**Generation Adderall**

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Like many of my friends, I spent years using prescription stimulants to get through school and start my career. Then I tried to get off them.

**BY CASEY SCHWARTZ**OCT. 12, 2016

Have you ever been to Enfield? I had never even heard of it until I was 23 and living in London for graduate school. One afternoon, I received notification that a package whose arrival I had been anticipating for days had been bogged down in customs and was now in a FedEx warehouse in Enfield, an unremarkable London suburb. I was outside my flat within minutes of receiving this news and on the train to Enfield within the hour, staring through the window at the gray sky. The package in question, sent from Los Angeles, contained my monthly supply of Adderall.

Adderall, the brand name for a mixture of amphetamine salts, is more strictly regulated in Britain than in the United States, where, the year before, in 2005, I became one of the millions of Americans to be prescribed a stimulant medication.

The train to Enfield was hardly the greatest extreme to which I would go during the decade I was entangled with Adderall. I would open other people’s medicine cabinets, root through trash cans where I had previously disposed of pills, write friends’ college essays for barter. Once, while living in New Hampshire, I skipped a day of work to drive three hours each way to the health clinic where my prescription was still on file. Never was I more resourceful or unswerving than when I was devising ways to secure more Adderall.

Adderall is prescribed to treat Attention Deficit Hyperactivity Disorder, a neurobehavioral condition marked by inattention, hyperactivity and impulsivity that was first included in the D.S.M. in 1987 and predominantly seen in children. That condition, which has also been called Attention Deficit Disorder, has been increasingly diagnosed over recent decades: In the 1990s, an estimated 3 to 5 percent of school-age American children were believed to have A.D.H.D., according to the Centers for Disease Control and Prevention; by 2013, that figure was 11 percent. It continues to rise. And the increase in diagnoses has been followed by an increase in prescriptions. In 1990, 600,000 children were on stimulants, usually Ritalin, an older medication that often had to be taken multiple times a day. By 2013, 3.5 million children were on stimulants, and in many cases, the Ritalin had been replaced by Adderall, officially brought to market in 1996 as the new, upgraded choice for A.D.H.D. — more effective, longer lasting.

Adderall’s very name reflects its makers’ hopes for an expanding customer base: “A.D.D. for all” is the phrase that inspired it, Alan Schwarz writes in his new book, “A.D.H.D. Nation.” And in fact, by the time I arrived at college in 2000, four years after Adderall hit the market, nearly five million prescriptions were written; in 2005, the year after I graduated, that number was just under nine million. By then, sales of A.D.H.D. medication in the United States totaled more than $2 billion.

By the mid-2000s, adults were the fastest-growing group receiving the drug. In 2012, roughly 16 million Adderall prescriptions were written for adults between ages 20 and 39, according to QuintilesIMS, an information-and-technology-services company that gathers health-care-related data. Adderall has now become ubiquitous on college campuses, widely taken by students both with and without a prescription. Black markets have sprung up at many, if not most, schools. In fact, according to a review published in 2012 in the journal Brain and Behavior, the off-label use of prescription stimulants had come to represent the second-most-common form of illicit drug use in college by 2004. Only marijuana was more popular.

We know very little about what Adderall does over years of use, in and out of college, throughout all the experiences that constitute early adulthood. To date, there is almost no research on the long-term effects on humans of using Adderall. In a sense, then, we are the walking experiment, those of us around my age who first got involved with this drug in high school or college when it was suddenly everywhere and then did not manage to get off it for years afterward — if we got off it at all. We are living out what it might mean, both psychologically and neurologically, to take a powerful drug we do not need over long stretches of time. Sometimes I think of us as Generation Adderall.

**Adderall as we**know it today owes its origins to accident. In the late 1920s, an American chemist named Gordon Alles, searching for a treatment for asthma, synthesized a substance related to adrenaline, which was known to aid bronchial relaxation. Alles had created beta-phenyl-isopropylamine, the chemical now known as amphetamine. Injecting himself to test the results, he noted a “feeling of well being,” followed by a “rather sleepless night,” according to “On Speed: The Many Lives of Amphetamine,” by Nicolas Rasmussen. By the 1930s, the drug Benzedrine, a brand-name amphetamine, was being taken to elevate mood, boost energy and increase vigilance. The American military dispensed Benzedrine tablets, also known as “go pills,” to soldiers during World War II. After the war, with slight modification, an amphetamine called Dexedrine was prescribed to treat depression. Many people, especially women, loved amphetamines for their appetite-suppressing side effects and took them to stay thin, often in the form of the diet drug Obetrol. But in the early 1970s, with around 10 million adults using amphetamines, the Food and Drug Administration stepped in with strict regulations, and the drug fell out of such common use. More than 20 years later, a pharmaceutical executive named Roger Griggs thought to revisit the now largely forgotten Obetrol. Tweaking the formula, he named it Adderall and brought it to market aimed at the millions of children and teenagers who doctors said had A.D.H.D. A time-release version of Adderall came out a few years later, which prolonged the delivery of the drug to the bloodstream and which was said to be less addictive — and therefore easier to walk away from. In theory.

The first time I took Adderall, I was a sophomore at Brown University, lamenting to a friend the impossibility of my plight: a five-page paper due the next afternoon on a book I had only just begun reading. “Do you want an Adderall?” she asked. “I can’t stand it — it makes me want to stay up all night doing cartwheels in the hallway.”

Could there be a more enticing description? My friend pulled two blue pills out of tinfoil and handed them to me. An hour later, I was in the basement of the library, hunkered down in the Absolute Quiet Room, in a state of peerless ecstasy. The world fell away; it was only me, locked in a passionate embrace with the book I was reading and the thoughts I was having about it, which tumbled out of nowhere and built into what seemed an amazing pile of riches. When dawn came to Providence, R.I., I was hunched over in the grubby lounge of my dormitory, typing my last fevered perceptions, vaguely aware that outside the window, the sky was turning pink. I was alone in my new secret world, and that very aloneness was part of the great intoxication. I needed nothing and no one.

I would experience this same sensation again and again over the next two years, whenever I could get my hands on Adderall on campus, which was frequently, but not, I began to feel, frequently enough. My Adderall hours became the most precious hours of my life, far too precious for the Absolute Quiet Room. I now needed to locate the most remote desk in the darkest, most neglected corner of the upper-level stacks, tucked farthest from the humming campus life going on outside. That life was no longer the life that interested me. Instead, what mattered, what compelled, were the hours I spent in isolation, poring over, for instance, Immanuel Kant’s thoughts on “the sublime.”

It was fitting: *This* was sublime, these afternoons I spent in untrammeled focus, absorbing the complicated ideas in the texts in front of me, mastering them, covering their every surface with my razor-like comprehension, devouring them, making them a part of myself. Or rather, of what I now thought of as my self, which is to say, the steely, undistractable person whom I vastly preferred to the lazier, glitchier person I knew my actual self to be, the one who was subject to fits of lassitude and a tendency to eat too many Swedish Fish.

Adderall wiped away the question of willpower. Now I could study all night, then run 10 miles, then breeze through that week’s New Yorker, all without pausing to consider whether I might prefer to chat with classmates or go to the movies. It was fantastic. I lost weight. That was nice, too. Though I did snap at friends, abruptly accessing huge depths of fury I wouldn’t have thought I possessed. When a roommate went home one weekend and forgot to turn off her alarm clock so that it beeped behind her locked door for 48 hours, I entirely lost control, calling her in New York to berate her. I didn’t know how long it had been since I’d slept more than five hours. Why bother?

**By my senior**year of college, my school work had grown more unmanageable, not less. For the first time in my life, I wasn’t able to complete it. My droll, aristocratic Russian-history professor granted me an extension on the final term paper. One Friday evening well into December, when the idyllic New England campus had already begun to empty out for winter break, I was alone in the Sciences Library — the one that stayed open all night — squinting down at my notes on the Russian intelligentsia. Outside, it was blizzarding. Inside, the fluorescent lights beat down on the empty basement-level room. I felt dizzy and strange. It had been a particularly chemical week; several days had passed since I had slept more than a handful of hours, and I was taking more and more pills to compensate. Suddenly, when I looked up from the page, the bright room seemed to dilate around me, as if I weren’t really there but rather stuck in some strange mirage. I seized with panic — what was happening? I tried to breathe, to snap myself back into reality, but I couldn’t. Shakily, I stood and made my way toward the phones. I dialed my friend Dave in his dorm room. “I’m having some kind of problem in the Sci Li,” I told him. My own voice sounded as if it belonged to someone else.

An hour later, I was in an ambulance, being taken through the snowstorm to the nearest hospital. The volunteer E.M.T. was a Brown student I’d met once or twice. He held my hand the whole way. “Am I going to die?” I kept asking him. Dave and I sat for hours in the emergency room, until I was ushered behind a curtain and a skeptical-looking doctor came in to see me. I wasn’t used to being looked at the way he was looking at me, which is to say, as if I were potentially insane, certifiable even. By then, I was feeling a little better, no longer so sure I was dying, and as I lay down on the examination table, I joked to him, “I will recline, like the Romans!” His expression remained unamused. I described what I’d been taking. His diagnosis: “Anxiety, amphetamine induced.” I had had my first panic attack — an uncommon but by no means unknown reaction to taking too much Adderall. When I left the hospital, I left behind the canister of blue pills that I had painstakingly scrounged together. I still remember the sight of it sitting next to the examination bed.

A few days later, I drew incompletes in my classes and went back home to New York. My father knew about the hospital incident, but I promised him I would stop taking the drug. And I fully intended to. I spent that long winter break at the public library on 42nd Street, soldiering lethargically through the essays I hadn’t been able to cope with while taking amphetamines. What I didn’t know then, what I couldn’t have known, was that the question of whether Adderall actually improves cognitive performance when taken off-label — whether or not it is a “smart drug” — was unresolved. It would be another few years before studies appeared showing that Adderall’s effect on cognitive enhancement is more than a little ambiguous. Martha Farah, a cognitive neuroscientist at the University of Pennsylvania, has conducted much of this research. She has studied the effect of Adderall on subjects taking a host of standardized tests that measure restraint, memory and creativity. On balance, Farah and others have found very little to no improvement when their research subjects confront these tests on Adderall. Ultimately, she says, it is possible that “lower-performing people actually do improve on the drug, and higher-performing people show no improvement or actually get worse.”

My pill-free period didn’t last very long. I turned in my incomplete school work and duly received my grades, but by graduation that spring, I was again locked into the familiar pattern, the blissful intensity and isolation followed by days of slow-motion comedown, when I would laze around for hours, eating spoonfuls of ice cream from the carton, desperate for the sugar rush, barely able to muster the energy necessary to take a shower.

It took me exactly one year from the time of college graduation to come to the decision that would, to a great extent, shape the next phase of my life. It hit me like a revelation: It might be possible to declare my independence from the various A.D.H.D. kids who sold me their prescription pills at exorbitant markups and get a prescription all my own. The idea occurred to me as I walked among the palm trees on the campus of U.C.L.A. By then, I was living in Los Angeles, working as a private tutor for high-school kids, many of whom were themselves on Adderall, and taking summer-school classes in psychology and neuroscience in order to be able to apply for graduate school. I had decided I wanted to be a psychologist — infinitely more manageable than my secret ambition of being a writer, I thought. Infinitely more realistic. Like many 20-somethings, my decisions were informed by panic and haste, but also, of course, by whatever short-lived supply of the pills I happened to be in possession of.

I was now surrounded — or had surrounded myself — by others caught up in the Adderall web. Together with two of my closest friends in Los Angeles that year, we traversed the city in a state of perpetual, hyped-up intensity, exchanging confidences that later we would not recall. Adderall was the currency of our friendship; when one of us ran short of pills, another would cover the deficit. Driving through Los Angeles in a sun-drenched trance, weaving in and out of traffic, I found it all too easy to lose track of exactly how many pills I had swallowed that day.

As soon as it occurred to me that I might be able to get my own prescription, I went to the nearest campus computer and searched for “cognitive behavioral psychiatrist, Westwood, Los Angeles, California.” I knew enough about psychology by then to avoid the psychoanalysts, who would want to go deep and talk to me for weeks or maybe months about why I felt I needed chemical enhancement. No, I couldn’t turn to them — I needed a therapist with an M.D., a focus on concrete “results” and an office within a 10-minute drive of U.C.L.A.

The very next day, I was sitting in exactly the kind of place I had envisioned, an impersonal room with gray walls and black leather furniture, describing to the attractive young psychiatrist in the chair opposite me how I had always had to develop elaborate compensatory strategies for getting through my school work, how staying with any one thing was a challenge for me, how I was best at jobs that required elaborate multitasking, like waitressing. Untrue, all of it. I was a focused student and a terrible waitress. And yet these were the answers that I discovered from the briefest online research were characteristic of the A.D.H.D. diagnostic criteria. These were the answers they were looking for in order to pick up their pens and write down “Adderall, 20 mg, once a day” on their prescription pads. So these were the answers I gave.

Fifty minutes later, I was standing on San Vicente Boulevard in the bright California sun, prescription slip in hand. That single doctor’s assessment, granted in less than an hour, would follow me everywhere I went: through the rest of my time in Los Angeles; then off to London, with the help of FedEx; then to New Haven, where I would pick it up once a month at the Yale Health Center; then back to New York, where the doctor I found on my insurance plan would have no problem continuing to prescribe this medication, based only on my saying that it had been previously prescribed to me, that I’d been taking it for years.

**Any basic**neuroscience textbook will explain how Adderall works in the brain — and why it’s so hard to break the habit. For years, the predominant explanation of addiction, promulgated by researchers like Nora Volkow, director of the National Institute on Drug Abuse, has revolved around the neurotransmitter dopamine. Amphetamines unleash dopamine along with norepinephrine, which rush through the brain’s synapses and increase levels of arousal, attention, vigilance and motivation. Dopamine, in fact, tends to feature in every experience that feels especially great, be it having sex or eating chocolate cake. It’s for this reason that dopamine is so heavily implicated in current models of addiction. As a person begins to overuse a substance, the brain — which craves homeostasis and fights for it — tries to compensate for all the extra dopamine by stripping out its own dopamine receptors. With the reduction of dopamine receptors, the person needs more and more of her favored substance to produce the euphoria it once offered her. The vanishing dopamine receptors also help explain the agony of withdrawal: Without that favored substance, a person is suddenly left with a brain whose capacity to experience reward is well below its natural levels. It is an open question whether every brain returns to its original settings once off the drug.

Nearly three years after getting the prescription, in 2008, I found myself sobbing in a psychiatrist’s office in New Haven, where I was finishing graduate school, explaining to him that my life was no longer my own. I had long been telling myself that by taking Adderall, I was exerting total control over my fallible self, but in truth, it was the opposite: The Adderall made my life unpredictable, blowing black storm systems over my horizon with no warning at all. Still, I couldn’t give it up. The psychiatrist was a kind Serbian man with an unflappable expression. He observed my distress calmly and prescribed Wellbutrin, an antidepressant with a slightly speedy quality that could cushion the blow of withdrawal and make it less painful to get off the Adderall. His theory was sound. But soon enough, I was simply taking both medications.

Through my Adderall years, I lived a paradox, believing that the drug was indispensable to my very survival while also knowing that it was nothing short of toxic, poisonous to art, love and life. By 2009, I had a contract to write a book about psychoanalysis and neuroscience; shortly after, I took a day job as a reporter for a news website. What was required of me there was the constant filing of short, catchy pieces: to be quick and glib and move on to the next one. It was the kind of rhythm perfect for an Adderall-head like me — and the kind of writing at odds with the effort to think slowly and carefully, at book length. The goal of slow and careful thinking came to feel more and more anachronistic with each passing week. It didn’t escape me that just as Adderall was surging onto the market in the 1990s, so, too, was the internet, that the two have ascended within American life in perfect lock-step.

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Occasionally, I would try to get off the drug. Each attempt began the same way. Step 1: the rounding up of all the pills in my possession, including those secret stashes hidden away in drawers and closets. Debating for hours whether to keep just one, “for emergencies.” Then the leap of faith and the flushing of the pills down the toilet. Step 2: a day or two of feeling all right, as if I could manage this after all. Step 3: a bleak slab of time when the effort needed to get through even the simple tasks of a single day felt stupendous, where the future stretched out before me like a grim series of obligations I was far too tired to carry out. All work on my book would stop. Panic would set in. Then, suddenly, an internal Adderall voice would take over, and I would jump up from my desk and scurry out to refill my prescription — almost always a simple thing to achieve — or borrow pills from a friend, if need be. And the cycle would begin again. Those moments were all shrouded in secrecy and shame. Very few people in my life knew the extent to which the drug had come to define me.

Over the years, I’ve been told by various experts on the subject that it should not have been so hard to get off Adderall. The drug is supposed to be relatively quick and painless to relinquish. I’ve often wondered whether my inability to give it up was my deepest failing. I’ve found some comfort in seeing my own experience mirrored back to me in the dozens and dozens of disembodied voices on the internet, filling the message boards of the websites devoted to giving up this drug. One post, in particular, has stayed with me, a mother writing on QuittingAdderall.com:

*I started taking Adderall in OCT 2010. And my story isn’t much different than most. ... The honeymoon period, then all downhill. I feel like I cannot remember who I was, or how it felt, to go one minute of the day not on Adderall. I look back at pictures of myself from before this began and I wonder how I was ever*“*happy*” *without it because now I am a nervous wreck if I even come close to not having my pills for the day. There have been nights I have cried laying my daughter down to sleep because I was so ashamed that the time she spent with her mommy that day wasn’t real.*

“Nobody starts off by saying, I’m going to go develop a drug problem,” said Jeanette Friedman, a social worker with a specialty in addiction, when I met her in August at her Upper East Side office. “No one means to get addicted. But there’s such a casual use of something like Adderall nowadays — because it’s seen as benign, or a help to becoming more productive. And in our culture, to be productive is kind of everything. There’s a tremendous pressure not just to do well but to excel.”

When she is face to face with an addicted patient, Friedman explains, what is at stake is that patient’s very ability “to become a full person without the shadow of always needing something.” Adderall complicates the usual dynamic of drug addiction by being squarely associated with productivity, achievement and success. “It’s very hard to think about going off it, because you don’t know if you’re going to be able to produce,” she says. “Plenty of people have gone off of it and have been able to tell the story, that yes, they definitely can produce. But the fear of not being able to is what keeps people still using.”

I remember that fear, in school and, later, at work, and it’s palpable in those message-board pleas:

*The way I feel now is way worse than my A.D.D. ever was before I went on this stuff. I no longer feel, at this present time, able to get a Ph.D. I don’t feel able to do coursework, I don’t feel interested and passionate about the things I loved. I need to know from you, dear readers, that this will be temporary.*

Harris Stratyner, a psychologist and addiction specialist at the Caron Treatment Center in Manhattan, told me that each year he’s in practice, he sees more people desperate to get off Adderall. Stratyner estimates that he has treated more than 50 patients trying to stop using the drug; currently, they range in age from 24 to 40. His Adderall patients are overwhelmingly creative people who wanted to work in the arts — yet, he says, many have chosen other paths, safer paths, resigning themselves before they’ve even really tried to achieve what they hoped for. “They often give in to practicality,” he says. “Then they feel they missed out. And when they take Adderall, it makes them feel good, so they don’t focus on the fact that they feel like they sold out.” Many people are using Adderall to mask a sense of disappointment in themselves, Stratyner says, because it narrows their focus down to simply getting through each day, instead of the larger context of what they’re trying to build with their lives. “It becomes extremely psychologically and physiologically addictive,” he says. “It’s really a tough drug to get off of.” The side effects of Adderall withdrawal that his patients report include nausea, chills, diarrhea, body aches and pains, even seizures. Occasionally, it is necessary for him to hospitalize his patients as they come down off Adderall.

**In the end,**I did not get off Adderall alone. I had a brilliant psychiatrist. I believe she saved my life. On the wall of her office, she had a single image: a framed print of an Henri Matisse painting. Through our time together, Matisse came to stand for the creative process. You start one place, go through hell and wind up somewhere else, somewhere that surprises you. Adderall, we both agreed, was a perversion of that journey. Gradually, her words entered my inner dialogue and sustained me. I was 30 by the time I got off Adderall for good. This statement horrifies me even now, more than three years later, recognizing the amount of precious time I gave away to that drug.

During the first weeks of finally giving up Adderall, the fatigue was as real as it had been before, the effort required to run even a tiny errand momentous, the gym unthinkable. The cravings were a force of their own: If someone so much as said “Adderall” in my presence, I would instantly begin to scheme about how to get just one more pill. Or maybe two. I was anxious, terrified I had done something irreversible to my brain, terrified that I was going to discover that I couldn’t write at all without my special pills. I didn’t yet know that it would only be in the amphetamine-free years to follow that my book would finally come together.

Even in those first faltering weeks, there were consolations. Simple pleasures were available to me again. I laughed more in conversation with my friends, and I noticed that they did, too. I had spent years of my life in a state of false intensity, always wondering if I should be somewhere else, working harder, achieving more. In the deep lethargy of withdrawal, I could shed that chemical urgency that kept me at a subtle distance from everyone around me — and from myself.

On one of those earliest days of being off the drug, I was moving slowly, more than a little daunted, trying to walk the few miles to an appointment I had in Midtown Manhattan. It was a glorious summer evening, the sun just going down. As I approached Bryant Park, I heard live music and wandered in to see. A rock band was performing onstage. I hovered at the back of the crowd. The singer, muscular and bearded, gripped the microphone in front of him with two hands, pouring his heart into every word that left his mouth. His voice soared into that summer night. Suddenly, tears were streaming down my face. I was embarrassed, but I couldn’t stop. It was as if I hadn’t heard music in years.

Casey Schwartz is the author of “In the Mind Fields: Exploring the New Science of Neuropsychoanalysis.” She last wrote for the magazine on whether [brain-scanning can help save Freudian psychoanalysis.](http://www.nytimes.com/2015/06/28/magazine/tell-it-about-your-mother.html)