THE SLEEP REVOLUTION

TRANSFORMING YOUR LIFE, ONE NIGHT AT A TIME

ARIANNA HUFFINGTON

AUTHOR OF THE #1 NEW YORK TIMES BESTSELLER *THRIVE*

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ABOUT THE BOOK

We are in the midst of a sleep-deprivation crisis, and this has profound consequences – on our health, our job performance, our relationships and our happiness. In this book, Arianna Huffington boldly asserts that what is needed is nothing short of a sleep revolution. Only by renewing our relationship with sleep can we take back control of our lives.

Through a sweeping, scientifically rigorous and deeply personal exploration of sleep from all angles, Arianna delves into the new golden age of sleep science that reveals the vital role sleep plays in our every waking moment and every aspect of our health – from weight gain, diabetes and heart disease to cancer and Alzheimer's.

In *The Sleep Revolution*, Arianna shows how our cultural dismissal of sleep as time wasted not only compromises our health and our decision making but also undermines our work lives, our personal lives and even our sex lives. She explores the latest science on what exactly is going on while we sleep and dream. She takes on the dangerous sleeping-pill industry and confronts all the ways our addiction to technology disrupts our sleep. She also offers a range of recommendations and tips from leading scientists on how we can achieve better and more restorative sleep, and harness its incredible power.

In today's fast-paced, always-connected, perpetually harried and sleep-deprived world, our need for a good night's sleep is more important – and elusive – than ever. *The Sleep Revolution* both sounds the alarm on our worldwide sleep

crisis and provides a detailed road map to the great awakening that can help transform our lives, our communities and our world.

ABOUT THE AUTHOR

ARIANNA HUFFINGTON is the co-founder, president and editor-in-chief of The Huffington Post Media Group. Her most recent book, *Thrive*, was an international success and a No.1 *New York Times* bestseller. Among her other bestselling books are *Third World America* and *On Becoming Fearless*.

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WH
ALLEN

For all those who are sick and tired of
being sick and tired.

INTRODUCTION

I GREW UP in a one-bedroom apartment in Athens where sleep was revered. After my parents separated when I was eleven, my mother, my sister, and I shared that one bedroom. But it was always understood that we should do everything in our power not to wake up anyone who was sleeping. If I had to study after my younger sister went to bed, I would study in the kitchen so the light wouldn't wake her. My mother was adamant about the importance of sleep for our health, our happiness, and our schoolwork. But despite this auspicious beginning, as soon as I left home—first to study at Cambridge and then to live and work in London—I bought into the prevalent cultural norm of sleep deprivation as essential to achievement and success. FOMO (fear of missing out) became part of my life long before the acronym was invented (probably by sleep-deprived millennials).

This new sleep-be-damned approach continued for years, until, as I wrote about in *Thrive*, I collapsed from sleep deprivation, exhaustion, and burnout in April 2007. I'd just returned home after taking my daughter Christina, then a junior in high school, on a tour of prospective colleges. The ground rules we'd agreed on—or, more accurately, that my daughter demanded—were that during the days I would not be on my BlackBerry. But that didn't mean I would stop working (sacrilege!). So each night we'd eat dinner late and get back to the hotel exhausted. Then, in some sort of role reversal, Christina would do the responsible thing and go to sleep while I acted the part of the sneaky teenager and stayed up late. After she'd fallen asleep, I'd fire up the computers and the BlackBerrys, responding to all the

“urgent” emails and generally attempting to squeeze a full day’s work into what should have been my sleep time. This would go on until about 3 a.m., when I couldn’t keep my eyes open any longer. And after three or four hours of sleep, I’d be back up for the day shift. Work, after all, was much more important than sleep, at least to my 2007 self. Because, hey, I’m running a start-up—one that’s got my name on it. Clearly I’m indispensable, so I must work all night, responding to a hundred emails and then writing a long blog post, while being the perfect mother during the day. This way of working and living seemed to serve me well—until it didn’t.

The only part of that trip I seem to remember clearly is the cold, rainy morning at Brown, walking around in a daze as if it were finals week. About a third of the way into the tour, Christina leaned over to me and said, “I’m not going to apply here—how about we just drop out of the tour and go get coffee?” I felt like I’d just been given a get-out-of-jail-free card. Yes, yes! Where is the closest Starbucks? How quickly can we get there? I hope there’s no line. Can’t wait for my fourth infusion of caffeine of the day—just the pick-me-up I need to make it to the night shift.

So the college trip was over. But I didn’t fly straight home. Instead I flew first to Portland for a speaking engagement that, in my scheduling hubris, I’d said yes to, and then on to L.A. that night. After getting home very late, I was up again four hours later for a CNN interview. I have no idea why I said yes, but there is that level of tiredness where you don’t actually even notice you’re tired because you no longer remember how not being tired feels. Like being drunk, being that tired not only causes you to make bad decisions, but it also makes you unaware that you’re in no state to be making decisions at all. I was sleep-walking through my life.

Of course, being Greek, I should have known that hubris always gets punished. And mine was no exception. Once I got to my office after the interview, my body just couldn’t

take it anymore, and down I went, coming back to consciousness in a pool of blood. And that's how I painfully but powerfully rediscovered what my mother, with no formal education, and certainly no background in health or science, knew instinctively all those years ago in Athens: no matter the constraints, whether a tiny, crowded apartment or a crowded work schedule, sleep is a fundamental human need that must be respected.

It's one of humanity's great unifiers. It binds us to one another, to our ancestors, to our past, and to the future. No matter who we are or where we are in the world and in our lives, we share a common need for sleep. Though this need has been a constant throughout human history, our relationship to sleep has gone through dramatic ups and downs. And right now that relationship is in crisis.

The evidence is all around us. For instance, do you know what happens if you type the words "why am I" into Google? Before you can type the next word, Google's autocomplete function—based on the most common searches—helpfully offers to finish your thought. The first suggestion: "why am I so tired?" The global zeitgeist perfectly captured in five words. The existential cry of the modern age. And that's not just in New York but also in Toronto, Paris, Seoul, Madrid, New Delhi, Berlin, Cape Town, and London. Sleep deprivation is the new lingua franca.

Though we may not be getting much of it, we certainly talk (and post and tweet) about sleep a lot. There are nearly five thousand apps that come up when you search "sleep" in the Apple App Store, more than 15 million photos under #sleep on Instagram, another 14 million under #sleepy, and more than 24 million under #tired. A quick search for "sleep" on Google will bring up more than 800 million results. Sleep isn't just buried in our subconscious; it's on our minds, and in the news, as never before.

But even though we now know more about sleep than at any other time in history, and how important it is to every

aspect of our physical, mental, emotional, and spiritual well-being, actually getting enough sleep is harder and harder to do. And here is a further paradox: advances in technology have allowed us to pull back the curtain on what's going on while we sleep, but technology is also one of the main reasons our relationship to this fundamental part of our existence has become so compromised.

Of course it's not just technology that's coming between us and a good night's sleep. It's also our collective delusion that overwork and burnout are the price we must pay in order to succeed. The method (or cheat code) we use isn't a mystery: feeling that there aren't enough hours in the day, we look for something to cut. And sleep is an easy target. In fact, up against this unforgiving definition of success, sleep doesn't stand a chance.

But this is a woefully incomplete vision of success. That's why I wrote *Thrive*—to explore the ways in which our lives can be much more fulfilling when we broaden our definition of success, moving beyond the modern metrics of money, status, and power to include well-being, wisdom, wonder, and the power of giving.

Sleep is a key element of our well-being and interacts profoundly with each of the other parts. Once I started getting seven or eight hours of sleep, it became easier to meditate and exercise, make wiser decisions, and connect more deeply with myself and others.

As I went around the country talking about *Thrive,* I found that the subject that came up the most—by far—was sleep: how difficult it is to get enough, how there are simply not enough hours in the day, how tough it is to wind down, how hard it is to fall asleep and stay asleep, even when we set aside enough time. Since my own transformation into a sleep evangelist, everywhere I go, someone will pull me aside and, often in hushed and conspiratorial tones, confess, "I'm just not getting enough sleep. I'm exhausted all the time." Or, as one young woman told me after a talk in San

Francisco, “I don’t remember the last time I wasn’t tired.” By the end of an evening, I’ll have had that same conversation with any number of people in the room. And what everyone wants to know is, “What should I do to get more sleep?”

It’s clear that if we’re going to truly thrive, we must begin with sleep. It’s the gateway through which a life of well-being must travel. From the moment we’re born until the moment we die, we’re in a relationship with sleep. It’s the dominant subject for the parents of a newborn. “How’s the baby sleeping?” people ask. Or “How are *you* sleeping?” Or, in an attempt to be helpful, “Here are twenty-five books to read in your spare time about how to get a newborn baby to sleep.” To anyone who has a child, it’s no surprise that Adam Mansbach’s 2011 book *Go the F**k to Sleep* became a number-one best seller.[1] And at the other end of the sleep spectrum, at the close of our lives, the phrase that’s come to sum up what most people consider the best way to die is to “go peacefully in our sleep.”

So we all have an intimate and unique relationship with sleep. Even when we fight against it, it’s like an intense, on-again, off-again relationship with an ex who’s never moved out. Sometimes it’s healthy and supportive of everything we do while we’re awake, and sometimes it’s wildly dysfunctional and destructive. To paraphrase Tolstoy—who himself was fascinated with sleep—every unhappy relationship with sleep is unhappy in its own way. But whether we embrace it or resist it, one way or the other, we’re all dealing with sleep every day, every night, all the time.

My own relationship with sleep has certainly been through ups and downs. For years, in one of our up periods, I chronicled my dreams every morning just after waking. In a small notebook I kept on my nightstand, I’d write as many details as I could remember before the day’s demands intruded. It was like an intimate pen-pal relationship, only

with someone—an elusive, timeless, and deeper version of myself—I had the chance to be with every night. And the effects of this habit, even though it was confined to the morning, echoed throughout my day.

But then, as so often happens, circumstances changed. In this case it was the arrival of my first daughter. My relationship to sleep didn't end—it can't, after all—but we certainly hit a rough patch. Gone was the enchanting experience of waking up naturally after a full night's sleep. In its place was a new reality, where sleep was perpetually just out of reach. Night-and-day transitions vanished, and sleep was something to be had only in tiny increments between other things—as if my entire diet was only what I was able to grab and scarf down on the way out the door. Sleep became an impediment, something to get past, a luxury I thought I could no longer afford. With the birth of my second daughter, it got only worse. In my mind, getting enough sleep would mean taking something away from my children—time spent with them or just time spent preparing everything for their next day. Of course, in reality what I was taking away from them was my ability to truly *be* with them.

Even after the immediate sleep demands of my children became less pressing, I never quite reentered that Garden of Eden of pre-child sleep. As so many of us do, I created a life in which I thought I no longer needed much sleep. And when my children stopped needing as much of my time, that space got filled with other things—columns and speeches and books that had to be written, and then a new baby, *The Huffington Post*. So that cycle of burnout and perpetual tiredness came to be my new normal—until my wake-up call.

The train is easy to board, hard to leave.[2]

—Milan Kundera, *The Art of the Novel*

At the time, I didn't know the reason for my collapse (during which I hit my face on my desk as I toppled over and broke my cheekbone). But as I went from doctor to doctor and sat in waiting room after waiting room, trying to figure out the reason I'd blacked out, I began to think about how I'd been living my life. I had time to ask myself some big questions, such as the one at the heart of much of the work of Greek philosophers: What does it mean to lead "the good life"?

As it turned out, nothing was wrong with me. Except that, in fact, everything was wrong. The diagnosis was, essentially, an acute case of burnout, which Belgian philosopher Pascal Chabot has called "civilization's disease."[3] And it all came back to sleep. If I was really going to make the sort of changes to my life I needed to, I was going to have to start with sleep. So I patiently set about repairing our strained relationship. And I'm happy to report that we are now solidly back together. But, as they say in recovery programs, it's one day (or night) at a time.

What I've learned is that in today's world, the path of least resistance is the path of insufficient sleep. And unless we take specific and deliberate steps to make it a priority in our lives, we won't get the sleep we need. Because today a full night's rest has never been more difficult to come by. With the demands of work and family and our ubiquitous and ever-growing arsenal of glowing screens and buzzing devices, we're hyperconnected with everyone in the world—often from the second we wake up to the second we finally fall asleep. But unless we're vigilant, we can become disconnected from ourselves.

What is more gentle than a wind in summer?[4]
What is more soothing than the pretty hummer
That stays one moment in an open flower,
And buzzes cheerily from bower to bower?

What is more tranquil than a musk-rose blowing
In a green island, far from all men's knowing?
More healthful than the leafiness of dales?
More secret than a nest of nightingales?
. . . More full of visions than a high romance?
What, but thee, Sleep? Soft closer of our eyes!

—JOHN KEATS, "SLEEP AND POETRY"

If we look at our lives as a spiritual journey, sleep becomes a key paradox: when we completely identify with our persona in this world—with our job, our appearance, our bank account—we are asleep to life's deeper dimensions. In fairy tales such as *Sleeping Beauty* and *Snow White,* the heroines fall into a frozen sleep as the result of a dark spell and are awakened only through an act of grace personified in a savior-prince. In our daily lives, we are all in need of such a savior-prince, but we cannot afford to wait for Prince Charming. We have to be our *own* Prince Charming—to wake ourselves up by turning our gaze from the projects and distractions of the outside world to the many miracles within ourselves. That's the great sleep awakening. And as Carl Jung wrote, "Dreams give information about the secrets of the inner life and reveal to the dreamer hidden factors of his personality."[5]

We are living in a golden age of sleep science—revealing all the ways in which sleep and dreams play a vital role in our decision making, emotional intelligence, cognitive function, and creativity. And how lack of sleep is often the culprit behind anxiety, stress, depression, and a myriad of health problems. It's only relatively recently that we've come to fully grasp the medical consequences of sleep deprivation. In the 1970s,[6] there were only 3 centers in the United States devoted to sleep disorders. By the 1990s, that number had swelled to more than 300. Today there are more than 2,500 accredited sleep centers.[7]

Even so, the delusion persists that we can do our jobs just as well on four or five or six hours of sleep as we can on seven or eight. It's a delusion that affects not only our personal health but our productivity and decision making. In other words, we may not have as many good ideas as we would have otherwise had, we may not be as able to come up with creative solutions to problems we're trying to address, or we may be short-tempered or waste a day (or day after day, or year after year) going through the motions. And in some occupations—in our hospitals, on our highways, or in the air—lack of sleep can be a life-or-death matter.

But even as we advance the science of sleep, we're also in desperate need of rediscovering its mystery. Every night can be a reminder that we are more than the sum of our successes and failures, that beyond all our struggling and our rushing there is a stillness that's available to us, that comes from a place deeper and more ancient than the unending noise that surrounds us. When we connect to that stillness through sleep, we can tap into it, even in the middle of the most action-packed day. "Learning to let go should be learned before learning to get,"[8] said Ray Bradbury. And surrendering to sleep every night is the ultimate letting-go.

I wrote *The Sleep Revolution* to examine this ancient, essential, and mysterious phenomenon from all angles, and to explore the ways we can use sleep to help regain control over our out-of-kilter lives. By the time you get to the chapter on tools and techniques, I hope you'll be convinced of the need to go from knowing what we must do to actually doing it, from awareness to action. In the first two chapters, I'll present the overwhelming evidence that we are indeed in a sleep crisis. More than 40 percent of Americans get less than the recommended minimum seven hours of sleep per night,[9] with similar (or worse) statistics from around the world. We'll see how this is affecting various industries, from

transportation and medicine to politics and law enforcement. In the third chapter, we'll take a look at the history of sleep. We're only now beginning to come out of a phase that started with the Industrial Revolution,[10] in which sleep became just another obstacle to work. The veneration of sleep as a unique portal to the sacred was sacrificed to the idea of progress and productivity. The twentieth century saw the labor movement pushing back against the encroachment of work into our personal lives.[11] And later, with the birth of the new science of sleep,[12] we began to discover that sleep is in fact deeply connected to every aspect of our physical and mental health. But the end of the twentieth century also saw technological advances that allow our workdays to essentially never end, which is where we are today. Then I'll examine the science of sleep and what, exactly, is going on when we finally drift off. The short answer: a lot. Far from being a time of inactivity, sleep keeps many parts of the brain feverishly busy, and what they're doing—or not doing, if we neglect sleep—has huge consequences. We'll learn how sleep deprivation is linked with increased risks of diabetes,[13] heart attack,[14] stroke,[15] cancer,[16] obesity,[17] and Alzheimer's disease.[18] I'll then look at sleep disorders, from sleep apnea to insomnia to something called "exploding head syndrome" (yes, that's its scientific name!).

In "The Way Forward," Part Two of the book, I'll explore the innovations, reforms, inventions, and technology fueling the sleep revolution. People want more sleep, and the market is responding. Hotel rooms are being transformed into sleep temples, schools are modifying start times to suit the sleep needs of teenagers, an exploding market in wearable technology has emerged that tracks our sleep, and a range of smart products—from smart mattresses to smart headphones—has entered our lives. And yet there is a lot more to do. As I'll discuss in "The Way Forward," solving our

sleep crisis requires not just practical changes to how we approach our days and our nights but also rethinking our priorities and what we really value. Sleep is, after all, at the center of our overall vitality. When we sleep well, we feel better, and vice versa. We may be what we eat, but also, to be sure, we are how we sleep.

I'm confident you will come away from this exploration with a newfound respect for sleep. But you may also find yourself beginning a love affair with it. We need to reclaim this special realm—not just because sleep makes us better at our jobs (though there's that) and not just because it makes us healthier in every way (there is that, too) but also because of the unique way it allows us to connect with a deeper part of ourselves. Because when we are asleep, the things that define our identity when we're awake—our jobs, our relationships, our hopes, our fears—recede. And that makes possible one of the least discussed benefits (or miracles, really) of sleep: the way it allows us, once we return from our night's journey, to see the world anew, with fresh eyes and a reinvigorated spirit, to step out of time and come back to our lives restored. These two threads that run through our life—one pulling us into the world to achieve and make things happen, the other pulling us back from the world to nourish and replenish ourselves—can seem at odds, but in fact they reinforce each other.

My hope is that by the end of this book you'll be inspired to renew your relationship with sleep—in all its mystery and all its fullness—and join the sleep revolution, transforming your life and our world one night at a time.

PART ONE

WAKE-UP CALL

1.

OUR CURRENT SLEEP CRISIS

SARVSHRESHTH GUPTA WAS a first-year analyst at Goldman Sachs in San Francisco in 2015.[1] Overwhelmed by the hundred-hour workweeks, he decided to leave the bank in March. He soon returned, though whether this was a result of social or self-inflicted pressure is still unclear. A week later, he called his father at 2:40 a.m. saying he hadn't slept in two days. He said he had a presentation to complete and a morning meeting to prepare for, and was alone in the office. His father insisted he go home, and Gupta replied that he would stay at work just a bit longer. A few hours later, he was found dead on the street outside his home. He had jumped from his high-rise building.[2]

DEATH FROM OVERWORK has its own word in Japanese (*karoshi*),[3] in Chinese (*guolaosi*),[4] and in Korean (*gwarosa*)[5]. No such word exists in English, but the casualties are all around us. And though this is an extreme example of the consequences of not getting enough sleep, sleep deprivation has become an epidemic.

It is a specter haunting the industrialized world. Simply put: we don't get enough sleep. And it's a much bigger problem—with much higher stakes—than many of us realize. Both our daytime hours and our nighttime hours are under assault as never before. As the amount of things we need to cram into each day has increased, the value of our awake

time has skyrocketed. Benjamin Franklin's "Time is money!" has become a corporate-world mantra. And this has come at the expense of our time asleep, which since the dawn of the Industrial Revolution we have treated like some dull, distant relative we visit only reluctantly and out of obligation, for as short a time as we can manage.

Scientists are resoundingly confirming what our ancestors knew instinctively: that our sleep is not empty time. Sleep is a time of intense neurological activity—a rich time of renewal, memory consolidation, brain and neurochemical cleansing, and cognitive maintenance. Properly appraised, our sleeping time is as valuable a commodity as the time we are awake. In fact, getting the right amount of sleep enhances the quality of every minute we spend with our eyes open.

But today much of our society is still operating under the collective delusion that sleep is simply time lost to other pursuits, that it can be endlessly appropriated at will to satisfy our increasingly busy lives and overstuffed to-do lists. We see this delusion reflected in the phrase "I'll sleep when I'm dead," which has flooded popular consciousness, including a hit Bon Jovi song,[6] an album by the late rocker Warren Zevon,[7] and a crime film starring Clive Owen.[8] Everywhere you turn, sleep deprivation is glamorized and celebrated: "You snooze, you lose." The phrase "catch a few z's" is telling: the last letter of the alphabet used to represent that last thing on our culture's shared priority list. The combination of a deeply misguided definition of what it means to be successful in today's world—that it can come only through burnout and stress—along with the distractions and temptations of a 24/7 wired world, has imperiled our sleep as never before.

I experienced firsthand the high price we're paying for cheating sleep when I collapsed from exhaustion, and it pains me to see dear friends (and strangers) go through the

same struggle. Rajiv Joshi is the managing director of the B Team—a nonprofit on whose board I serve,[9] founded by Richard Branson and Jochen Zeitz to help move business beyond profit as the only metric of success. In June 2015, he had a seizure at age thirty-one during a B Team meeting in Bellagio, Italy, collapsing from exhaustion and sleep deprivation. Unable to walk, he spent eight days in a hospital in Bellagio and weeks after in physical therapy. In talking with medical experts, he learned that we all have a "seizure threshold," and when we don't take time to properly rest, we move closer and closer to it. Rajiv had crossed his threshold and fallen off the cliff. "The struggle for a more just and sustainable world," he told me when he was back at work, "is a marathon, not a sprint, and we can't forget that it starts at home with personal sustainability."

According to a recent Gallup poll,[10] 40 percent of all American adults are sleep-deprived, clocking significantly less than the recommended minimum seven hours of sleep per night. Getting enough sleep, says Dr. Judith Owens, the director of the Center for Pediatric Sleep Disorders at Boston Children's Hospital, is "just as important as good nutrition,[11] physical activity, and wearing your seat belt." But most people hugely underestimate their need for sleep. That's why sleep, says Dr. Michael Roizen, the chief wellness officer of the Cleveland Clinic, "is our most underrated health habit."[12] A National Sleep Foundation report backs this up:[13] two-thirds of us are not getting enough sleep on weeknights.

The crisis is global. In 2011, 32 percent of people surveyed in the United Kingdom said they had averaged less than seven hours of sleep a night in the previous six months.[14] By 2014 that number had rocketed up to 60 percent. In 2013, more than a third of Germans and two-thirds of Japanese surveyed said they do not get sufficient sleep on weeknights.[15] In fact, the Japanese have a term,

inemuri,[16] which roughly translates as “to be asleep while present”—that is, to be so exhausted that you fall asleep in the middle of a meeting. This has been praised as a sign of dedication and hard work—but it is actually another symptom of the sleep crisis we are finally confronting.

The wearable-device company Jawbone collects sleep data from thousands of people wearing its UP activity trackers.[17] As a result, we now have a record of the cities that get the least amount of sleep. Tokyo residents sleep a dangerously low 5 hours and 45 minutes a night. Seoul clocks in at 6 hours and 3 minutes; Dubai, 6 hours and 13 minutes; Singapore, 6 hours and 27 minutes; Hong Kong, 6 hours and 29 minutes; and Las Vegas, 6 hours and 32 minutes. When you’re getting less sleep than Las Vegas, you have a problem.

Of course, much of this can be laid at the feet of work—or, more broadly, how we define work, which is colored by how we define success and what’s important in our lives. The unquestioning belief that work should always have the top claim on our time has been a costly one. And it has gotten worse as technology has allowed a growing number of us to carry our work with us—in our pockets and purses in the form of our phones—wherever we go.

Our houses, our bedrooms—even our beds—are littered with beeping, vibrating, flashing screens. It’s the never-ending possibility of connecting—with friends, with strangers, with the entire world, with every TV show or movie ever made—with just the press of a button that is, not surprisingly, addictive. Humans are social creatures—we’re hardwired to connect. Even when we’re not actually connecting digitally, we’re in a constant state of heightened anticipation. And always being in this state doesn’t exactly put us in the right frame of mind to wind down when it’s time to sleep. Though we don’t give much thought to how we put ourselves to bed, we have little resting places and

refueling shrines all over our houses, like little doll beds, where our technology can recharge, even if we can't.

Being perpetually wired is now considered a prerequisite for success, as Alan Derickson writes in *Dangerously Sleepy*: "Sleep deprivation now resides within a repertoire of practices deemed essential to survival in a globally competitive world.[18] More so than in the time of Thomas Edison, depriving oneself of necessary rest or denying it to those under one's control is considered necessary to success in a 24/7/365 society. Americans have a stronger ideological rationale than ever to distrust any sort of dormancy."

And Americans are anything but dormant. From 1990 to 2000,[19] American workers added the equivalent of another full workweek to their year. A 2014 survey by Skift,[20] a travel website, showed that more than 40 percent of Americans had not taken a single vacation day that year. Much of that added work time has come at the expense of sleep. Dr. Charles Czeisler,[21] the head of the Division of Sleep and Circadian Disorders at Brigham and Women's Hospital in Boston, estimates that in the past fifty years our sleep on work nights has dropped from eight and a half hours to just under seven. Thirty percent of employed Americans now report getting six hours of sleep or less per night,[22] and nearly 70 percent describe their sleep as insufficient. Getting by on less than six hours of sleep is one of the biggest factors in job burnout.[23]

And for far too many people in the world, the vicious cycle of financial deprivation also feeds into the vicious cycle of sleep deprivation. If you're working two or three jobs and struggling to make ends meet, "get more sleep" is probably not going to be near the top of your priorities list. As in the case of health care, access to sleep is not evenly—or fairly—distributed. Sleep is another casualty of inequality. A 2013 study from the University of Chicago found that "lower

socio-economic position was associated with poorer subjective sleep quality,[24] increased sleepiness and/or increased sleep complaints." But the paradox here is that the more challenging our circumstances, the more imperative it is to take whatever steps we can to tap into our resilience to help us withstand and overcome the challenges we face. There's a reason we're told on airplanes to "secure your own mask first."

Where we live can also affect our sleep. "I have never seen a study that hasn't shown a direct association between neighborhood quality and sleep quality,"[25] said Lauren Hale, a Stony Brook University professor of preventive medicine. If you're living in a neighborhood with gang warfare and random acts of violence, sleep will inevitably suffer—yet another example of sleep deprivation's connection with deeper social problems.

THE COST OF LOST SLEEP

It is industrialization, for all its benefits, that has exacerbated our flawed relationship with sleep on such a massive scale. We sacrifice sleep in the name of productivity,[26] but ironically, our loss of sleep, despite the extra hours we put in at work, adds up to more than eleven days of lost productivity per year per worker, or about $2,280. This results in a total annual cost of sleep deprivation to the US economy of more than $63 billion,[27] in the form of absenteeism and presenteeism (when employees are present at work physically but not really mentally focused). "Americans are not missing work because of insomnia,"[28] said Harvard Medical School professor Ronald C. Kessler. "They are still going to their jobs, but they're accomplishing less because they're tired. In an information-based economy, it's difficult to find a condition that has a greater effect on productivity."

Sleep disorders cost Australia more than $5 billion a year in health care and indirect costs.[29] And “reduction in life quality” added costs equivalent to a whopping $31.4 billion a year. A report, aptly titled “Re-Awakening Australia,” linked lack of sleep with lost productivity and driving and workplace accidents. In the United Kingdom,[30] a survey showed that one in five employees had recently missed work or come in late because of sleep deprivation. The researchers estimated that this is equivalent to a loss of more than 47 million hours of work per year,[31] or a £453 million loss in productivity. And almost a third of all UK employees reported feeling tired every morning. Yet, though awareness is spreading, few companies have given sleep the priority it deserves, considering its effects on their bottom line. In Canada, 26 percent of the workforce reported having called in sick because of sleep deprivation.[32] And nearly two-thirds of Canadian adults report feeling tired “most of the time.”[33]

It turns out that women need more sleep than men,[34] so the lack of sleep has even more negative mental and physical effects on them. Duke Medical Center researchers found that women are at a greater risk for heart disease, Type 2 diabetes, and depression. “We found that for women,[35] poor sleep is strongly associated with high levels of psychological distress, and greater feelings of hostility, depression and anger,” said Edward Suarez, the lead author of the study. “In contrast, these feelings were not associated with the same degree of sleep disruption in men.”

As women have entered the workplace—a workplace created in large measure by men, which uses our willingness to work long hours until we ultimately burn out as a proxy for commitment and dedication—they are still stuck with the heavy lifting when it comes to housework. The upshot is that women end up making even more withdrawals from their sleep bank. “They have so many

commitments,[36] and sleep starts to get low on the totem pole," says Michael Breus, the author of *Beauty Sleep*. "They may know that sleep should be a priority, but then, you know, they've just got to get that last thing done. And that's when it starts to get bad."

According to Dr. William Dement,[37] the founder of the Stanford Sleep Disorders Clinic (the first of its kind), working mothers who have young children at home have seen an additional 241 hours of work and commuting time added to their lives annually since 1969.

Sarah Bunton, a mother and cognitive-skills trainer, described her experience on *The Huffington Post*: "Do you ever have one of those days where you want to hit pause?[38] Let me rephrase: do you ever have a day where you don't want to hit pause? . . . There really isn't an end of the day for most moms, working or otherwise. There's usually not a beginning, either, just a continuation of whatever chaos preceded the momentary silence. . . . Mommy wants a nap."

"Let's face it,[39] women today are tired. Done. Cooked. Fried," wrote Karen Brody, founder of the meditation program Bold Tranquility. "I coach busy women and this is what they tell me all the time: 'I spent years getting educated and now I don't have any energy to work.' "

Dr. Frank Lipman, the founder of the Eleven Eleven Wellness Center in New York, sees so many patients who are sleep-deprived and exhausted that he came up with his own term for them. "I started calling these patients 'spent,'[40] because that was how they seemed to me," he writes. He compares this to his time working in rural South Africa: "There I saw many diseases arising from poverty and malnutrition but I didn't see anyone who was 'spent,' as I do today in New York."

The world is too much with us;[41] late and soon,