

"With all the talk about testosterone in sex, sports, and politics, we need a good explanation of the science and its implications, and this one is outstanding."


**STEVEN PINKER**

# TESTOSTERONE

The Story of  
the Hormone  
that Dominates  
and Divides Us

**Carole Hooven**





"One of the most compelling books on human behavior I've ever read."  
Daniel Gilbert, Edgar Pierce Professor of Psychology, Harvard University,  
and author of the *New York Times* bestseller *Stumbling on Happiness*

The biological source of masculinity has inspired fascination, investigation and controversy since antiquity. From the eunuchs in the royal courts of ancient China to the booming market for "elixirs" of youth in nineteenth-century Europe, humans have been obsessed with identifying and manipulating what we now know as testosterone. And the trend shows no signs of slowing down. Thanks to this history and the methods of modern science, today we have a rich body of research about testosterone's effects in both men and women.

The science is clear: testosterone is a major, invisible player in our relationships, sex lives, athletic abilities, childhood play, gender transitions, parenting roles, violent crime, and so much more. But there is still a lot of pushback to the idea that it does, in fact, contribute to sex differences and significantly influence behavior.

Hooven argues that acknowledging testosterone as a potent force in society doesn't reinforce stifling gender norms or patriarchal values. Testosterone and evolution work together to produce a huge variety of human behavior, and that includes a multitude of ways to be masculine and feminine.

Understanding the science sheds light on how we work and relate to one another, how we express anger and love. This is a crucial first step towards fighting bias, challenging problematic behavior, and building a fairer society.

"A fascinating, brave, and brilliant book—the best I've read on the topic."  
Steve Stewart-Williams, author of *The Ape that Understood the Universe*

"Intriguing, personal, bold, persuasive. Her gripping account will fascinate, whether you're a teenager in the throes of puberty or are just curious about the nature of sex and gender—one of the most important debates of our time."  
Richard Wrangham, author of *The Goodness Paradox*

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POPULAR SCIENCE



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Some names and descriptions have been changed  
to protect identities.



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DEDICATED TO HER SON

— "ABOUT 2 ENTER PUBERTY"

HEN  
QUOTE AT  
END

For Griffin

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and me. Actually, for his first few years in school here in Cambridge, Massachusetts, he was positively rewarded for playing in gender-atypical ways. (And dressing that way, too, sometimes—if you know progressive Cambridge, that won't be a surprise.) But he still wanted to pounce on his friends and draw comic after comic about bad guys blowing things up with the good guys coming to the rescue. Research on play preferences helped me to learn what was typical but also informed the way we responded to his choices. We tried to be as open and supportive as possible, knowing that even if we wanted to, we weren't going to be able to shape what kind of man he would grow into.

And now that transition to manhood is getting very close. One of my favorite things (OK, not always top of *his* list) is to talk with Griffin about the powerful and fascinating changes that are just starting to take place in his body and mind—the hormone-driven changes preprogrammed by eons of evolution. One thing I can do with my knowledge of testosterone is help him to understand that his feelings throughout this transition will probably be of a different character from those of his female counterparts, and it's OK. Characteristically masculine feelings are not toxic; *he* is not toxic for having them. What matters are actions, and he has control over those. We'll try to guide him in learning to make the best, most respectful and compassionate choices. He has taught me about ways to be a boy, and he will teach me about ways to be a man. My hope is that Griffin will live in a world where men and women have complete freedom to choose careers or lifestyles, no matter how stereotypically male or female. He could be a dancer, an engineer, a nurse, a primary school teacher, or a stay-at-home dad; he could paint his toenails or take up mixed martial arts (these are not mutually exclusive).

Because of the testosterone that he is on the way to producing, Griffin will likely differ from most women in many of the ways I've described in this book. Becoming a man is a beautiful thing. But like every man—my son should enjoy his T responsibly.

## NOTES

Pls. N.B. Pages 260-338  
are Notes, refs. etc.

### CHAPTER 1

- 1 the gland decreases its production of the "sleep hormone" melatonin: R. J. Nelson and L. J. Kriegsfeld, *An Introduction to Behavioral Endocrinology*, 5th ed. (Sunderland, MA: Sinauer Associates, 2017), 73–74, 554, 703.
- 2 I did that with the help of a long stick: Martin N. Muller and Richard W. Wrangham, "Dominance, Aggression and Testosterone in Wild Chimpanzees: A Test of the 'Challenge Hypothesis,'" *Animal Behaviour* 67, no. 1 (2004): 113–23; 116 for methods of urine collection, preservation, and hormone analysis.
- 5 "Wife Beaters of Kibale": Eugene Linden, "The Wife Beaters of Kibale," *Time*, August 19, 2002, 56; see also Eugene Linden, *The Octopus and the Orangutan: More True Tales of Animal Intrigue, Intelligence, and Ingenuity* (New York: E. P. Dutton, 2002), 112.
- 6 *Demonic Males: Apes and the Origins of Human Violence*: Richard W. Wrangham and Dale Peterson, *Demonic Males: Apes and the Origins of Human Violence* (Boston: Houghton Mifflin Harcourt, 1996).
- 7 Males tend to target females: Martin N. Muller, Sonya M. Kahlenberg, Melissa Emery Thompson, and Richard W. Wrangham, "Male Coercion and the Costs of Promiscuous Mating for Female Chimpanzees," *Proceedings of the Royal Society B: Biological Sciences* 274, no. 1612 (2007): 1009–14, and Joseph T. Feldblum, Emily E. Wroblewski, Rebecca S. Rudicell, Beatrice H. Hahn, Thais Paiva, Mine Cetinkaya-Rundel, Anne E. Pusey, and Ian C. Gilby, "Sexually Coercive Male Chimpanzees Sire More Offspring," *Current Biology* 24, no. 23 (2014): 2855–60.
- 8 I listened carefully for mention of the Congolese rebels: Human Rights Watch, "Human Rights Watch World Report 2000—Uganda," December 1, 1999, <https://www.refworld.org/docid/3ae6a8c924.html>



Why did I resist an explanation for human rape that situated the cause in our evolutionary past? Because that explanation seemed to make rape natural and excusable, and that galled me. But equipped with an understanding of evolutionary biology and some basic logic, I came to appreciate that such a conclusion is not warranted. That doesn't mean the hypothesis that Thornhill offered is correct, but it does mean that I'm capable of evaluating the evidence on its merits, without letting my emotions get in the way. I've found this to be immensely empowering.

During that seminar, I wasn't coming unglued, but I was tearing up a little (which wasn't a surprise to anyone at that point) and struggling to find the right words. Perhaps the whole episode could have been avoided had I been warned about the topic of the paper and the discussion before I encountered any of it. That way, I could have mentally prepared myself for potentially disturbing content, or even skipped class entirely. And when the professor saw me in distress, he could have furrowed his brow with concern, offered me a tissue, and focused the discussion on something else. But he didn't do any of that. Maybe his being British had something to do with it, but he clearly thought I should keep calm and carry on. I was supposed to dispassionately consider the evidence and the argument. Don't get me wrong, I'm still pissed off. But I have better places to direct my anger than against the well-intentioned author of a scientific study.

The primary emotion I feel when I look back on that day now is gratitude. Like many students who have impostor syndrome, deep down I didn't feel that I belonged at Harvard or in that classroom. But here was a professor I admired and respected, patiently expecting me to do what scientists do. This was one of the most valuable lessons I learned in all of my training at Harvard, and I can't imagine a more effective way to have learned it.

## HATE ALL MEN?

What's the appropriate response to the fact that men do the majority of raping and assaulting, not to mention hoarding the world's power? One option was suggested by Suzanna Danuta Walters, professor of

sociology and director of the Women's, Gender, and Sexuality Studies Program at Northeastern University, in an opinion piece in the *Washington Post* in 2018:

Pretty much everywhere in the world, this is true: Women experience sexual violence, and the threat of that violence permeates our choices big and small. In addition, male violence is not restricted to intimate-partner attacks or sexual assault but plagues us in the form of terrorism and mass gun violence. Women are underrepresented in higher-wage jobs, local and federal government, business, educational leadership, etc.

The headline was: "Why Can't We Hate Men?" The answer: we can. Hating men is actually the appropriate response to their litany of sins. As Walters bluntly put it: "We have every right to hate you. You have done us wrong."

I'm not happy that the *Washington Post* deemed this vilification of half the human population worthy of publication, but I am glad that I live in a country where people have the right to freely express such views. Not surprisingly, Walters's article generated plenty of controversy and blowback, including threats of gruesome violence directed toward her from men only—also not surprisingly. But she had her defenders.

Lots of books these days are aimed at inspiring young girls to shoot for the stars, to be fierce, tough, smart, and strong, and describe the accomplishments of women who embody those characteristics. And encouraging girls to aim high is a good thing. At the same time, men are blamed for simply existing, for their inherent toxicity. It's true that men are different—being scholarly, I should add "on average." But let's also not forget about the virtues that nature seems to have preferentially handed out to men. They might sometimes feel the need to confidently explain the obvious, but they also put their lives on the line for others and are massively overrepresented in the most dangerous occupations. The Ugandan men with whom I trekked through the jungle for eight months protected and educated me. Without them, this book would not exist.