

Boys Adrift

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*If you would like to get a sense of the presentation but did not have the opportunity to attend, please read the updated second edition of my book **Boys Adrift**, especially chapters 2, 3, 4, 5, and 8; and my most recent book **The Collapse of Parenting**. The research on female/male differences in the visual system is presented in my book **Why Gender Matters**, second edition. My contact information (email, telephone, mailing address) may be found at the end of this handout.*

The National Assessment of Educational Progress (NAEP), a.k.a. “The Nation’s Report Card”

NAEP data: online at <https://www.nationsreportcard.gov/ndecore/landing>

All data shown here are for California, NAEP assessment in writing, 8th grade (NCES does not offer 12th grade data broken down by state)

- White girls not eligible for free school lunches = 178; eligible, 151
- White boys not eligible for free school lunches = 154

- Latina girls not eligible for free school lunches = 154; eligible, 141
- Latino boys not eligible for free school lunches = 138

- African American girls not eligible for free school lunches = 152; eligible, 145
- African American boys not eligible for free school lunches = 132

- Asian girls not eligible for free school lunches = 184; eligible, 161
- Asian boys not eligible for free school lunches = 164

We all understand why affluent kids have an advantage over kids from low-income homes: affluent kids have more resources. But in California (as in most of the United States), when we compare a girl and boy *from the same home*, the gap separating the girl from her twin brother (on average, on this parameter) is comparable to the gap separating low-income students from more affluent students. How come?

Forty years ago, boys were over-represented among those earning top academic honors. Today, boys are under-represented. Why? It's not about ability (hardwired ability can't change in 40 years). It's about motivation.

AP participation:

- AP English Literature: 141,583 boys, 238,553 girls, i.e. a male/female ratio of 37/63
- AP Spanish Literature: 9,821 boys, 19,524 girls, i.e. a male/female ratio of 33/67
- AP Biology: 97,792 boys, 163,024 girls, i.e. a male/female ratio of 37/63
- AP Psychology: 104,302 boys, 206,913 girls, i.e. a male/female ratio of 34/66

In fact, boys are underrepresented, often by wide margins, in the majority of AP subjects, including Art History, Chinese Language, Environmental Science, European History, French Language, Government, Human Geography, Italian Language, Japanese Language, Statistics, Studio Art (all three domains), U.S. History, and World History. Boys are overrepresented in a much smaller number of tests: Calculus, Computer Science, Economics (Macro and Micro), and Physics. Boys and girls are roughly equally represented in Latin and in German, and in Chemistry.

Looking at numbers overall: in 2019, 1,231,488 boys took at least one AP exam, compared with 1,594,222 girls, i.e. a male/female ratio of 44/56 (which is, perhaps coincidentally, close to the male/female ratio of 43/57 among undergraduates at 4-year universities).

The source for all the above figures on AP exams is <https://secure-media.collegeboard.org/digitalServices/pdf/research/2019/Program-Summary-Report-2019.pdf>.

Reading for fun has become “a marker of gender identity: girls read, boys don't.” Mark Bauerlein and Sandra Stotsky, “Why Johnny Won't Read,” *Washington Post*, January 25 2005, p. A15.

Doug Belkin of the *Wall Street Journal* wrote an article published September 6 2021 on the growing gender gap at American universities, “A Generation of American Men Give Up on College.” Click on [this link](#) for full access, even if you do not subscribe to the *Wall Street Journal*. This article also includes the quote from the researcher Douglas Shapiro predicting that within a few years, women will outnumber 2-to-1 at four-year American colleges and universities.

For more on “educational assortative mating,” please see my essay for the Institute for Family Studies, September 22 2021, “Boys Are Falling Farther and Farther Behind Their Sisters: Should We Care?” <https://ifstudies.org/blog/boys-are-falling-farther-and-farther-behind-their-sisters-should-we-care->.

“Boys Adrift”: why are so many boys now disengaged from achievement, both in school and in the workplace?

The five factors which (I believe) are driving this phenomenon:

- 1) Changes in education over the past 30 years
- 2) Video games
- 3) Stimulant medications for ADHD
- 4) Endocrine disruptors (DEHP, BPA, PET)
- 5) “The revenge of the forsaken gods”

The first factor: changes in education, 1991 – 2021

Schools have become unfriendly to boys. Boys doing things that boys have always one – point fingers at each other saying “bang bang you’re dead,” or drawing a picture of a weapon, or throwing snowballs – now gets a boy in trouble. I gave the example of my essay for NCTE, which won a prize in 1977; and the boy’s story about the Battle of Stalingrad, which resulted in the boy being suspended.

- Some boys like to draw violent pictures, or tell violent stories
- **In-bounds vs. out-of bounds**
- Generic and classic is OK; personal and threatening is **NOT** OK
- Violence in a story of Roman gladiators is *generic*: it is intrinsic to that genre. Likewise for a story about the Battle of Stalingrad, 1942.
- But if a boy tells a story about bringing in a knife to hurt another boy at school, whom he names – that’s not generic, that is personal and threatening. That’s out of bounds.

It’s not about ability; it’s about motivation. The big differences between girls and boys are not in what they *can* do but in what they *want* to do.

I do lead workshops for teachers sharing gender-aware instructional strategies to engage and motivate boys in all the content areas. If you are a teacher, please check it out at <https://www.leonardsax.com/workshops/teachers-and-administrators/>.

The second factor: video games

In the latest national survey, the average boy spends 1 hour 19 minutes a day playing video games – that works out to 9 hours and 13 minutes a week – compared with 14 minutes a day for girls – that’s 1 hour and 38 minutes a week. These figures come from *The Common Sense Census: media use by tweens and teens*, available at no charge at www.common sense media.org.

Video games tend to shift motivation away from the real world, to the virtual world. In a large, prospective, longitudinal cohort study, Professors Craig Anderson and Doug Gentile found that boys playing violent games – particularly games which deployed a *moral inversion* – exhibited changes in personality over a period of 3 or more **years**. They become more selfish, less honest, more hostile, and less patient. Douglas Gentile, Craig Anderson, and colleagues, “Mediators and moderators of long-term effects of violent video games on aggressive behavior,” *JAMA Pediatrics*, volume 168, pp. 450 – 457, 2014.

After hearing testimony from Anderson and Gentile, the California State Assembly passed a law prohibiting the sale of video games to minor children if the games depicted “killing, maiming, dismembering, or sexually assaulting an image of a human being, if those acts are depicted” in a manner that “[a] reasonable person, considering the game as a whole, would find appeals to a deviant or morbid interest.” The United States Supreme Court, in a decision written by Justice Antonin Scalia, ruled the statute unconstitutional, rendering it null and void. In his concurrence, Justice Alito shared his concerns about the implications of the research, but agreed with Justice Scalia that regulating what games a child may play is the job of the parent, not the job of the state. Justice Scalia’s opinion, and Justice Alito’s concurrence, are both online at <http://www.supremecourt.gov/opinions/10pdf/08-1448.pdf>.

Consequences of playing video games include:

- Attention problems
- Rule-breaking
- Obesity and overweight

Attention deficit. The most popular video games such as *Grand Theft Auto* and *Call of Duty* offer constantly-changing challenges, scenes, and characters. Often there are multiple characters on the screen. The successful player must continually be scanning up, down, and sideways for new assailants. Sustained concentration on a single item is a recipe for defeat: you didn't respond to that rustle on the right of the screen which was your only clue to an impending ambush. Distractibility is rewarded. Not surprisingly, researchers find that the more time you spend playing video games, the more likely you are to develop difficulties maintaining sustained concentration on a single item. Conversely, researchers find that boys who already have difficulty concentrating and focusing tend to gravitate to video games, where their distractibility is an asset rather than a liability.ⁱ

Breaking rules. The world of video games is unreal. You can jump off a 20-foot ledge onto the concrete pavement below and continue chasing your enemy: no sprained ankle, no broken bones. You can race your car at high speeds, crash into a wall, and walk away unharmed from the wreck of your car. You can hijack a car in *Grand Theft Auto* – in fact you *have* to hijack a car in order to play the game. Not only is rule-breaking behavior allowed in games such as *Grand Theft Auto* and *Call of Duty*, rule-breaking behavior is required and rewarded. If you jump off that high ledge to chase after your opponent, you are much more likely to succeed in killing your opponent than if you “waste” valuable time by running down the stairs instead. Not surprisingly, researchers have found that adolescents who play these games are more likely to engage in dangerous driving behaviors such as speeding, tailgating, and weaving in traffic; they are more likely to be pulled over by the police; more likely to be in automobile accidents; and more willing to drink and drive.ⁱⁱ In another study, teens who were playing risky racing video games at age 17 or 18 were more than three times as likely, 5 years later, to have been involved in an actual car crash, compared with teens who did not play such games.ⁱⁱⁱ

Obesity. Boys who spend lots of time playing video games are more likely to become fat compared with boys who spend less time playing video games.^{iv} There seem to be two mechanisms operating here. First, playing video games burns less calories than many other activities, such as playing actual sports. Secondly, less intuitively, playing video games seems to have a direct appetite-stimulant effect, worse than watching TV.^v That may be why time spent playing video games is significantly more likely to be associated with obesity and other bad health outcomes, compared with time spent watching TV.^{vi}

For reliable reviews of video games, go to www.common sense media.org.

Guidelines for video games

- 1) No more than 40 minutes/night on school nights
- 2) No more than 1 hour/day on weekends / vacations
- 3) Your minutes do not roll over
- 4) No games in which the primary objective is killing other people
- 5) No games with a moral inversion (such as *Grand Theft Auto*)

For more about video games, see my essay for *Psychology Today*, <https://www.psychologytoday.com/us/blog/sax-sex/201805/fortnite-boys-and-self-control>. See also my essay for *The New York Times*, “But Mom, video games are my job!” at <https://www.nytimes.com/2019/10/29/well/family/video-games-adolescents-screen-time.html>. And of course please see chapter 3 of my book *Boys Adrift*, second edition, which is devoted entirely to video games.

The third factor: stimulant medications for ADHD

The five criteria for ADHD – in DSM-IV and retained (with changes) in DSM-5:

- 1) Inattention and/or hyperactivity – this is the LEAST helpful in distinguishing whether this kid truly has ADHD or some other reason for inattention
- 2) Age of onset (before age 7 in DSM-IV, before age 12 in DSM-5)
- 3) Multiple settings
- 4) Significant impairment (this criterion is changed to “impairment” in DSM-5)
- 5) Symptoms not due to another disorder

Other conditions which can mimic ADHD include depression; childhood anxiety (which presents quite differently from adult anxiety, especially in boys); adjustment disorder; sequelae of child abuse or neglect; giftedness.

Lack of motivation. How to distinguish a cognitive deficit from a deficit of motivation?

Ask: **What is your favorite SUBJECT** at school? Not “*what is your favorite thing to do at school*” but “*What is your favorite SUBJECT?*” If the answer is “lunch” or “recess”, then this kid’s problem may be motivational, not cognitive. Disliking school is a problem, certainly, but it is not a psychiatric diagnosis. Sometimes the problem is with the school, not with the child: see chapter 2 of *Boys Adrift* and chapter 5 of *Girls on the Edge*.

Of the five required criteria for ADHD in DSM-5, the two which are most important in the differential diagnosis are **onset before 12 years of age** and **no other explanation** for the deficit of attention. If a student was doing well at school in elementary school and middle school but then begins complaining of difficulties concentrating or focusing at high school, ADHD should NOT be diagnosed. You must explore other explanations, such as anxiety, depression, sleep disturbance, etc. etc.

Sleep deprivation can mimic ADHD of the inattentive variety. The Conners Scale and similar instruments cannot tell you WHY this kid is not paying attention, only that they are not paying attention. You must determine whether the girl or boy is sleep-deprived. No devices in the bedroom! The Conners Scales are very useful as a tool for assessing the effectiveness of your intervention over time. They are NOT useful in the diagnostic process, except as a blunt screening tool. When used as a screening tool, the Conners Scales have high sensitivity but low specificity.

For more about the risks of stimulant medications and the nucleus accumbens, please see chapters 4 and 8 of my book *Boys Adrift*, second edition. See also my article "What's happening to boys?" *Washington Post*, March 31 2006, p. 19, <https://www.washingtonpost.com/archive/opinions/2006/03/31/whats-happening-to-boys-span-classbankheadyoung-women-these-days-are-driven-but-guys-lack-direction-span/4536601d-3b22-4d8a-8cab-5547d33f6c86/>.

Why haven't you heard previously about the risks of stimulants damaging the nucleus accumbens – for example, from Dr. Joseph Biederman, chief of research in pediatric psychopharmacology at Harvard Medical School? Dr. Biederman at Harvard; Fred Goodwin, former chief at NIMH; Charles Nemeroff, chief at Emory; all acknowledge accepting >\$1,000,000 from drug companies which they did not publicly disclose. They were functioning as paid spokespersons for the pharmaceutical industry. See my article on this topic, "Child psychiatry is sick with hidden conflicts of interest," <http://nydn.us/13co0zX>

If medication is necessary, Wellbutrin (bupropion) and/or Strattera (atomoxetine) and/or Intuniv (guanfacine) may be safer choices for many kids rather than the prescription stimulants (Adderall, Vyvanse, Concerta, Metadate, Focalin, Daytrana, Ritalin etc.).

Note to parents: do not change or discontinue your child's medication without first consulting the prescribing physician.

The fourth factor: endocrine disruptors

Many grocery items which were formerly distributed in glass containers are now often packaged and distributed in plastic containers, most often polyethylene terephthalate (PET). Examples include vinegar, ketchup, mustard, salad dressing, bottled soda, and even alcoholic beverages. And of course bottled water is almost always distributed in PET bottles, clear plastic bottles. There is now substantial evidence that foods and beverages packaged in PET may acquire endocrine-disrupting effects, and thus may be linked to an accelerated onset of puberty in girls, and lower testosterone levels in boys. Lowered testosterone levels in boys has the effect of lowering boys' motivation and drive (but there is no such effect on motivation for girls – girls do not rely on testosterone or any other hormone for motivation). Other factors may be in play as well. But the precautionary principle, *das Vorsorgeprinzip*, mandates the avoidance of plastic packaging for food and beverages. Use glass, metal, or paper instead.

Thomas Travison, Andre Araujo, et al. A population-level decline in serum testosterone levels in American men. *Journal of Clinical Endocrinology and Metabolism*, volume 92, pp. 196-202, 2007. <http://icem.endojournals.org/content/92/1/196.full>

The slide showing the dramatic drop in sperm counts is taken from Hagai Levine and colleagues, "Temporal trends in sperm count: a systematic review and meta-regression analysis," *Human Reproduction Update*, volume 23, pp. 646 – 659, 2017, <https://academic.oup.com/humupd/article-abstract/23/6/646/4035689?redirectedFrom=fulltext>.

Katie Kivlighan, Douglas Granger, and Alan Booth, "Gender differences in testosterone and cortisol response to competition," *Psychoneuroendocrinology*, volume 30, pp. 58 – 71, 2005. Highly-motivated young men have higher testosterone levels than less-motivated young men. But that's not true for women. I cite many more such studies in chapter 5 of *Boys Adrift*.

What to do about it?

- 1) Don't buy food or drink that was shipped in a plastic bottle at room temperature (refrigerated is OK)
- 2) Don't microwave anything in a plastic container
- 3) Be cautious about shampoo, liquid soap and other cosmetics: first check www.ewg.org/skindeep/

Leonard Sax. Polyethylene terephthalate may yield endocrine disruptors. *Environmental Health Perspectives*, 118, 445 – 448, 2010. Full text online at www.leonardsax.com/PET.pdf (CaSe-SenSitivE). My article provoked a hostile letter to the editor from Ralph Vasami, director of the PET Resin Association. You can read his letter, and my reply, at www.leonardsax.com/PET2.pdf.

Rick Smith and Bruce Lourie, *Slow Death by Rubber Duck: the secret danger of everyday things*, Counterpoint, 2011. Also see their more recent book *Toxin Toxout: getting harmful chemicals out of our body and our world*.

The fifth factor: the revenge of the forsaken gods, i.e. the disintegration in the cultural construction of masculinity.

Beatles, 1964, “I want to hold your hand” → Akon, “I wanna f**k you”

American popular culture now has toxic elements. Cardi B’s August 2020 video “WAP” broke records for the most streams in one week (93 million streams) and reached #1 on the Billboard Top 100. See my article “Why WAP Matters” <https://www.thepublicdiscourse.com/2020/08/70643/>.

Bruno Mars won six Grammys, including the Grammy for Best Song, “That’s What I Like.” The song begins with these lyrics:

*I got a condo in Manhattan
Baby girl, what's hatnin'?
You and your a-- invited
So gon' and get to clappin'
Go pop it for a player, pop-pop it for me
Turn around and drop it for a player, drop-drop it for me*

For more about Bruno Mars and his award for Best Song, please see my essay

“You and Your [Expletive] Invited,” online at

<https://www.psychologytoday.com/blog/sax-sex/201802/you-and-your-expletive-invited>.

Find good male role models for your son: a coach, a teacher, a neighborhood friend. I also mentioned “Boys To Men” in San Diego which meets at Palomar Mountain: <https://boystomen.org/>.

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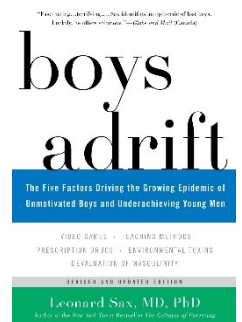
Here are some comments about my books:

Why Gender Matters “. . . is a lucid guide to male and female brain differences.”
New York Times

Boys Adrift “. . . is powerfully and persuasively presented. . . Excellent and informative references and information are provided.”
Journal of the American Medical Association

Boys Adrift: “A must-read for any parent of boys. This is real science, and Dr. Sax thoroughly uncovers the important health issues that parents of boys need to be tuned into.”
Dr. Mehmet Oz, host of “The Dr. Oz Show”

Girls on the Edge: “Packed with advice and concrete suggestions for parents, *Girls on the Edge* is a treasure trove of rarely-seen research on girls, offering families guidance on some of the most pressing issues facing girls today. Dr Sax’s commitment to girls’ success comes through on every page.”
Rachel Simmons, author of Odd Girl Out



Girls on the Edge: *“This is essential reading for parents and teachers, and one of the most thought-provoking books on teen development available.”*

Library Journal

Girls on the Edge: *“The best book about the current state of girls and young women in America . . . offers astonishing and troubling new insight . . .”*

The Atlantic

The Collapse of Parenting: *“One of the premier experts on parenting, Dr. Leonard Sax brilliantly articulates the problems parents experience with their children, then gives solutions. **The Collapse of Parenting** is academic but practical, simple but deep. If you have time to read only one book this year, **read this one.**”*

*Meg Meeker MD, author of **Strong Fathers, Strong Daughters** and **Strong Mothers, Strong Sons***

The Collapse of Parenting: *“With years of experience and research working directly with parents and children, Dr. Leonard Sax provides an important glimpse into parenting in modern times, where it’s gone wrong, and how to fix it. Being a parent has never been more important and Dr. Sax explains how to avoid parenting pitfalls and raise your children well.”*

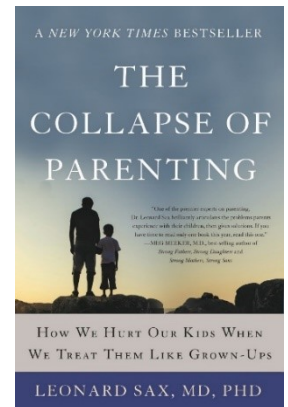
Bill Bennett PhD, former US Secretary of Education

The Collapse of Parenting: *“A comprehensive breakdown of where parents have gone awry and how they can get back on track to teach virtue and character to their children. . . .Sax provides a series of easy-to-follow solutions that help bring parents and children back to the same page, working toward a healthier, more respectful, and conscientious attitude. . . .With the author’s solid advice, parents have a good shot at achieving these goals.”*

Kirkus Reviews

*If you're going to read one book on parenting this year, make it **The Collapse of Parenting** by Leonard Sax. What makes a good nonfiction instructional book is an author who has extensive real world experience in the subject matter and who has the ability to write clearly. Leonard Sax has both.... This is quite simply a good book that is easily read and will provide sound advice for giving our children the best chance to succeed in life.*

New York Journal of Books



Additional reading:

- William Carlezon and colleagues, “Understanding the neurobiological consequences of early exposure to psychotropic drugs,” *Neuropharmacology*, 47(Supp.1): 47-60, 2004
- Todd Elder, “The importance of relative standards in ADHD diagnoses: evidence based on exact birth dates,” *Journal of Health Economics*, 29:641-656, 2010, full text online at no charge at <https://www.msu.edu/~telder/2010-JHE.pdf>.
- Leonard Sax and Kathleen Kautz, “Who first suggests the diagnosis of attention-deficit / hyperactivity disorder?” *Annals of Family Medicine*, 1:171-174, 2003.
- Leonard Sax, “Reclaiming kindergarten: making kindergarten less harmful to boys,” *Psychology of Men and Masculinity*, 2:3-12, 2001.
- Leonard Sax, *Boys Adrift: the five factors driving the growing epidemic of unmotivated boys and underachieving young men*, New York: Basic Books, 2007 (expanded softcover edition, 2009). **New edition, completely revised, was published in June 2016.**
- Leonard Sax, *Girls on the Edge: the four factors driving the new crisis for girls*, New York: Basic Books, 2010 (updated softcover edition, 2011).
- Leonard Sax, “Why not just put ALL the kids on medication?” *Psychology Today*, April 2013, online at www.psychologytoday.com/node/122122
- Leonard Sax, *The Collapse of Parenting*, New York: Basic Books, 2015.
- Leonard Sax, “6 questions to ask yourself before putting your kid on ADHD medication,” *TIME Magazine*, January 4 2016, <http://time.com/4163195/6-questions-to-ask-yourself-before-putting-your-kid-on-adhd-medication/>.

Additional references on video games:

ⁱ Edward Swing and colleagues, “Television and video game exposure and the development of attention problems,” *Pediatrics*, volume 126, pp. 214 – 221, 2010. See also Douglas Gentile and colleagues, “Video game playing, attention problems, and impulsiveness: evidence of bidirectional causality,” *Psychology of Popular Media Culture*, volume 1, pp. 62 – 70, 2012.

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- ⁱⁱ Jay Hull, Ana Draghici, and James Sargent, “A longitudinal study of risk-glorifying video games and reckless driving,” *Psychology of Popular Media Culture*, volume 1, pp. 244 – 253, 2012. See also Jay Hull and colleagues, “A longitudinal study of risk-glorifying video games and behavioral deviance,”
- ⁱⁱⁱ Kathleen Beullens and Jan Van den Bulck, “Predicting young drivers’ car crashes: music video viewing and the playing of driving games. Results from a prospective cohort study,” *Media Psychology*, volume 16, issue 1, 2013.
- ^{iv} Stervo Mario and colleagues, “Frequent video-game playing in young males is associated with central adiposity and high-sugar, low-fibre dietary consumption,” *Eating and Weight Disorders*, volume 19, pp. 515-520, 2014. See also Catherine Berkey and colleagues, “Activity, dietary intake, and weight changes in a longitudinal study of preadolescent and adolescent boys and girls,” *Pediatrics*, volume 105, 2000, pp. e56; and Elizabeth Vandewater and colleagues, “Linking obesity and activity level with children’s television and video game use,” *Journal of Adolescence*, volume 27, pp. 71 – 85, 2004.
- ^v Jean-Philippe Chaput and colleagues, “Video game playing increases food intake in adolescents: a randomized crossover study,” *American Journal of Clinical Nutrition*, volume 93, pp. 1196 – 1203, 2011.
- ^{vi} Megan Mathers and colleagues, “Electronic media use and adolescent health and well-being: cross-sectional community study,” *Academic Pediatrics*, volume 9, pp. 307 – 314, 2009.