
8. Brown (1991).
9. For my account of the sunrise dance I draw on Markstrom (2010) and Marks

- (1999). Apache female puberty sunrise ceremony. Web Winds. www.webwinds.com/yupanqui/apachesunrise.htm.
10. Lacey (2006).
 11. I obtained this clarification from Uri Bilmes, who had been trained as a rabbi: “It’s important to note that the age thresholds for adulthood were established in a different time and society. For reference, a famous passage in the rabbinic corpus lists different ages and their ideal corresponding stages of development in the following way: ‘Age five for Bible study, age 10 for Mishna study, age 13 for obligation in commandments, age 15 for Talmudic study, age 18 for marriage . . .’ In the world of 13-year-old adulthood, marriage was not to be pushed off beyond 18. In today’s society, the consideration of a 7th grader as a ‘man’ (whose mom still packs his lunch) is almost an anachronism, maybe even humorous.”
 12. Markstrom (2011, p. 157).
 13. For street gang initiation rites, see Descormiers and Corrado (2016).
 14. Nuwer (1999); Kim, Y. (2018, July 10). 8 girls get real about their crazy sorority experiences. *Seventeen*. www.seventeen.com/life/real-girl-stories/a22090500/craziest-sorority-hazing-stories/.
 15. This is found in the Monitoring the Future data that you can see in the online supplement. Also see Burge (2021).
 16. Of course the lines at 13 and 18 were blurry in practice. Kids could get into movies before 13 and into bars before 18 if they had a fake ID. But there was some risk involved—some actual fear when you handed your fake ID to the bartender or bouncer.
 17. Three items come from the Monitoring the Future data set: drinking alcohol: “Have you ever had beer, wine, or liquor to drink?”; work: “On the average over the school year, how many hours per week do you work in a paid or unpaid job?”; driver’s license: “Do you have a driver’s license?” The final item, sex, comes from the CDC Youth Risk Behavior Survey: “Have you ever had sexual intercourse?”
 18. Rideout et al. (2022) reports that 18% of 8–12-year-olds are now daily users of social media, mostly Snapchat and Instagram. If we could limit this finding to 11- and 12-year-olds, it would be much higher.
 19. As Ron Lieber says in his excellent 2015 book, *The Opposite of Spoiled*, “Every conversation about money is also about values. Allowance is also about patience . . . work is about perseverance.” He also recommends that a weekly allowance begin “by first grade, at the latest,” which is roughly age 6.
 20. Personally I think the age for the first smartphone should be 16, but given where we are now, and given the importance of getting smartphones and social media entirely out of the lives of middle school students, I’m proposing that we make the transition to high school—around age 14—be the bright line that anchors a new norm.

Chapter 5: The Four Foundational Harms: Social Deprivation, Sleep Deprivation, Attention Fragmentation, and Addiction

1. Thorndike (1898).
2. John Schroter. (2021, October 8). *Steve Jobs introduces iPhone in 2007* [Video]. YouTube. www.youtube.com/watch?v=MnrjzXM7a6o (time code 2:14); Jobs’ original vision for the iPhone: No third-party native apps. (2011, October 21).

- 9to5Mac. 9to5mac.com/2011/10/21/jobs-original-vision-for-the-iphone-no-third-party-native-apps.
3. Silver, S. (2018, July 10). The revolution Steve Jobs resisted: Apple's App Store marks 10 years of third-party innovation. *AppleInsider*. appleinsider.com/articles/18/07/10/the-revolution-steve-jobs-resisted-apples-app-store-marks-10-years-of-third-party-innovation.
 4. Turner, A. (2023). How many apps in Google Play Store? (August 2023). *BankMyCell*. www.bankmycell.com/blog/number-of-google-play-store-apps.
 5. To grasp the magnitude of the ad-centric model, consider that in 2019, 3.3 billion people used social media on a mobile device. And in 2019 alone, advertising accounted for 98% of Meta's revenue, which was more than \$69 billion. The same advertising-based business model powers TikTok, Snap, and most other major social media platforms. Their enormous revenues are a function of how well they cater to their customers—the advertisers—not the 3+ billion users. See Kemp (2019). That number increased to 4.9 billion in 2023; see Wong & Bottorff (2023).
 6. Lenhart (2015).
 7. For the history of definitions of social media since 1994, see Aichner et al. (2021).
 8. Brady et al. (2017).
 9. Pew Research Center (2021).
 10. See Halldorsdottir et al. (2021), Verduyn et al. (2015), and Kim et al. (2020), for evidence on the negative mental health effects of passive social media use.
 11. The numbers I report for total screen time come from Rideout & Robb (2019): around 5 hours a day of nonschool screen media for kids ages 8–12; 7–8 hours a day for older teens. Nagata, Ganson, et al. (2022) report findings consistent with those numbers: Children ages 9–10 were doing 4 hours of screen time a day before COVID. Nagata, Cortez, et al. (2022) report that 13-year-olds in the ABCD study were spending closer to 8 hours per day on screens in 2021. And the American College of Pediatricians (2020) found similar numbers: about 5 hours per day for 8–12-year-olds; nearly 7.5 hours for teens. All of these studies exclude screen use for school or homework; all are just leisure use, so I report this as around 40 hours per week for tweens and more than 50 hours per week for teens. Similar numbers are found in the U.K.: Hiley, C. (2022, September 13). Screen time report 2022. *Uswitch*. www.uswitch.com/mobiles/screentime-report.
 12. Twenge, Martin & Spitzberg (2019), analyzing data from Monitoring the Future.
 13. There is less data on technology use trends among Asian Americans. The results are contradictory, with some studies reporting lower screen time compared with white, Black, and Latino teens (see Nagata, Ganson, et al., 2022; Nagata et al. 2023), while others show that screen time use is comparable to Black and Hispanic teens (see Rideout et al., 2011).
 14. Research note: In previous decades, the digital divide has resulted in socioeconomic disparities, with wealthier families having quicker adoption and greater access to technology such as computers, laptops, and televisions. Although the digital divide still exists, it often plays out in unexpected ways in the United States. For example, despite 57% of U.S. adults with an income less than \$30,000 having high-speed broadband, compared with 83% of those earning between \$30,000 and \$100,000, lower-income families increasingly rely on smartphones for internet, leading to heavier smartphone usage. Notably, smartphone owner-

ship among tweens (8-to-12-year-olds) and teens (13-to-18-year-olds) doesn't vary significantly across social classes, though time spent on screens does. Tweens from lower-income families (who make less than \$35,000 a year) spend about three hours more per day on screens than their wealthier peers, while lower-income teens spend about two hours more. Moreover, many tech executives, including those from Silicon Valley, send their children to private schools like the Waldorf School of the Peninsula where screen use is prohibited. This is in contrast with many public schools that are advancing 1:1 technology programs, trying to give every child their own device. Additionally, many lower-income parents work multiple jobs, and they are more likely to raise a child in a single-parent household, leaving less time and energy to invest in monitoring the quantity and content of their child's screen use. The socioeconomic variation in screen use has been found in other countries too; see, for example, Pedersen (2022) in Denmark. Regarding race, Black and Hispanic youths are more likely to own a smartphone than their white counterparts. Black tweens spend about two more hours per day on screen time than white tweens do. Latino tweens have an even larger gap, spending about two and a half hours more than white tweens do. LGBTQ teens also report spending about three hours more time per day on screens than their cis heterosexual counterparts. For sources, see Vogels (2021); Rideout et al. (2022); Atske and Perrin (2021); Rideout and Robb (2019); Nagata et al. (2023); Assari (2020); Pulkki-Råback et al. (2022); Bowles, N. (2018, October 16). The digital gap between rich and poor kids is not what we expected. *New York Times*. www.nytimes.com/2018/10/26/style/digital-divide-screens-schools.html.

15. Vogels et al. (2022): "Across these five platforms, 35% of all U.S. teens say they are on at least one of them almost constantly."
16. Thoreau (1910, p. 39).
17. Gray (2023).
18. Kannan & Veazie (2023).
19. American Time Use Survey. I thank Dr. Viji Kannan for sending me the data points in Kannan & Veazie (2023), which Zach and I re-graphed to create this figure.
20. Twenge (2017, Chapter 3). See also Twenge, Spitzberg & Campbell (2019). I'll show in chapter 6 that these are not just correlations; experiments show causation, especially for social media.
21. Barrick et al. (2022).
22. Przybylski & Weinstein (2012). For a review of research, see Garrido et al. (2021).
23. *Highlights* (2014, October 14). National survey reveals 62% of kids think parents are too distracted to listen. PRNewswire. www.prnewswire.com/news-releases/national-survey-reveals-62-of-kids-think-parents-are-too-distracted-to-listen-278525821.html.
24. Pew Research Center (2020).
25. With thanks to Jacob Silliker for sharing his insights with me, and for his permission to reprint them here.
26. Hummer & Lee (2016).
27. Tarokh et al. (2016); Lowe et al. (2017).
28. Wolfson & Carskadon (2003); Perez-Lloret et al. (2013).
29. Dahl (2008); Wheaton et al. (2016).

30. Owens et al. (2014); Garbarino et al. (2021).
31. Paruthi et al. (2016).
32. James Maas, quoted in Carpenter, S. (2001, October). Sleep deprivation may be undermining teen health. *Monitor on Psychology*, 32. www.apa.org/monitor/oct01/sleepteen.
33. National Addiction & HIV Data Archive Program (n.d.-a, n.d.-b). *Monitoring the Future*.
34. Alonzo et al. (2021).
35. Perrault et al. (2019). Also see Garrison & Christakis (2012) and Mindell et al. (2016).
36. For video games, see Peracchia & Curcio (2018). For e-readers, see Chang et al. (2014). For computers, see Green et al. (2017). For social media, see Rasmussen et al. (2020). There are a few studies that report little to no effect of screen use on sleep. See Przybylski (2019).
37. Hisler et al. (2020).
38. There are many studies on this topic. To add some international evidence: a large study (Khan et al., 2023) analyzed the results of a survey given to teens in 38 countries and found that heavy users of all digital media had more sleep problems than did light users, with effects kicking in above two hours a day for each media type, and accelerating above four hours per day (again suggesting that addiction contributes to these effects). The effects were generally larger for girls. I should note that the effects for “passive screen time,” which was mostly TV and videos, did not appear until daily average time was above four hours. This is a consistent finding: TV, which is passive, is not as bad as social media or video games, which involve rapid behaviors that get reinforced with rewards, and hence are more addictive.
39. Guo et al. (2022); Ahmed et al. (2022); Kristensen et al. (2021); Alimoradi et al. (2019).
40. As quoted in Hern, A. (2017, April 18). Netflix’s biggest competitor? Sleep. *Guardian*. www.theguardian.com/technology/2017/apr/18/netflix-competitor-sleep-uber-facebook.
41. Goldstone et al. (2020).
42. Statista. (2023, April 18). *Weekly notifications from social apps to U.S. Gen Z mobile users 2023*. www.statista.com/statistics/1245420/us-notifications-to-social-app-ios-users. I note that most teens don’t use all 13 apps, although the average teen has an account on 7–8 social media platforms; Kemp, S. (2023, January 26). DataReportal. datareportal.com/reports/digital-2023-deep-dive-time-spent-on-social-media. Of course many teens learn to turn notifications off for some apps, and many use built-in features to turn off all notifications temporarily. But my students agree: Their phones interrupt them continuously throughout the day.
43. James (1890, chapter 11).
44. Carr (2012, p. 7).
45. I developed this argument about the necessity of phone-free schools, in Haidt, J. (2023, June 6). Get phones out of school now. *Atlantic*. www.theatlantic.com/ideas/archive/2023/06/ban-smartphones-phone-free-schools-social-media/674304.

46. Kim et al. (2019).
47. Madore & Wagner (2019).
48. Ward et al. (2017). I note that one attempt to replicate the study did not find that phone location affected performance (Ruiz Pardo & Minda, 2022). But other studies have found that when phones are visible, they have disruptive effects. See Dwyer et al. (2018); Tanil & Young (2020); Skowronek et al. (2023).
49. For additional sources on the relationship between ADHD and screen time, see Boer et al. (2019); Liu et al. (2023); Santos et al. (2022); Tamana et al. (2019).
50. Boer et al. (2020).
51. Baumgartner et al. (2018).
52. There is a correlation of heavy or problematic social media use with lower executive function; see Reed (2023). But it is difficult to test experimentally whether long-term use has damaging effects because it would be unethical to randomly assign young people to a heavy social media use condition.
53. See Alavi et al. (2012) & Grant et al. (2010) for discussions around the classification, similarities, and differences between behavioral and chemical addictions.
54. See, for example, Braun, A. (2018, November 13). Compulsion loops and dopamine hits: How games are designed to be addictive. *Make Tech Easier*. www.maketecheasier.com/why-games-are-designed-addictive.
55. I thank Nir Eyal for permission to reprint this figure. Eyal also published a book in 2019 titled *Indistractable: How to Control Your Attention and Choose Your Life*, which provided strategies for breaking bad tech habits.
56. Spence et al. v. Meta Platforms Inc., No. 3:22-cv-03294, N.D. Cal. (San Francisco, 2022), Document 1, pp. 24–25, para. 32. socialmediavictims.org/wp-content/uploads/2022/06/Spence-Complaint-6_6_22.pdf.
57. Lembke (2021, p. 57).
58. American Psychiatric Association (2023, January). See also Marcelline, M. (2022, December 12). Canada judge authorizes *Fortnite* addiction lawsuit. *PCMag*. www.pcmag.com/news/canada-judge-authorizes-fortnite-addiction-lawsuit.
59. Chang et al. (2014).
60. Lembke (2021, p. 1).
61. See especially Maza et al. (2023).
62. U.S. Department of Health and Human Services (2023).
63. Vogels & Gelles-Watnick (2023).
64. Nesi et al. (2023).
65. Berger et al. (2022); Berger et al. (2021); Nagata et al. (2023).
66. See Social Media and Mental Health: A Collaborative Review, which Zach Rausch, Jean Twenge, and I curate. Very few studies find benefits. Available at www.anxiousgeneration.com/reviews.
67. YouTube is technically a form of social media, but it is mostly used as a source of information. It is implicated in radicalization and many other social and psychological problems, but when people rate the pluses and minuses of platforms, YouTube gets among the most positive ratings; see, for example, Royal Society for Public Health (2017).
68. Adding a further reason to doubt: Many of the studies used to support claims about the social and educational benefits of social media are actually reporting results from studies on internet use, and some were conducted before 2012,

before Instagram, Snapchat, and TikTok became popularized. See Uhls et al. (2017) for a review of the benefits. They refer to many studies before 2012 and include sources that focus on internet use, such as Borca et al. (2015).

69. Nesi et al. (2023).
70. Vogels (2022).

Chapter 6: Why Social Media Harms Girls More Than Boys

1. Spence et al. v. Meta Platforms Inc., No. 3:22-cv-03294, N.D. Cal. (San Francisco, 2022), Document 1, pp. 110–111, para. 187. socialmediavictims.org/wp-content/uploads/2022/06/Spence-Complaint-6_6_22.pdf. Drawing used with permission from Alexis’s parents. I am working with the law firm representing the Spences.
2. Several studies have found links between social media use and suicidal thoughts, for girls but not for boys. See Coyne et al. (2021). See also Brailovskaia, Krasavtseva, et al. (2022), who looked only at women in Russia. They found that “problematic social media use significantly mediated the relationship between daily stress and suicide-related outcomes,” but this was true only for younger women (below age 29), not for older women.
3. See Rausch & Haidt (2023, March 29).
4. Research note: The graphs in this chapter are mostly about American teens because there is excellent data on them going back in some studies to the 1970s, particularly the Monitoring the Future study. I am confident that these trends are similar in the other Anglosphere countries. I believe—from some large international studies and from what people write to me—that these trends are happening in much of Europe and Latin America. I know little about trends in Asia or Africa, although the isolating, loneliness-inducing effects of rapid technological change on social relationships may be muted in more collectivist, religious, and family-oriented societies. Sources: Rausch (2023, March); also the international reviews that Zach Rausch and I curate, available at www.anxiousgeneration.com/reviews.
5. Orben & Przybylski (2019).
6. Twenge, Haidt, et al. (2022). We reanalyzed the same data sets used by Orben & Przybylski (2019), and we addressed a few other problems we saw in that study, such as controlling for psychological variables that are related to mental health, rather than just controlling for demographic variables, as is usually done. We found correlations between social media use and mental health equivalent to $r = 0.20$, which is in the ballpark of binge drinking, not eating potatoes, in those data sets.
7. There has been a surprising convergence in recent years around the size of the correlation between social media use and internalizing disorders (especially anxiety and depression). Jean Twenge and I have found it to be around $r = 0.20$ when you limit the analysis to girls and social media (where r is the “Pearson correlation coefficient” that runs from $r = -1.0$ for a perfect negative correlation, through $r = 0$ for a complete absence of correlation, to $r = 1.0$ for a perfect positive correlation). Orben & Przybylski (2019) said that the correlation was equivalent to $r < 0.04$, which truly would be negligible, but again, that was for all digital activities and all teens. When Amy Orben (2020) reviewed many other studies that were limited to social media (rather than all digital media), she

found that the associations with well-being range from $r = 0.10$ to $r = 0.15$, and that was for boys and girls combined. The effects are usually larger for girls, so that puts it up above $r = 0.15$ for the link between social media and poor mental health for girls, which is very close to what Twenge and I have found. Jeff Hancock, another major researcher who has been skeptical of the claim that social media harms teen mental health, conducted a meta-analysis of studies through 2018 (Hancock et al., 2022). He and his coauthors found that time on social media was not substantially associated with most well-being variables, with the exception of depression and anxiety. For those outcomes the correlations were, once again, between $r = 0.10$ and $r = 0.15$, and that, again, is for boys and girls merged. So the research community is closing in on a consensus that crude measures of social media use are correlated with crude measures of anxiety and depression, for girls, at a level around or above $r = 0.15$. (If measurement of the two variables was better, the correlations would be higher.) Is $r = 0.15$ tiny? Not in public health (see Götz et al., 2022).

8. I note that in Twenge, Haidt, et al (2022) and other studies, “internet use” often shows similarly high correlations with poor mental health, for girls in particular. I also note that some studies find moderator variables—that is, variables that make some girls more or less prone to harm from social media. Some that have been found include early puberty, high media consumption, and preexisting depression or anxiety. See section 2 of Social Media and Mental Health: A Collaborative Review.
9. See a review of these studies in my Substack post: Social Media Is a Major Cause of the Mental Illness Epidemic in Teen Girls. Here’s the Evidence (Haidt, 2023, February 23).
10. Denworth, L. (2019, November 1). Social media has not destroyed a generation. *Scientific American*. www.scientificamerican.com/article/social-media-has-not-destroyed-a-generation.
11. Millenium Cohort Study. Analyzed by Kelly et al. (2018). Replotted by Zach Rausch.
12. Some studies do find that adolescents with preexisting depression are more likely to seek out social media. But many studies establish that heavy social media use causes depression, and some of the longitudinal studies establish that increasing social media use at Time 1 predicts greater depression at Time 2. See, for example, Primack et al. (2020); Shakya & Christakis (2017).
13. Hunt et al. (2018, p. 751).
14. Kleemans et al. (2018).
15. In the Social Media and Mental Health collaborative review document that Jean Twenge, Zach Rausch, and I curate, we collect the abstracts of hundreds of studies on social media, organized by whether they find evidence of harm or not. As I write, in 2023, we have 20 RCT studies in the document, of which 14 (70%) found evidence of harm. Of the 6 experiments that did not find evidence of harm, it is noteworthy that 4 of them asked participants to give up social media for a short time period—one week or less. I believe we should not expect benefits from making addicts give up their drug for a short time. They need at least three weeks for their brains to reset and get past withdrawal cravings. Of the 14 that found an effect, only 2 used a time interval of one week or less. So if we eliminate the 6 studies that used short durations, we are left with a ratio of 12 to 2, or 86% that found a significant effect.

16. This is known as *Metcalfe's law*: The financial value or influence of a telecommunications network is proportional to the *square* of the number of connected users of the system. Metcalfe's law (2023, June 27). Wikipedia. Accessed July 10, 2023, en.wikipedia.org/wiki/Metcalfe%27s_law.
17. This is what teachers tell me, and it is what I see even among MBA students at NYU Stern. An increase in conversation and laughter is widely reported as an effect when schools require phones to be locked away during the school day; see Cook, H. (2018, February 20). Noise levels dialed up as school's total phone ban gets kids talking. *Age*. www.theage.com.au/national/victoria/noise-levels-dialed-up-as-school-s-total-phone-ban-gets-kids-talking-20180220-p4z0zq.html.
18. See Twenge, Spitzberg & Campbell (2019) for evidence and elaboration on this point.
19. These studies are sometimes called quasi-experiments because the researchers take advantage of natural variation in the world as though it were random assignment. You can find these studies in section 4 of the collaborative review document *Social Media and Mental Health: A Collaborative Review*, www.anxiousgeneration.com/reviews.
20. Braghieri et al. (2022, p. 3660). For a critique of this study see Stein (2023). I believe the basic "difference-in-differences" design is sound; it gets at the relevant comparison of entire colleges where most people adopted Facebook at the same time, versus colleges where adoption was slower.
21. Arenas-Arroyo et al. (2022, p. 3). The study found particular damage to father-daughter relationships, although the effect was limited to those relationships that were already strained.
22. See *Social Media and Mental Health: A Collaborative Review*, www.anxiousgeneration.com/reviews.
23. I note that several prominent researchers disagree with me on these points. They don't assert that social media is harmless, but they believe that the accumulated scientific evidence is not yet sufficient to prove that social media causes anxiety, depression, and other negative psychological outcomes. You can find links to these researchers' objections, along with my responses, on my Substack. See my post: *Why Some Researchers Think I'm Wrong About Social Media and Mental Illness* (Haidt, 2023, April 17).
24. Lenhart (2015).
25. Royal Society for Public Health (2017).
26. Research note: It is very difficult for any of us to accurately respond to these time estimation questions, and some researchers have questioned the utility of such self-report data; see Sewall et al. (2020). But the pattern of rising super-use is validated by the increase that Pew finds in the percentage of U.S. teens who say that they are online "almost constantly" (Perrin & Atske, 2021).
27. A 2023 Common Sense report indicates that among 11-to-15-year-old girls who actively use these platforms, the average daily usage is as follows: TikTok at 2 hours and 39 minutes, YouTube at 2 hours and 23 minutes, Snapchat at 2 hours, and Instagram at 1 hour and 32 minutes. See Nesi et al. (2023).
28. The question used in the survey in 2013 and 2015 was "About how many hours a week do you spend visiting social networking websites like Facebook?" In 2017, the item changed to "About how many hours a week do you spend visiting social networking websites like Facebook, Twitter, Instagram, etc."
29. Chen et al. (2019). Also see Eagly et al. (2020), who analyzed U.S. public opinion

- polls from 1946 through 2018 and found that over these years people increasingly saw women as more affectionate and emotional (communion traits), while views of men as ambitious and courageous (agency traits) remained the same.
30. Guisinger & Blatt (1994).
 31. Hsu et al. (2021).
 32. See Maccoby & Jacklin (1974); Tannen (1990) for a review of gender differences in language use; Todd et al. (2017).
 33. Kahlenberg & Wrangham (2010); Hassett et al. (2008).
 34. "Jealousy, Jealousy" by Olivia Rodrigo is available on YouTube, just search for those words.
 35. Fiske (2011, p. 13).
 36. Leary (2005).
 37. I thank @JosephineLivin for creating this image and for giving me permission to use it.
 38. Josephs, M. (2022, January 26). 7 teens on Instagram filters, social media, and mental health. *Teen Vogue*. www.teenvogue.com/story/7-teens-on-instagram-filters-social-media-and-mental-health
 39. Curran & Hill (2019) analyzed studies of perfectionism from the United States, the U.K., and Canada since 1989. They found that self-oriented (SOP), other-oriented (OOP), and socially prescribed perfectionism (SPP) had been rising linearly during this period, with no bend or acceleration in the trend line. However, Zach and I noticed that the data points for socially prescribed perfectionism, upon which the trend line was based, seemed to have a bend in the curve, with a sharp upturn around 2010. We contacted the authors about this, and Dr. Curran stated, "You're right to point out that the trend in our 2017 paper appears quadratic. Indeed, I reanalysed the data with the most up-to-date SPP scores for my book and ran the quadratic model, which was a better fit than the linear one." You can view the updated quadratic figure, with the upward bend in 2010, in the online supplement.
 40. Torres, J. (2019, January 13). How being a social media influencer has impacted my mental health. *HipLatina*. hiplatina.com/being-a-social-media-influencer-has-impacted-my-mental-health.
 41. Chatard et al. (2017). See also Joiner et al. (2023), who found that young women who watched thin women do TikTok dances felt worse about their own bodies, while young women who watched heavy women do TikTok dances felt better about their own bodies.
 42. [iamveronika]. (2021, August 10). Suicidal because of my looks [Online forum post]. Reddit. www.reddit.com/r/offmychest/comments/p22en4/suicidal_because_of_my_looks.
 43. Hobbs, T. D., Barry, R., & Koh, Y. (2021, December 17). "The corpse bride diet": How TikTok inundates teens with eating-disorder videos. *Wall Street Journal*. www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848.
 44. Wells, G., Horwitz, J., & Seetharaman, D. (2021, September 14). Facebook knows Instagram is toxic for teen girls, company documents show. *Wall Street Journal*. www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739.
 45. Archer (2004).

46. Crick & Grotpeter (1995); Archer (2004).
47. Kennedy (2021).
48. Girls who reported having been cyberbullied in the past 12 months increased from 17% in 2006, to 27% in 2012. Schneider et al. (2015).
49. Li et al. (2020, Table 2).
50. Lorenz, T. (2018, October 10). Teens are being bullied “constantly” on Instagram. *Atlantic*. www.theatlantic.com/technology/archive/2018/10/teens-face-relentless-bullying-instagram/572164.
51. India, F. (2022, July 22). Social media’s not just making girls depressed, it’s making us bitchy too. *New Statesman*. www.newstatesman.com/quickfire/2022/07/social-media-making-young-girls-depressed-bitchy.
52. See the case of Molly Russell, in the U.K., whose suicide was found to be caused in large part by bullying on social media platforms. Also see this article for a young person’s review of the effect of these platforms: Gevertz, J. (2019, February 10). Social media was my escape as a teenager—now it’s morphed into something terrifying. *Independent*. www.independent.co.uk/voices/facebook-twitter-young-people-mental-health-suicide-molly-russell-a8772096.html.
53. See Fowler & Christakis (2008).
54. See Rosenquist et al. (2011).
55. Tierney & Baumeister (2019).
56. Boss (1997). She used the term “epidemic hysteria.” I have swapped in the term “sociogenic illness” because it is more descriptively accurate in pointing to social causes, because it has been used by researchers more recently, and because the term “hysteria” has often been used in ways that denigrate women.
57. Waller (2008).
58. See Wessely (1987) for an academic account, and for a journalistic account of the two variants and the sex difference usually observed, see Morley, C. (2015, March 29). Carol Morley: “Mass hysteria is a powerful group activity.” *Guardian*. www.theguardian.com/film/2015/mar/29/carol-morley-the-falling-mass-hysteria-is-a-powerful-group-activity.
59. For a sad example, see Gurwinder’s profile of Nicholas Perry, a young man who was trained by audience capture to eat to the point of extreme obesity: Gurwinder. (2022, June 30). The perils of audience capture. *The Prism*. gurwinder.substack.com/p/the-perils-of-audience-capture.
60. Jargon, J. (2023, May 13). TikTok feeds teens a diet of darkness. *Wall Street Journal*. www.wsj.com/articles/tiktok-feeds-teens-a-diet-of-darkness-8f350507.
61. Müller-Vahl et al. (2022).
62. For a journalistic account of these cases, see Browne, G. (2021, January 9). They saw a YouTube video. Then they got Tourette’s. *Wired*. www.wired.co.uk/article/tourettes-youtube-jan-zimmermann.
63. You can watch her TikTok videos here: Field, E. M. [@thistrippyhippie]. (n.d.). [TikTok profile]. TikTok. www.tiktok.com/@thistrippyhippie?lang=en.
64. The *DSM-5* estimates that the 12-month prevalence of DID among U.S. adults is 1.5% (American Psychiatric Association, 2022, March). However, the population estimates are still debated, with studies showing variation, though generally falling between 1% to 1.5% of the U.S. population. See Dorahy et al. (2014); Mitra & Jain (2023). Part of the reason for the range (which is sometimes reported as being higher than 1.5%) is that psychiatrists have long debated whether or not

- it is a real disorder. Some believe that it is a form of post-traumatic stress disorder, a reaction to trauma so severe that the mind forms multiple identities to cope. Others believe that the emergence of DID relies heavily on suggestion and a predisposition to fantasy and suggestibility, which may occur in the wake of real trauma. For a discussion of “myths” around DID, see Brand et al. (2016).
65. Rettew, D. (2022, March 17). The TikTok-inspired surge of dissociative identity disorder. *Psychology Today*. www.psychologytoday.com/gb/blog/abcs-child-psychiatry/202203/the-tiktok-inspired-surge-dissociative-identity-disorder.
 66. Lucas, J. (2021, July 6). Inside TikTok’s booming dissociative identity disorder community. *Inverse*. www.inverse.com/input/culture/dissociative-identity-disorder-did-tiktok-influencers-multiple-personalities.
 67. Styx, L. (2022, January 27). Dissociative identity disorder on TikTok: Why more teens are self-diagnosing with DID because of social media. *Teen Vogue*. www.teenvogue.com/story/dissociative-identity-disorder-on-tiktok.
 68. American Psychiatric Association (2022, pp. 515, 518); for an estimate of 1% of the youth population in the United States, see Turban & Ehrenschaft (2018).
 69. Block (2023); Kauffman (2022); Thompson et al. (2022). Turban et al. (2022) note that using YRBS data, they saw a decline in the number of youth identifying as transgender and gender diverse from 2017 to 2019.
 70. Aitken et al. (2015); de Graaf et al. (2018); Wagner et al. (2021); Zucker (2017). However, some researchers argue that the gap has not reversed and the ratio of natal males to natal females is now 1.2 to 1; see Turban et al. (2022).
 71. Haltigan et al. (2023); Littman (2018); Marchiano (2017).
 72. Coleman et al. (2022); Littman (2018); Littman (2021);
 73. Coleman et al. (2022); Kaltiala-Heino et al. (2015); Zucker (2019).
 74. See Buss’s 2021 book, *When Men Behave Badly*. Each chapter explores elements of male psychology that seem to have been adaptive for some extended period of human evolution—a time when most males never got a chance to mate, so competition among males was intense, and violence sometimes “paid,” in evolutionary terms, if it led to even a single act of copulation. Buss says repeatedly that the evolutionary frame in no way condones sexual aggression or implies that change is impossible. Instead, evolutionary psychology can help us understand why sexual aggression is far more common among males and how we can effectively reduce it.
 75. Culture and socialization can discourage the use of such tactics and shame men who use them; indeed, the feminist movement from the 1970s through #MeToo has brought about such changes. And yet, as society fragments into millions of online communities, some of those communities put men into competition for prestige by espousing more and more extreme attitudes, making those tactics seem permissible again.
 76. See Mendez, M., II. (2022, June 6). The teens slipping through the cracks on dating apps. *Atlantic*. www.theatlantic.com/family/archive/2022/06/teens-minors-using-dating-apps-grindr/661187.
 77. See Thorn & Benenson Strategy Group (2021); Bowles, N., & Keller, M. H. (2019, December 7). Video games and online chats are “hunting grounds” for sexual predators. *New York Times*. www.nytimes.com/interactive/2019/12/07/us/video-games-child-sex-abuse.html.
 78. Sales (2016, p. 110).

79. Sales (2016, pp. 49–50).
80. Sales (2016, p. 216).
81. deBoer, F. (2023, March 7). Some Reasons Why Smartphones Might Make Adolescents Anxious and Depressed. *Freddie deBoer*. freddiedeboer.substack.com/p/some-reasons-why-smartphones-might
82. Damour (2016).
83. The pooled average for 8th, 10th, and 12th graders shows a similar pattern to the 12th graders. The pooled data begins only in 1997. See the online supplement.

Chapter 7: What Is Happening to Boys?

1. Hari (2022, p. 4).
2. National Addiction & HIV Data Archive Program. (n.d.-a). *Monitoring the Future*.
3. See discussion on suicide in chapter 1, and in Rausch & Haidt (2023, October 30).
4. Zach Rausch is essentially a coauthor with me on this chapter. He has been maintaining a collaborative review document collecting research on boys, and has created a detailed timeline of how technology changed since the 1970s in ways that drew boys in. See the online supplement for links to both documents. We worked out the story told in this chapter together.
5. The American Institute for Boys and Men.
6. One robust difference is the “things versus people” dimension, with men higher than women on interest in things, women higher than men on interest in people (Su et al., 2009).
7. This quote comes from her TED Talk about the book: Rosin, H. (2010, December). New data on the rise of women [Video]. TED. www.ted.com/talks/hanna_rosin_new_data_on_the_rise_of_women/transcript.
8. Rosin (2012, p. 4).
9. See Parker (2021). The same is found for postgraduate degrees (Statista Research Department, 2023). I note that this chapter draws mostly on the voluminous statistics available for the United States, but Reeves finds that these trends are happening across the Western world.
10. See Reeves & Smith (2021) and Reeves et al. (2021).
11. Reeves, R. (2022, October 22). The boys feminism left behind. *Free Press*. www.thefp.com/p/the-boys-feminism-left-behind.
12. I note that in many ways life has gotten better for boys. There has been a big decline in intolerance toward LGBTQ youth, along with a decline in violence of all sorts since the 1980s. There is better mental health treatment and a reduction in the stigma of getting treatment, which used to be particularly strong for boys and men. As Steven Pinker (2011) has shown, life has gotten better in recent centuries in so many ways, for almost everyone, as science advances and rights revolutions proceed. And yet some combination of forces is producing rising numbers of boys who are disengaged from school, work, and family.
13. Reeves (2022, p. xi).
14. See chapter 1 for changes in rates of mental illness among boys since the early 2010s.
15. See Rausch & Haidt (2023, April); Rausch & Haidt (2023, March).
16. See Figures 6.6 on close friends (ch. 6), 6.7 on loneliness (ch. 6), and 7.6 on meaninglessness (ch. 7).

17. Pew Research Center (2019). See graph in the online supplement.
18. U.K. Office for National Statistics (2022).
19. Cai et al. (2023).
20. Reeves & Smith (2020).
21. According to a report published by the Japanese Ministry of Health, Labor, and Welfare, the *hikikomori* are young people who show no interest in personal development or friendship for more than six months, but don't meet the criteria for schizophrenia or other mental disorders. (Ministry of Health, Labor, and Welfare, 2003).
22. Teo & Gaw (2010).
23. Although the research is nuanced and individual differences are necessary to consider, boys (on average) who do not engage in risky play (e.g., rough-and-tumble play or play where children could get lost) are more likely to have difficulties with emotional regulation, social competence, and mental health. See Flanders et al. (2012); Brussoni et al. (2015); See Sandseter, Kleppe, & Sando (2020) for prevalence rates in risky play by gender.
24. See Twenge (2017) for a review.
25. Askari et al. (2022), with data from Monitoring the Future. I thank Melanie Askari for permission to reprint this figure. Zach added the gray shading and line labels. The Y axis converts scale scores to Z scores, which show how high or low a score is in terms of the numbers of standard deviations by which it departs from the zero mark.
26. National Addiction & HIV Data Archive Program. (n.d.-a, n.d.-b). Monitoring the Future.
27. Boys dropped from 49.7% yes in 2010 down to 40.8% in 2019. Girls dropped from 36.4% down to 32.4%. You can find graphs of similar items in the online supplement.
28. Centers for Disease and Control (n.d.). This data set goes back only to 2000.
29. There is a unique exception to the principle that the virtual world pulls boys away from risk in the real world: Social media sometimes incentivizes boys to put themselves and others in danger in order to gain prestige on social media. For instance, viral TikTok challenges often involve dangerous stunts, such as the "Cha Cha Slide" challenge: Participants mimic the song's dance commands while driving, swerving erratically into oncoming traffic. In the "Skull Breaker" challenge, unsuspecting adolescents are tricked into jumping up while their feet are kicked out from under them, leading to severe head injuries and even death. The "Devious Licks" challenge encourages adolescents to live stream themselves vandalizing their school bathrooms. Among the most deadly challenges so far is the "Blackout" challenge, where participants set up a phone to film themselves while they use a rope or other household item to strangle themselves until they fall unconscious. Afterward, they post the video of their blackout and reawakening, for those who do reawaken. In an 18-month span between 2021 and 2022, a *Bloomberg Businessweek* report found that at least 15 children below the age of 12, along with others who were older, had died from this single challenge: Carville, O. (2022, November 30). TikTok's viral challenges keep luring young kids to their deaths. *Bloomberg*. www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges. These dangerous challenges are mostly taken on by boys.
30. Orces & Orces (2020).

31. As noted in chapter 3, there is some evidence that depression and anxiety had been slowly increasing among adolescents since the 1940s.
32. Zendle & Cairns (2019); King & Delfabbro (2019); Bedingfield, W. (2022, July 28). It's not just loot boxes: Predatory monetization is everywhere. *Wired*. www.wired.com/story/loot-boxes-predatory-monetization-games.
33. I focus on the dynamics for heterosexual boys because they are the ones whom technology pulls out of sync and far away from the sex they are attracted to. Porn is just as popular with boys who are not heterosexual, although the effects on their sexual development may be different. See Bóthe et al. (2019) for a review of the literature on LGBTQ adolescents and porn, including this line: "LGBTQ adolescents' pornography use does not appear to be related to more negative outcomes compared with heterosexual adolescents; thus, LGBTQ adolescents do not seem more vulnerable to pornographic materials than heterosexual adolescents."
34. Ogas & Gaddam (2011). They note that the number dropped in later years as the internet has increased in website diversity and complexity.
35. Donevan et al. (2022).
36. Donevan et al. (2022).
37. Pizzol et al. (2016).
38. Bóthe et al. (2020).
39. Albright (2008); Szymanski & Stewart-Richardson (2014); Sun et al. (2016). Note that some studies have failed to find this relationship (see Balzarini et al., 2017). Additionally, the relationship between pornography use and relationship quality is complex. Some studies, for example, find that discrepancies in the quantity of porn watched by romantic partners may signal underlying relationship conflict, which then gets exacerbated by pornography use. See Willoughby et al. (2016).
40. Vaillancourt-Morel et al. (2017); Dwulit & Rzymiski (2019).
41. Wright et al. (2017).
42. Tolentino, D. (2023, May 12). Snapchat influencer launches an AI-powered "virtual girlfriend" to help "cure loneliness." NBC News. www.nbcnews.com/tech/ai-powered-virtual-girlfriend-caryn-marjorie-snapchat-influencer-rcna84180.
43. See Taylor, J. (2023, July 21). Uncharted territory: Do AI girlfriend apps promote unhealthy expectations for human relationships? *Guardian*. www.theguardian.com/technology/2023/jul/22/ai-girlfriend-chatbot-apps-unhealthy-chatgpt;
Murkett, K. (2023, May 12). Welcome to the lucrative world of AI girlfriends. *UnHerd*. unherd.com/the-post/welcome-to-the-lucrative-world-of-ai-girlfriends;
Brooks, R. (2023, February 21). I tried the Replika AI companion and can see why users are falling hard. The app raises serious ethical questions. *Conversation*. theconversation.com/i-tried-the-replika-ai-companion-and-can-see-why-users-are-falling-hard-the-app-raises-serious-ethical-questions-200257. Also see India, F. (2023). We can't compete with AI girlfriends. *Girls*. www.freyaindia.co.uk/p/we-cant-competite-with-ai-girlfriends.
44. Fink, E., Segall, L., Farkas, J., Quart, J., Hunt, R., Castle, T., Hottman, A. K., Garst, B., McFall, H., Gomez, G., & BFD Productions. (n.d.). Mostly human: I love you, bot. CNN Money. money.cnn.com/mostly-human/i-love-you-bot/.
45. Su et al. (2020).
46. For evidence that playing violent video games does not cause aggression or violence among users, see Elson & Ferguson (2014); Markey & Ferguson (2017). However, other researchers have found effects between video games use and

- aggression, with effect sizes falling around $\beta = .1$. See Bushman & Huesman (2014); Prescott, Sargent & Hull (2016). Also see Anderson et al. (2010).
47. See Alanko (2023) for an extensive review on the social and psychological effects of video game use on adolescents.
 48. Kovess-Masfety et al. (2016); Sampalo, Lázaro & Luna (2023).
 49. Russoniello et al. (2013).
 50. Granic et al. (2014); Greitemeyer & Mügge (2014).
 51. Adolescents with certain preexisting mental health conditions are more likely to develop problematic use, for example, than those with preexisting anxiety and/or depression. See Lopes et al. (2022).
 52. Pallavicini et al. (2022).
 53. The evidence that problematic video game use can ultimately exacerbate loneliness is a topic still debated, and often depends on the role that video games has in a person's life and even the kinds of games that one plays. See Luo et al. (2022).
 54. Charlton & Danforth (2007); Lemmens et al. (2009); Brunborg et al. (2013).
 55. Young (2009).
 56. BBC News. (2022, December 9). Children stopped sleeping and eating to play *Fortnite*—lawsuit. BBC News. www.bbc.com/news/world-us-canada-63911176.
 57. See Zastrow (2017); Ferguson et al. (2020).
 58. Stevens et al. (2021).
 59. Wittek et al. (2016).
 60. Brunborg et al. (2013); Fam (2018).
 61. The *DSM-5-TR* (American Psychiatric Association, 2022); the diagnosis is still under study. See American Psychiatric Association (2023, January).
 62. Chris Ferguson, author of *Moral Combat*, who has been studying the effects of video games on mental health for decades, notes that part of the problem with determining prevalence is that “there is no agreed upon set of symptoms for problematic gaming, nor any single measure of it, so prevalence estimates are all over the place.”
 63. See Männikkö et al. (2020) for evidence on the effects of problematic gaming on mental health. See also Brailovskaia, Meier-Faust, et al. (2022), who found in an experiment that a two-week period of abstinence from video games reduced stress, anxiety, and other symptoms of internet gaming disorder in a sample of German adults who spent at least three hours per week gaming before the study. Also see Ferguson, Coulson & Barnett (2011), who argue that the evidence between time spent gaming and mental health outcomes is highly varied and may be rooted in underlying mental health problems.
 64. Rideout & Robb (2019). Similar results were found in a study of Norwegian adolescents (Brunborg et al., 2013), where the mean time spent gaming per week for girls was 5 hours, and for boys it was 15 hours and 42 minutes. For the addicted gamers, the mean time spent gaming per week was 24 hours.
 65. Girls also play video games, but at much lower rates, for less time, with different games, and with less enjoyment, on average, than boys. The 2019 Common Sense report found that 70% of 8-to-18-year-old boys enjoy console gaming “a lot” compared with 23% of girls (Rideout & Robb, 2019). The rates rise for mobile gaming, with 35% of girls reporting high enjoyment compared with 48% of boys. The report also shows that girls spend about 47 minutes per day gaming, with most of that time on their smartphones. Girls, on average, also tend to play

different genres of games from boys, with greater interest in social, puzzle/card, music/dance, educational/edutainment, and simulation games (see Phan et al., 2012; also see Lucas & Sherry, 2004; Lang et al., 2021). And in recent years, there has been an explosive rise in the popularity of female video game streamers, who amass large (mostly male) followings. See Patterson, C. (2023, January 4). Most-watched female Twitch streamers in 2022: Amouranth dominates, VTubers rise up. *Dexerto*. www.dexerto.com/entertainment/most-watched-female-twitch-streamers-in-2022-amouranth-dominates-vtubers-rise-up-2023110.

66. Peracchia & Curcio (2018).
67. Cox (2021).
68. Durkheim (1897/1951, p. 213).

Chapter 8: Spiritual Elevation and Degradation

1. DeSteno (2021).
2. DeSteno's research confirms the 19th-century Danish existentialist philosopher Søren Kierkegaard's (1847/2009) insight that "the function of prayer is not to influence God, but rather to change the nature of the one who prays."
3. See my description of a football game at the University of Virginia in chapter 11 of *The Righteous Mind* (Haidt, 2012).
4. Being "off schedule" with others or not following "temporal norms" in time use surveys predicts being less satisfied with life: Kim (2023).
5. See my discussion of "hive psychology" in chapter 10 of *The Righteous Mind*, which contains many academic citations.
6. See a review of synchrony research, including DeSteno's own research, in the introductory chapter of DeSteno (2021).
7. DeSteno (2021) discusses the importance of sharing food in religious rituals and feasts.
8. The claim that humans evolved to be religious is contested. In *The Righteous Mind*, I explain how religion, morality, and neural circuits for synchrony and self-loss coevolved, drawing on the work of David Sloan Wilson (2002) and many others. But other scholars, such as Richard Dawkins (2006), reject that claim.
9. Eime et al. (2013); Pluhar et al. (2019). Also see Hoffmann et al. (2022). Some portion of this relationship may be reverse correlation—perhaps more sociable kids seek out team sports.
10. Davidson & Lutz (2008).
11. Goyal et al. (2014).
12. Economides et al. (2018).
13. Buchholz (2015); Kenge et al. (2011).
14. Quoted from Maezumi & Cook (2007).
15. Of course, people have been making this charge since the advent of radio and TV. But smartphones and social media demand more attention and create more addictive behavior than portable radios and cassette players (such as the Sony Walkman) ever did.
16. Filipe et al. (2021).
17. Hamilton et al. (2015).
18. See Keltner (2022, p. 37) and Carhart-Harris et al. (2012). For a study showing that awe reduces DMN activity, see van Elk et al. (2019).

19. Keltner (2022, p. 37).
20. See Wang et al. (2023), who found that “individual variations in FOMO are associated with the brain structural architecture of the right precuneus, a core hub within a large-scale functional network resembling the DMN and involved in social and self-referential processes.” Maza et al. (2023) conducted a longitudinal fMRI study of adolescents going through puberty and found that the brains of heavy social media users changed, over time, compared with light users: Their brains became more sensitive (reactive) to information about impending social rewards and punishments.
21. Here I am drawing on Minoura (1992), as well as on research on second-language learning.
22. Berkovitch et al. (2021).
23. Matthew 7:1–2 (NRSV).
24. Matthew 7:3 (NRSV).
25. Seng-ts’an, *Hsin hsin ming*. In Conze (1954).
26. Leviticus 19:18 (NRSV).
27. M. L. King (1957/2012).
28. Dhammapada (Roebuck, 2010).
29. Emerson (1836).
30. Keltner & Haidt (2003). There are many additional perceptions or appraisals that create the many flavors of awe, including threat (as in a thunderstorm or angry deity), beauty, extraordinary or superhuman ability, virtue, and supernatural causality.
31. Tippett, K. (Host). (2023, February 2). Dacher Keltner—the thrilling new science of awe [Audio podcast episode]. *The On Being Project*. onbeing.org/programs/dacher-keltner-the-thrilling-new-science-of-awe.
32. Monroy & Keltner (2023).
33. Wilson (1984).
34. Grassini (2022); Lee et al. (2014).
35. The actual quotation, in translation, is “What else does this craving, and this helplessness, proclaim but that there was once in man a true happiness, of which all that now remains is the empty print and trace? This he tries in vain to fill with everything around him, seeking in things that are not there the help he cannot find in those that are, though none can help, since this infinite abyss can be filled only with an infinite and immutable object; in other words by God himself.” From Pascal (1966, p. 75).
36. Darwin (1871/1998); Wilson (2002).
37. Dhammapada (Roebuck, 2010).
38. Marcus Aurelius (2nd century/2002, p. 59).

Chapter 9: Preparing for Collective Action

1. As Lenore Skenazy did in 2008, earning her the nickname America’s Worst Mom.
2. Skenazy (2009).
3. For example, [Outsideplay.ca](https://www.outsideplay.ca) is “a risk reframing tool for caregivers and early childhood educators to manage their fears and develop a plan for change so their children can have more opportunities for risky play.” [play:groundNYC](https://www.playgroundnyc.org/) is

“dedicated to transforming the city through play.” They run a fabulous “junkyard playground” on Governors Island, which my children greatly enjoyed.

4. Sign up at www.afterbabel.com.

Chapter 10: What Governments and Tech Companies Can Do Now

1. Pandey, E. (2017, November 9). Sean Parker: Facebook was designed to exploit human “vulnerability.” *Axios*. www.axios.com/2017/12/15/sean-parker-facebook-was-designed-to-exploit-human-vulnerability-1513306782.
2. See Roser et al. (2019) to see the declining trends in child and infant mortality.
3. You can view Harris’s presentation at www.minimizedistracted.com.
4. An example of this race to the bottom is TikTok’s short-video format, which proved to be highly effective at keeping young people hooked and so was soon copied by Instagram and Facebook Reels, YouTube Shorts, and Snapchat’s Spotlight—what Harris calls the Tik Tokification of social media. I thank Jamie Neikrie for this example.
5. Harris, T. Retrieved from www.commerce.senate.gov/services/files/96E3A739-DC8D-45F1-87D7-EC70A368371D.
6. See the age verification section of Social Media Reform: A Collaborative Review, available at www.anxiousgeneration.com/reviews.
7. Heath, A. (2021, October 15). Facebook’s lost generation. *Verge*. www.theverge.com/22743744/facebook-teen-usage-decline-frances-haugen-leaks.
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9. Meta. (2023, June 29). Instagram Reels Chaining AI system. www.transparency.fb.com/features/explaining-ranking/ig-reels-chaining/?referrer=1.
10. Hanson, L. (2021, June 11). Asking for a friend: What if the TikTok algorithm knows me better than I know myself? *GQ Australia*. www.gq.com.au/success/opinions/asking-for-a-friend-what-if-the-tiktok-algorithm-knows-me-better-than-i-know-myself/news-story/4eea6d6f23f9ead544c2f773c9a13921; Barry, R., Wells, G., West, J., Stern, J., & French, J. (2021, September 8). How TikTok serves up sex and drug videos to minors. *Wall Street Journal*. www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944.
11. The Data Team (2018, May 18). How heavy use of social media is linked to mental illness. *The Economist*. www.economist.com/graphic-detail/2018/05/18/how-heavy-use-of-social-media-is-linked-to-mental-illness.
12. The law is unlikely to take effect for many years, if ever. The platforms are blocking implementation of design codes in multiple states with lawsuits alleging that most of the provisions of the AADC violate the first amendment of the United States constitution. The platforms are essentially arguing that they cannot be regulated because any regulation would have some effect on the speech carried out on the platform.
13. Zach and I are collaborating with the Center for Humane Technology to collect and analyze the many approaches being proposed or implemented by governments and legislatures in the United States and other countries. You can find the link at www.anxiousgeneration.com/reviews. Also see Rausch & Haidt (2023, November).
14. Newton, C. (2023, August 4). How the kids online safety act puts us all at risk.

- The Verge*. www.theverge.com/2023/8/4/23819578/kosa-kids-online-safety-act-privacy-danger. For another example, see: The Free Press (2022, December 15). Twitter's secret blacklists. The Free Press. www.thefp.com/p/twitters-secret-blacklists.
15. For a fuller discussion of the limits of content moderation, see Iyer, R. (2022, October 7). Content moderation is a dead end. *Designing Tomorrow*, Substack. psychoftech.substack.com/p/content-moderation-is-a-dead-end.
 16. For a fuller discussion of platform design, including several examples, see Howell, J. P., Jurecic, Q., Rozenshtein, A. Z., & Iyer, R. (2023, March 27). Ravi Iyer on how to improve technology through design. *The Lawfare Podcast*. www.lawfaremedia.org/article/lawfare-podcast-ravi-iyer-how-improve-technology-through-design.
 17. Evans, A., & Sharma, A. (2021, August 12). Furthering our safety and privacy commitments for teens on TikTok. TikTok. newsroom.tiktok.com/en-us/furthering-our-safety-and-privacy-commitments-for-teens-on-tiktok-us.
 18. Instagram. (2021, July 27). Giving young people a safer, more private experience. Instagram. about.instagram.com/blog/announcements/giving-young-people-a-safer-more-private-experience.
 19. They are also language neutral, whereas mandates to perform more content moderation are unlikely to be well implemented in nearly all of the hundreds of languages that Facebook supports. Frances Haugen has been outspoken about the value of design changes that can be implemented across all languages easily.
 20. Jargon, J. (2019, June 18). How 13 became the internet's age of adulthood. *Wall Street Journal*. www.wsj.com/articles/how-13-became-the-internets-age-of-adulthood-11560850201.
 21. See endnote 20.
 22. Orben et al. (2022).
 23. Even if an age verification company got hacked, as long as they stored their data thoughtfully, there would be nothing linking their customers to any particular site that had asked about them.
 24. The Age Verification Providers Association, avpassociation.com.
 25. See here for the ways that Meta has begun to offer more age verification options for users: Meta. (2022, June 23). Introducing new ways to verify age on Instagram. *Meta*. www.about.fb.com/news/2022/06/new-ways-to-verify-age-on-instagram.
 26. The next generation of the internet can and should be built so that people control their own data and can decide how it is used. See ProjectLiberty.io for one such vision.
 27. Parents can use monitoring and filtering programs, in conjunction with their home router, to accomplish such blocking. I will say more about such programs on my Substack. But these are somewhat complicated steps that parents must take, which means that they will only be used by a small subset of parents. I am proposing defaults that would apply automatically, unless the parent specifically changes the default setting.
 28. Skenazy, L. (2014, July 14). Mom jailed because she let her 9-year-old daughter play in the park unsupervised. *Reason*. www.reason.com/2014/07/14/mom-jailed-because-she-let-her-9-year-ol.
 29. Skenazy, L. (2022, December 8). CPS: Mom can't let her 3 kids—ages 6, 8, and 9—play outside by themselves. *Reason*. www.reason.com/2022/12/08/emily-fields-pearsiburg-virginia-cps-kids-outside-neglect.

30. St. George, D. (2015, June 22). “Free range” parents cleared in second neglect case after kids walked alone. *Washington Post*. www.washingtonpost.com/local/education/free-range-parents-cleared-in-second-neglect-case-after-children-walked-alone/2015/06/22/82283c24-188c-11e5-bd7f-4611a60dd8e5_story.html.
31. Flynn et al. (2023).
32. Mom issued misdemeanor for leaving 11-year-old in car. (2014, July 9). NBC Connecticut. www.nbcconnecticut.com/news/local/mom-issued-misdemeanor-for-leaving-11-year-old-in-car/52115.
33. For those interested in helping their state (or even city or town) pass a Reasonable Childhood Independence bill, Let Grow has a free legislative action “toolkit” on its site: www.letgrow.org/legislative-toolkit.
34. See Free Play and Mental Health: A Collaborative Review, at www.jonathanhaidt.com/reviews.
35. The U.S. Centers for Disease Control recommends that all grades get recess, even high school. See Centers for Disease Control (n.d.). Recess. CDC Healthy Schools. www.cdc.gov/healthyschools/physicalactivity/recess.htm.
36. Young et al. (2023).
37. Sanderson, N. (2019, May 30). What are school streets? 880 Cities. www.880cities.org/what-are-school-streets.
38. Another way cities can be more child-friendly is by making public transit affordable and welcoming to kids. Tim Gill, author of “Urban Playground: How Child-Friendly Planning and Design Can Save Cities,” notes that in London children aged 5–10 can travel for free, without an adult, on the tube and buses.
39. See review of research in Reeves (2022, Chapter 10).
40. As an example: In the United States, the National Apprenticeship Act would invest \$3.5 billion over five years to create nearly a million new apprenticeships for young people.
41. Bowen et al. (2016); Gillis et al. (2016); Bettmann et al. (2016); Wilson & Lipsey (2000); Beck & Wong (2022); Davis-berman & Berman (1989); Gabrielsen et al. (2019); Stewart (1978).
42. The DCF Wilderness School, portal.ct.gov/DCF/Wilderness-School/Home. Other states run similar programs. See the Montana Wilderness School, www.montanawildernessschool.org.

Chapter 11: What Schools Can Do Now

1. St. George, D. (2023, April 28). One school’s solution to the mental health crisis: Try everything. *Washington Post*. www.washingtonpost.com/education/2023/04/28/school-mental-health-crisis-ohio.
2. Brundin, J. (2019, November 5). This Colorado middle school banned phones 7 years ago. They say students are happier, less stressed, and more focused. Colorado Public Radio. www.cpr.org/2019/11/05/this-colorado-middle-school-banned-phones-seven-years-ago-they-say-students-are-happier-less-stressed-and-more-focused.
3. The phone policy works like this: “There’s a warning the first time a phone is out of a student’s backpack. On the second infraction, the phone is confiscated and parents have to pick it up. The third time, a student must hand the phone into

- the office at the beginning of the school day and pick it up at the end, for a set period of time.”
4. Walker, T. (2023, February 3). Cellphone bans in school are back. How far will they go? *NEA Today*. www.nea.org/advocating-for-change/new-from-nea/cellphone-bans-school-are-back-how-far-will-they-go.
 5. In 2023, the American Federation of Teachers issued a report calling out social media platforms for “undermining classroom learning, increasing costs for school systems and being a ‘root cause’ of the nationwide youth mental health crisis.” See American Federation of Teachers. (2023, July 20). New report calls out social media platforms for undermining schools, increasing costs, driving youth mental health crisis. www.aft.org/press-release/new-report-calls-out-social-media-platforms-undermining-schools-increasing-costs.
 6. See the quotation from Ken Trump in this essay: Walker, T. (2023, February 3). Cellphone bans in school are back. How far will they go? *NEA Today*. www.nea.org/advocating-for-change/new-from-nea/cellphone-bans-school-are-back-how-far-will-they-go. It is also relevant that the middle school in Newtown, Connecticut, where a horrific school shooting took place in an elementary school in 2012, decided in 2022 to require students to keep their phones in their lockers all day long. A parent pointed me to their parent handbook: Newtown Public School District. (n.d.). *Newtown middle school, 2022–2023 student/parent handbook*. nms.newtown.k12.ct.us/theme/files/2022-2023/2022-2023%20Student%20Parent%20Handbook_docx.pdf.
 7. See UNESCO (2023). *Technology in education: A tool on whose terms?* www.unesco.org/gem-report/en/technology. See a summary of the phone recommendations here: Butler, P., & Farah, H. (2023, July 25). “Put learners first”: Unesco calls for global ban on smartphones in schools. *Guardian*. www.theguardian.com/world/2023/jul/26/put-learners-first-unesco-calls-for-global-ban-on-smartphones-in-schools.
 8. Zach Rausch and I have been collecting the evidence related to phone-free schools in a collaborative review document, available at www.jonathanhaidt.com/reviews.
 9. Richtel, M. (2011, October 22). A Silicon Valley school that doesn’t compute. *New York Times*. www.nytimes.com/2011/10/23/technology/at-waldorf-school-in-silicon-valley-technology-can-wait.html; Bowles, N. (2018, October 26). The digital gap between rich and poor kids is not what we expected. *New York Times*. www.nytimes.com/2018/10/26/style/digital-divide-screens-schools.html.
 10. See graphs in the online supplement, or here: National Center for Education Statistics (n.d.). The drop in scores from the 2020 academic year (measured before the COVID shutdowns) to the 2022 academic year was 9 points in math and 4 points in reading. The drop from 2012 to 2020 was 5 points in math and 3 points in reading.
 11. Twenge, Wang, et al. (2022). See also Nagata, Singh et al. (2022).
 12. I know of no school district that has tested the hypothesis experimentally by randomly assigning middle schools to go phone-free while others make no change. This is the most important study I can think of to address the mental health crisis. I say more about what such a study would look like in *Social Media and Mental Health: A Collaborative Review*, available in the online supplement.

13. See “Khanmingo,” Khan Academy’s personal AI assistant: Khan Academy. (n.d.). *World-class AI for education*. www.khanacademy.org/khan-labs.
14. Stinehart, K. (2021, November 23). Why unstructured free play is a key remedy to bullying. *eSchoolNews*. www.eschoolnews.com/sel/2021/11/23/why-unstructured-free-play-is-a-key-remedy-to-bullying.
15. For a longer list of suggestions and updates to this list, see the online supplement.
16. All of Let Grow’s materials are free. See www.letgrow.org/program/the-let-grow-project.
17. Soave, R. (2014, November 20). Schools to parents: Pick up your kids from the bus or we’ll sic child services on you. *Reason*. reason.com/2014/11/20/child-services-will-visit-parents-who-le.
18. Skenazy, L. (2016, November 7). Local library will call the cops if parents leave their kids alone for 5 minutes. *Reason*. reason.com/2016/11/07/local-library-will-call-the-cops-if-pare.
19. Centers for Disease Control and Prevention (2015, p. 134).
20. See Martinko, K. (2018, October 11). Children spend less time outside than prison inmates. *Treehugger*. www.treehugger.com/children-spend-less-time-outside-prison-inmates-4857353. See also for research behind this claim Edelman, R. (2016, April 4). Dirt is good: The campaign for play. *Edelman*. www.edelman.co.uk/insights/dirt-good-campaign-play.
21. The report was issued by the U.S. National Commission on Excellence in Education. See Gray et al. (2023).
22. The 2001 federal No Child Left Behind Act was a major spur to the focus on test scores. The Common Core State Standards were developed in 2009 and released in 2010. Adoption was rapid, with 45 states and the District of Columbia adopting the standards. However, five of these states later repealed or replaced those standards. See Common Core implementation by state. *Wikipedia*. en.wikipedia.org/wiki/Common_Core_implementation_by_state.
23. Atlanta public schools cheating scandal. *Wikipedia*. en.wikipedia.org/wiki/Atlanta_Public_Schools_cheating_scandal.
24. Murray & Ramstetter (2013). Also see Singh et al. (2012) for research on the link between physical activity and school performance.
25. Haapala et al. (2016).
26. Centers for Disease Control (2017, January). Strategies for recess in schools. U.S. Department of Health and Human Services. www.cdc.gov/healthyschools/physicalactivity/pdf/2019_04_25_SchoolRecess_strategies_508tagged.pdf.
27. Brooklyn Bridge Parents (2017, May 7). A look inside the junk yard playground on Governors Island. brooklynbridgeparents.com/a-look-inside-the-junk-yard-playground-on-governors-island.
28. Keeler (2020).
29. Photo by Jonathan Haidt.
30. I thank Adam Bienenstock for this photograph. Bienenstock built the playground using a design from the Danish playground architect Helle Nebelong.
31. Fyfe-Johnson et al. (2021).
32. Vella-Brodrick & Gilowska (2022).
33. Lahey, J. (2014, January 28). Recess without rules. *Atlantic*. www.theatlantic.com/education/archive/2014/01/recess-without-rules/283382; see also Saul, H. (2014,

January 28). New Zealand school bans playground rules and sees less bullying and vandalism. *Independent*. www.independent.co.uk/news/world/australasia/new-zealand-school-bans-playground-rules-and-sees-less-bullying-and-vandalism-9091186.html.

34. See endnote 33.
35. Brussoni et al. (2017).
36. Healthy play is not entirely painless. Roughhousing, name-calling, scrapes, and bruises are all parts of natural play, and they are necessary for the antifragility effects of play to take hold. Removing them from recess to keep kids “safe” is like removing all the nutrients from wheat and feeding kids only white bread. I’m not saying that we should ever accept bullying. Bullying by most definitions requires a repeated pattern, over more than one day, of one child intending to harm another. There is an essential role for adults in setting up policies to reduce bullying, and in responding to it when it happens. But the vast majority of conflicts and cases of teasing and name-calling are not bullying, and adults should not rush in to stop them.
37. Dee (2006); Mullola et al. (2012).
38. Partelow (2019, p. 3).
39. See Reeves (2022, September); Casey and Nzau (2019); Torre (2018).
40. These two paragraphs were taken from an essay I wrote in *The Atlantic*, where I expanded on the case for phone-free schools: Haidt, J. (2023, June 6). Get phones out of schools now. *Atlantic*. www.theatlantic.com/ideas/archive/2023/06/ban-smartphones-phone-free-schools-social-media/674304.
41. I recognize that schools may face increased liability risks and insurance costs. I hope that governments can pass liability reforms that would free schools to focus on education rather than lawsuits. See Howard (2014) for a discussion of how this can be done.
42. This would rectify one of the biggest shortcomings in the scientific literature: the focus on individual-level effects because there is almost no research on entire schools that went phone-free or that greatly expanded free play and autonomy. Let’s measure the emergent group-level effects of these policies.
43. If the number of schools is very large, then random assignment would work well. If there are only 16 middle schools, let’s say, and if they vary by race or social class, then it would be wise to separate similar schools to be sure that each of the four groups is as comparable to the others as possible. Once the groups are created, the assignment of each group to an experimental condition could be done using a random method such as drawing numbers from a hat.
44. Before the experiment begins, a set of agreed-upon measures are collected, or created if they don’t exist, to measure the key variables that the school cares about, such as academic achievement, mental health referrals, student reports of their mental health and their engagement with school, measures of bullying and behavioral problems, and teacher reports about classroom culture including students’ ability to stay on task and engage with the lesson. The measures would be collected every month, if possible, or at least three times during the school year.
45. In elementary schools, where phones may not yet be much of a problem, a district might want to try simpler versions of the experiment with just two conditions: Play Club versus no Play Club, or Let Grow Project versus no Let Grow

Project. Experiments like these should be tried in different regions and countries to see how well they work in varied conditions.

Chapter 12: What Parents Can Do Now

1. Gopnik (2016, p. 18).
2. Lenore Skenazy wrote sections of this chapter with me, drawing on her experience as president of LetGrow.org, which she and I cofounded in 2017, along with Peter Gray and Daniel Shuchman. For a more comprehensive list of suggestions and post-publication updates, see the online supplement for this chapter, and also www.letgrow.org.
3. Scarr (1992).
4. See the online appendix for the rising rates of U.S. 12th graders who believe that their “life is not very useful.”
5. For summaries and links to such recommendations, see my collaborative review document: The Impact of Screens on Infants, Toddlers, and Preschoolers, www.anxiousgeneration.com/reviews.
6. Myers et al. (2017); Kirkorian & Choi (2017); Roseberry et al. (2014).
7. At least the advice is consistent from medical authorities in the United States (Council on Communications and Media, 2016); Canada (Ponti et al., 2017); and Australia (Joshi & Hinkley, 2021). The U.K. is somewhat more lax (Viner et al., 2019).
8. These bullet points are directly quoted from the American Academy of Child & Adolescent Psychiatry (2020).
9. I would just note that watching shows and movies for part of long car trips and plane trips seems fine for children over two or three.
10. Harris (1989).
11. Let Grow (n.d.). Kid license, www.letgrow.org/printable/letgrowlicense.
12. Safe Routes to School, www.saferoutesinfo.org.
13. For a list of summer camps in the United States and Canada that show evidence of supporting free-range childhoods, see Skenazy, L. (2023, August 14). Phone-free camps. Let Grow. www.letgrow.org/resource/phone-free-camps.
14. Be sure the camp truly locks up phones for the duration; many camps say that they ban phones, but like many schools they really just mean “Don’t let an adult see you taking your phone out of your pocket.”
15. See this profile of playborhoods: Thernstrom, M. (2016, October 16). The anti-helicopter parent’s plea: Let kids play! *New York Times*. www.nytimes.com/2016/10/23/magazine/the-anti-helicopter-parents-plea-let-kids-play.html. Also see Lanza’s book and website at www.playborhood.com.
16. Some parents are concerned that they may be liable if someone else’s child gets hurt. The fear of lawsuits can be paralyzing. But Lanza says he decided against waivers or getting extra insurance. Instead, he removed any obvious dangers from his yard, added some play equipment—he recommends things like swings, a playhouse, some area to make art—and trusted his neighbors not to sue him. It worked. Kids there are getting a taste of a play-based childhood. A no-cost and lower liability risk option is to have parents rotate responsibility for being present at a local park or playground each afternoon, so that families know that there will be an adult on hand who will only get involved in case of emergencies.
17. Lin, H. (2023). *Your First Device*. *The New Yorker* © Condé Nast.

18. Children in this age range are noticing and copying adult behavior; therefore, it is important to model healthy technology use. You don't have to be perfect, but do try to show your children how to set healthy boundaries so that they see you making an effort to keep screens in their proper place, and to be fully present when it is time to be fully present. For practical guidance on how to model technology use for your children, see Nelson (2023, September 28). How Parents Can Model Appropriate Digital Behavior for Kids. www.brightcanary.io/parents-digital-role-model.
19. Rideout (2021).
20. Nesi (2023).
21. Specifically, Knorr, C. (2021, March 9). Parents' ultimate guide to parental controls. Common Sense Media. www.commonsensemedia.org/articles/parents-ultimate-guide-to-parental-controls.
22. See Sax, L. (2022, September 7). Is your son addicted to video games? Institute for Family Studies. ifstudies.org/blog/is-your-son-addicted-to-video-games. Sax also suggests that parents use Common Sense Media to understand the games that their children are playing. Just type in the name of the game, and the site provides a summary of the game and the age range for which the game is suitable.
23. Melanie Hempe of ScreenStrong urges parents to not allow *any* devices in bedrooms. She tells me that "the majority of dark screen activities happen behind a closed bedroom door."
24. See, for example, www.healthygamer.gg, www.gamequitters.com, and www.screenstrong.org.
25. See the Screen Time Action Network from FairPlay. www.screentimenetwork.org.
26. Kremer, W. (2014, March 23). What medieval Europe did with its teenagers. BBC. www.bbc.com/news/magazine-26289459.
27. American Exchange Project, americanexchangeproject.org/about-us.
28. American Field Service, www.afsusa.org/study-abroad.
29. See the online supplement for more links, and for programs not based in the United States.
30. CISV International, civ.org/about-us/our-story.
31. There are a number of additional outdoor expedition programs for teens throughout the United States including programs through the YMCA (see ycamp.org/wilderness-trips and www.ymcanorth.org/camps/camp_menogyn/summer_camp), Wilderness Adventures (www.wildernessadventures.com), Montana Wilderness School (www.montanawildernessschool.org), NOLS (nols.edu/en), and Outward Bound (www.outwardbound.org).
32. See the DCF Wilderness school at portal.ct.gov/DCF/Wilderness-School/Home.
33. I list more such sites in the online supplement.
34. See Center for Humane Technology (n.d.). Youth toolkit. www.humanetech.com/youth. See also Screensense at www.screensense.org, and Screen Time Action Network from Fairplay. www.screentimenetwork.org.

Conclusion: Bring Childhood Back to Earth

1. See Alternative Hypotheses to the Adolescent Mental Illness Crisis: A Collaborative Review, available at www.anxiousgeneration.com/reviews.
2. Middle schools should see substantial improvements within two years, given

that these four reforms would all make daily life more playful and sociable, and less phone-based. In high schools, it will be hard for parents to get students off social media when they are already on. High schools are likely to see some immediate benefits from going phone free. But the biggest improvements might not be seen until several years of new students have entered the high school from middle schools and families that had delayed the phone-based childhood until high school.

3. Latane & Darley (1968). There was a third condition, in which the real subject was in the waiting room with two other students who were working for the experimenters. Their job was to just sit there and keep filling out their questionnaires. In that condition, only 10% of the students got up to report the smoke. This is the finding usually presented in discussions of this study, but I think the condition with three real subjects is the most important one.
4. Titanium dioxide causes a variety of harms; this experiment would never be done today. (The researchers likely did not know of the harmful effects at the time.)
5. See www.letgrow.org, www.outsideplay.ca, www.fairplayforkids.org, and others that I list in the online supplement at www.anxiousgeneration.com/resources/supplements-for-each-chapter. I admire the approach taken by www.waituntil8th.org, but I think they should change their name to WaitUntil9th.org.
6. See www.humanetech.com, www.commonssense.org, www.screenstrong.org, www.screensense.org, and others that I list in the online supplement.
7. See www.designitforus.org, and other organizations I list in the online supplement.
8. Keaggy, D. T. (2023, February 14). Lembke testifies before Senate committee on online safety. *The Source—Washington University in St. Louis*. Retrieved from www.source.wustl.edu/2023/02/lembke-testifies-before-senate-committee-on-online-safety.

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