The Impact *of* Modern Life
and Technology *on* Mental Illness

Frontal Fatigue

Fatigue
Fatigue

Mark D Rego, MD

Contents

About the Author

A Note on Terminology

In this book, I avoid the terms *mental health problems*, *emotional problems*, or just plain *issues* when discussing psychiatric disorders, as they can be overly vague or, worse, they are euphemisms that contribute to the taboo nature of mental illness.[1] Instead, I use the term *mental disorder* when discussing a specific illness and *mental illness* when discussing the general field of psychiatric illnesses as a whole. I describe life problems that are not a psychiatric disorder as *mental health problems* or simply *life issues*. For illnesses that are not mental disorders, I use the term *medical illness*.

There are several terms used throughout this book that may be familiar, but where a specific definition or explanation may be helpful:

- Psychosis—a severe form of mental illness in which a person has either hallucinations, delusions, or both.
- Psychiatric pathology—the symptoms and diseases of mental illness.
- Birth cohort—a group of people born around the same time.
- Attention deficit hyperactivity disorder (ADHD)—a mental disorder that affects a person's ability to direct their attention as they wish, their organization abilities, and their impulse control. Not all sufferers of this disorder have the hyperactive tendencies associated with this disease, and so many choose to use the term ADD, leaving out the *H*. In this book, I've used ADHD since that is the official name of the disorder.

Helpful resources for understanding other terms used in psychiatry are NAMI (The National Alliance on Mental Illness, http://www.nami.org) and the American Psychiatric Association's online resource for patients and families (https://www.psychiatry.org).

Acknowledgments

It takes a lot of people to support a life. A book is a miniature reflection of this same process. I'll begin thanking these many people in my professional life. James Phillips, MD, has been a friend, colleague, and mentor since I thought about opening my practice. In addition, he has patiently helped me learn about philosophy for the past twenty-five years. I could not have done all of this without him. We also partnered in our project in Peru, which is one of the high points of my life.

In addition, Lois Longwell, LCSW, Eve Harrison, LCSW, Henrí Czarny, MD, Paul Desan, MD, Wendy Stewart, PhD, and Peter Talbot, LCSW, MS, continue to be great friends and colleagues, who also were of constant support through my long illnesses. Lastly, I must mention my patients, who put their well-being into my hands. Your openness and courage taught me more about life than I learned anywhere else. I am sorry I had to leave you all.

With regard to this book, there are two scientists, without whom there would be nothing about the brain to write. Professor Amy Arnsten, PhD, of Yale University and Professor Donald T. Stuss, PhD, of the University of Toronto (who passed away in 2019) were both instrumental in the establishment of their respective fields in the study of the prefrontal cortex.

Additionally, both took the time to speak with me to answer lingering questions, which helped me knit together the argument that is this book. I am deeply grateful to Amy and to the memory of Professor Stuss.

I must mention my teachers, as I had some of the best in the world. Steven Sivack, MD, taught me how to be a doctor. I will never forget him telling me, "The patient doesn't need a CT scan; he needs a doctor," something I stick to.

The following people taught me how to diagnose and treat mental illness, which was much harder to learn than I expected: J. Craig Nelson, MD, Seth Powsner, MD, Larry Price, MD, Selby Jacobs, MD, and in memorium, Bob Byck, MD, and Malcolm Bowers, MD.

Lastly, Barry Salotolo and Dean Reben were teachers earlier in my life. They saw me when I sorely needed to be seen. I have never come down from the boost they gave me.

Turning to this book, I have nothing but gratitude for Greenleaf Books for giving a first-time writer a chance. In particular, Tyler LeBleu, Erin Brown, Corrin Foster, and Scott James, among others, who are as supportive and good at their jobs as they come. Lee Zarnikau, Trish Lockard, and Elizabeth Brown were the incredible editors Greenleaf supplied me. And many thanks to Terry Nolan (not of Greenleaf) for doing my web work at the drop of a hat and doing it beautifully.

I also must make special mention of Justin Blasberg, MD, Roy Decker, MD, and Hari Deshpande, MD, who all worked very hard against the odds to keep me alive (spoiler: they won!).

Also, Roxanna Ciubataru, MD, Kaiser Toosey, MD, Nitai Rielger, MD, and Elise Carlson, MD, for taking care of me all these years. If I have forgotten a name, it's not for lack of gratitude, but lack of memory.

Friends is too large a category for a place like this, but Ron Rose, MD, is too great a friend to not be here.

Many people were kind enough to read this book and give me feedback. Thanks go to Ron and Stacey Rose, Jim Phillips, Ron Berlen, Karen Karpie, Eve Harrison, Scott Haltzman, Peter Talbot, Gayle Caro, Lois Longwell, Heather MacLeod, Andrew Osmun, Marty Rego, and Matthew Rego. Daniel Asa Rose is a real writer who has been on call for anxious emails for years and has offered much valuable advice.

Lastly, my family. My parents knew the value of an education and somehow, beyond their resources, made sure we all got what we wanted and needed. My brothers Marty, Matt, and Michael (yes, all Ms), along with their wives Kathy, Georgine, and Lucila, have always been there for me.

My own family: my wife, Sherra; my daughter, Rebecca, and her husband, Justin; Ian, my stepson, and his wife, Colleen; and our grandkids, Conor and Shea, by themselves make for a life well lived.

Part I

The Mental Illness Epidemic

1

Everything Is Not OK

It's natural to think that we have it all figured out. We believe that we no longer suffer under the misguided notions, superstitions, and prejudices that misled our predecessors. "How could they have believed such things?" we wonder, and congratulate ourselves that we know better.

While it's easy to fall victim to this cultural delusion, surely there are many things we fail to see today, blind spots that will astound our descendants. In a hundred years or so, will they look back and wonder, "How could they have thought that?"

One of the major blind spots of our time is our failure to recognize the pervasiveness and the dangers of mental illness. We are a long way from acknowledging that psychiatric disorders and the distress they cause belong on the same level as other sources of human suffering.

But why don't we see it? To find out, let's take a trip back in time and see why our ancestors may not have realized the ways they were ill. Imagine if we could travel back to the Middle Ages and were able to use our current medical knowledge to treat everyone who was sick. What might we find? We would probably

end up treating a lot of people, possibly even the majority of the population. Of course, we probably would not encounter modern-day scourges like type 2 diabetes, high cholesterol, or high blood pressure, which stem largely from too little activity and too much food. The people we'd meet would have an opposite set of problems.

What we would find would be people with infections of every type—skin, respiratory, gastrointestinal, and so on—and nutrition problems galore. We'd also find the villains that have afflicted humankind for most of its history: syphilis, plague, and malaria, to name a few. And lastly, there would be the diseases that we now know well and can usually treat, such as thyroid problems, some cancers, and heart disease. It's highly likely that, to our eyes, most of the people we'd meet in the Middle Ages would need medical care, if not immediately, then soon. And it's also likely that many of our patients would not consider themselves sick for a variety of reasons. Maybe some illnesses were taboo and would be kept secret, while others were so common as to be thought of as just a regular part of life.

Perhaps, just like our ancestors in the Middle Ages, we may not consider something to be an "illness," even if we have a name for it and theories about it. Could it be that mental illnesses are pervasive in our population and that, like our ancestors did with their ailments, we think our mental health problems are normal for our times and do not truly understand their harmful effects?

It may be difficult to think that we are as sick and oblivious to our illness as our patients from our travel back in time, but in a way, we are. Mental illness is everywhere, and yet with each crisis—be it a celebrity suicide or a rise in substance abuse—we are as shocked and puzzled as if the gods had capriciously struck one of us dead.

Year by year, decade by decade, mental illness is becoming both more common *and more severe* in modern societies, a fact documented in several large and well-controlled scientific studies. In recent years, the news media and the medical literature have reported that the number of people receiving care for a mental disorder has risen dramatically. Currently, one in six adult Americans is taking a psychiatric medication.[1] And young people, who in the 1990s were more depressed than a similar-aged group just a generation before, died by suicide in record numbers in the first decade of the twenty-first century. Sadly, there is no shortage of examples of how mental illness is swelling the waiting rooms of hospitals and clinics across the modern world.

There are different interpretations, many critical in nature, of what these frightening trends mean. Some ask, "Are we turning normal sadness into clinical depression and normal shyness into social anxiety disorder?" Those critics of the idea that mental illness is on the rise suggest that too often we are medicating normal life problems. Others worry that the medical professions are succumbing to pressure, misleading advertising, and the promise of financial reward from the pharmaceutical industry. Still others wonder if the fascination with neuroscience and its potential to explain human behavior has overtaken our common sense and twisted our understanding of what it means to be human. Do we no longer see ourselves as people with weaknesses and strengths, but instead as computer-like organisms that, with medication, we can reprogram to our liking? Some even see a future in which we treat psychological features like something akin to a facelift, where we'd stretch and tighten things up to our liking, making the mind a fashion feature judged more by preferences than by achievements and abilities.

This problem of just what it means that more people are seeking out mental health treatment is obviously deep and complex. But I believe there is a simple explanation: people are availing themselves of mental health treatments of all sorts (not only medication) *because they need it.*

Each of the critiques listed above contains a kernel of truth, as most criticisms do. But people tend to conflate all of these criticisms and fail to see that an expanding number of people with actual mental disorders does not contradict these other points. Misleading pharmaceutical advertising does occur, as do cases of prescribing medication for mental struggles before other treatment ideas have been tried, but certainly not to the degree necessary to explain the massive worldwide epidemic of mental illness that we now face.

Many studies that carefully assess people's mental states find psychiatric disorders to be more prevalent. We also can't ignore tragic, unassailable facts. There is a rise in the number of suicides, overdoses, and ER visits for attempts at both, and people face long waiting lists for treatment services of any kind, due in part to shortages in our mental health system and lack of health insurance. This data, combined with the experiences of mental health professionals and primary care doctors, all tell the same grim story: we have the makings of a public health disaster on our hands.

Something is happening at a societal level and, in a limited way, everyone seems aware. Countless times I've heard patients say they find the modern world to be extremely stressful. Many also seem to suggest that their symptoms of depression and anxiety should come as no surprise. "Of course I'm anxious, Doc. Look at the news!" "Just look at my life. Everyone I know is depressed!" "That's just how life is nowadays." These are the easy and understandable explanations I often hear for a poor

state of mind. Yet it reflects an almost universal intuition that life has gotten away from us and we can't catch up.

As a psychiatrist, I am frequently pulled aside by friends, colleagues, and neighbors who ask about treatment for themselves or a loved one. I can honestly say that in no case did any of the problems described to me by these people seem like "problems of living" that were simply being exaggerated. The same holds for the thousands of people who've consulted me in practice. They had psychiatric problems that caused much suffering and dysfunction. Sadly, many of the worst problems could have been treated and the most severe symptoms avoided if only help had been available earlier.

The fact is that mental illness is common. It comes in all degrees of severity and affects almost everyone or someone they love. Yet help for mental illness is still seen as a sad and secret part of only a few people's lives, an uncommon tragedy. Everyone else has "issues." I've even heard newscasters from major networks say things like "the lunatic fringe" and "the aluminum foil crowd" (referring to making antennas from aluminum foil to receive alien or intelligence agency transmissions, sometimes done by people with psychoses). Aside from the obvious cruelty of these words, they inaccurately imply that there is only a "fringe" of mentally ill people. Mental illness exists across a spectrum of severe to mild and everything in between, and can affect almost everyone at some point in their lives, just like any other medical illness.

There are many forces working to change this perception, including the tendency of younger generations to discuss their therapy sessions among friends, which is a remarkable improvement on the generations before them. But we need to do more. We need, as a society, to tackle the question of why more people now suffer from mental illness than in past generations.

Is it something to do with modern society? The simple answer is yes. Life in the industrialized world is changing at a bracing pace. The most influential aspect of this change is technology and how it has permeated every aspect of life.

The effects of technology on mental health have already been of interest to researchers and have recently been captured by the news media. In the late summer of 2017, multiple articles appeared in major news outlets reporting on startling new research revealing a rise in teenage depression associated solely with the use of smartphones. The claim was based not just on one study, but a body of work showing a relationship between teenagers' use of smartphones and their subsequent feelings of depression. Part of the work even showed that decreasing phone use reduced symptoms of depression. Not surprisingly, these troubling findings spread across the news and social media, stoking a pervasive, uneasy sense that technology is taking a toll on our minds in ways we have yet to fully understand or control.

Although eye-opening, the smartphone story misses the larger context in which this disconcerting news about teenagers and depression is playing out: massive cultural change fueling a worldwide epidemic of mental illness. In a sense, the smartphone study is a microcosm of the broader phenomena affecting our lives: modern life and how we cope, or fail to cope, with the changes to society brought on by technology. These changes create a type of stress that is new to humanity and not manageable by the ways we have handled complex challenges in the past. I believe it is this very struggle to cope that leads to what I've named *Frontal Fatigue*, a modern condition that explains how modern life and the effects of technology have led to a rise in mental illness.

In the chapters that follow, I hope to accomplish several things. First is to demonstrate that the increase in mental illness

is scientifically well supported. Also, I will explain why I will be leaving some important disorders out of the discussion. I believe this is an important exercise not only to lend support to my claims about the rise in mental illness, but also to be clear about what these illnesses entail.

The journey to the explanation itself is a story of ideas and their connections. Each chapter will bring us closer to a fuller understanding of Frontal Fatigue. A quick summary of what Frontal Fatigue is follows the path taken in the book. It goes essentially as follows: the pervasive effects of technology on all aspects of modern life have produced a type of stress that is new to humanity. This stress is most evident in the particular and pervasive mental demands modern life puts on us. These demands are handled by a large part of our brains called the *prefrontal cortex* (PFC).

The PFC has an amazing range of abilities, but also has two major liabilities. One is that it does not work well, if at all, under stress. Second is that, once stressed, any vulnerabilities to mental illness may then become active. It is just this process of stressing the PFC by the relentless demands of modern life that places so many people either at risk for mental illness or actively suffering from a particular disorder.

Frontal Fatigue is then the background condition that most of us now suffer, which makes us all more prone to mental illness. Those who are genetically predisposed to such illness or have enough previous stress and trauma in their lives (or commonly, both) may then be added to the expanding ranks of those with mental illness. The more technology-centric modern life, the more Frontal Fatigue, and the more mental illness.

The science you will be reading about is intentionally not cutting edge. Such science is often controversial and may be eventually disproven. Rather, I have depended on more

established areas such as our understanding of the functions of the PFC and the many available psychiatric public health studies.

We must stay grounded in science or we risk gambling with our understanding of our current, incomparable era. Modern times have brought us countless wonders and defeated many of humanity's most difficult challenges, mostly via technology. Hopefully, we are about to add triumphing over COVID-19 to this list. But as we know in medicine, there are rarely treatments that have no side effects.

While infections yield to amazing science, mental illness has taken over as the health problem that characterizes our culture. My hope is that this book opens a new perspective in the battle for our collective and individual peace of mind.

2

Mental Illness—The Cost We All Pay

The extensive incidence of mental disorders in all societies has, in part, been known for decades. I say *in part* because it is the severe, incapacitating illnesses like schizophrenia and bipolar disorder that have mostly been studied. These disorders have long been relatively stable as to the number of cases that arise within different cultures, though the impact of these illnesses on people's lives may vary in different environments. A conservative estimate is that the combined incidence of these two disorders is at least 1 percent for any given population.

The prevailing wisdom about less severe disorders—such as major depression, obsessive-compulsive disorder, phobias, alcoholism, other substance abuse, personality disorders, post-traumatic stress disorder, and so on—was that they were more a product of a busy, modern culture and would not be found in less industrialized societies. In reality, research shows that all of these disorders exist around the world, even if their prevalence varies across different countries. In addition, there is growing

evidence that in every population studied, there is a large prevalence of mental disorders.[1] But what has been sadly widespread is the degree to which they are ignored by public health officials.[2]

There is a heavy price paid by patients and their communities for battling mental illness.[3] The rather dark-sounding term for this is *morbidity.* This term has traditionally been used in medical reporting to discuss the sum of things other than death that happen to a patient from a disease. The morbidity of a disease could include a rash, an infection, weakness, fatigue, or any other medical condition that could be attributed to the disease in question. In psychiatry, we broaden this definition to include things like poor social functioning and lack of vocational achievement, as these are often direct consequences of mental disorders.

What has been discovered and confirmed in much overlapping research is that the morbidity of mental disorders (at least in industrialized societies) is extremely high. Depression, for example, is not just a problem someone deals with in their quiet hours alone and with their therapist. Rather, it seeps into nearly all aspects of the patient's life. Work, relationships, family life, and health are all affected. A similar story emerges with regard to other disorders, but to varying degrees.

As one would expect, more severe psychiatric symptoms, such as those occurring in schizophrenia, cause more severe morbidity over the long term. However, research has found that many disorders, such as depression and obsessive-compulsive disorder, which at first blush seem neither difficult to treat nor chronically incapacitating, can in fact be stubbornly resistant to treatment and have a severe impact over the course of many

years. Many individuals with these illnesses suffer[4] for much of their lives.

The cost to individuals with mental disorders is tragic and more pervasive and chronic than was suspected just a generation ago. But, as devastating as individual stories can be, the societal story is equally shocking.[5] Loss of work, underachievement, absenteeism, poor parenting, increased health-care costs, and other results of mental illness add up to astounding financial costs, almost $1 trillion in the US alone.

These costs are on par with those stemming from other major health problems and, most tragically, are in part avoidable.

We've seen an increase in the last seventy-five years in the incidence and severity of mental disorders in industrialized societies. It appears that as societies modernize, mental illness grows like a weed. There is clearly something about modernity that acts as fertilizer for mental disorders. And while few in the general public fully understand mental disorders, I am certain that if most people knew about the rising incidence of mental illness around the world, they would not be surprised. Most people view our era as one of stress. In fact, ours is often called the age of anxiety.

In some ways, our modern era is not stressful at all. For the most part, life in the industrialized world leaves us housed, fed, cared for in times of great need, and surrounded by useful and safe commodities, from refrigerators to roads. (However, I am keenly aware of the political tragedy that causes many in our society to not benefit from the advances of modern life.) We do not work the long hours of our great-grandparents—although sadly, this is changing—nor put in the long distances they did on foot. Once common tragedies of life, such as the loss of a child, are now uncommon. Through modern science and more advanced government policy, the problems that vexed, stressed,

hurt, and even killed our grandparents are largely solved. What could possibly be stressful?

Simply put, the modern era is different from any one before it. We are under pressures of time and decision-making that our grandparents could not fathom. We may need to learn more in one day than someone did in one year a century ago.

So we are left with a paradox. Many see the modern world as a veritable petri dish for stress. Yet in spite of this, few are aware of the public health emergency—mental illness caused by our modern lifestyle—that has been brewing right under our noses for decades.

3

Which Mental Illnesses Are Not Impacted by Modern Life?

Mental illness in general is on the rise in modern times, but that does not mean that every mental disorder has been affected by the particular stress brought on by modern life. For some illnesses, increases are tied to stages of brain development or the types of stress that result from something other than our current lifestyle. Here we'll take a look at a few well-known disorders that don't fit into this discussion on mental illness and the stress generated by our current times.

Let's begin with autism spectrum disorders (now called pervasive developmental disorders). Researchers are actively investigating why these disorders seem to have increased dramatically in recent years.[1] Many researchers believe that this increase reflects a true rise in incidence, rather than greater awareness of the illness by parents and medical professionals leading to more frequent diagnoses. However, autism-related

disorders are *developmental disorders* that are tied to the growth and development of the brain, not environmental factors like family or society at large, at least as far as we know. As modern society itself is the focus of this book, we will leave out autism spectrum disorders.

I'm also excluding intellectual disabilities (formerly known as mental retardation). These disabilities, although subject to complex causes, are not victims of modernity. Mild intellectual disability, by far the most common type, is caused by multiple unknown biological factors that can arise during pregnancy, birth, or soon after birth. More severe cases of intellectual disability are often connected to a known cause, such as an altered gene.

The various dementias, chiefly Alzheimer's disease, are also excluded, as their causes are biological. Dementia is increasing due to an aging population, though not at the rate we once thought it would be. Baby boomers—the group now of the age when Alzheimer's disease begins to develop—have taken better care of themselves and are on average better educated than their parents, factors known to protect people from Alzheimer's much in the way that exercise protects people from heart disease. While both can be considered social factors, the stress of modern life for the most part isn't interfering with how good health and education protect against Alzheimer's.

Personality disorders, such as narcissistic, antisocial, and obsessive personality, are also excluded from this analysis. These are real problems for many people that can cause tremendous distress for the affected individuals and those close to them, but there is a legitimate debate about whether these problems should be called psychiatric disorders. Also, there has not been much research on this group of disorders and their changing incidence in recent decades.

The final illness to be excluded is post-traumatic stress disorder (PTSD), because it is highly dependent on the amount of trauma in a society, not on how modern that society is. Areas with many natural disasters, famine, war, and political unrest will likely have a much higher rate of PTSD than more stable and safe communities. Also, as with personality disorders, there is not much research regarding generational changes, even though PTSD is a heavily researched area within mental health.

With these exclusions, we are left with mental disorders that appear to be either growing in prevalence or worsening in severity in modern times, including some of the most common adult psychiatric problems. We'll look at each one in turn, including the evidence that things have changed for the worse for these illnesses.

4

Depression

Officially called major depressive disorder, depression is a core concern for anyone involved in mental health work. Although there are potentially more serious disorders like schizophrenia, depression is strikingly common, and in its worst forms is incapacitating and even potentially lethal.

People with this disorder have a group of symptoms, including a negative mood (sad, irritable, or apathetic), problems with thinking (mostly trouble concentrating), and neurovegetative symptoms (trouble with sleep, appetite, and energy). Some also feel excessive guilt, self-hatred, and suicidality. We are not dealing with mere sadness here. Depression is different from sadness both in the number of things and types of things that bother the individual. In addition, unlike common sadness or irritability, the symptoms do not go away with the normal course of events. Instead, the low mood and other symptoms take on a life of their own and often seriously interfere with daily functioning.

To truly understand depression, it may be helpful to describe how people feel once their treatment helps them improve. I

commonly hear patients in my practice say that once they felt better, they would experience some of the same emotions—sadness, for example—but they wouldn't *stick*. The emotions felt normal to them, but unlike during their depression, they would fade away in what felt like an appropriate amount of time.

Take, for example, the common experience of hearing a sharp word at work from a supervisor or a slight from a friend. No one likes these and they can easily make you feel down and upset. Depressed people report that when this happens, they cannot shake the down and upset feelings all day. Formerly depressed people might have the same initial response to the rebuke or insult, but an hour or so later they realize that they have forgotten about the whole thing.

Similarly, a depressed person would have low energy in spite of trying to rest, insomnia even when they need sleep, and apathy for things usually near and dear to their heart. Once recovery begins, sleep is restorative, and appealing things pique the person's interest again. These aspects of the person's life return to their normal proportions.

Another common way patients describe recovery from depression is that they feel *like themselves*, even if their current state of mind isn't necessarily happy. One woman compared it to "clothes that fit just right." I have always found this to be a fascinating part of practicing psychiatry. Most people recognize some natural sense of their identity that is intuitive and is not dependent on whether they feel well. People have expressed this sense of self to me even when they feel very bad (such as when the individual is bereaved but wants to distinguish that sadness from depression) or surprisingly, when they have never had the feeling of "like myself" before (such as chronically ill people who are in treatment for the first time).

With a high prevalence in developed societies, along with better awareness and less stigma, more people are seeking help for depression than ever before. Estimates are that 350 million people worldwide are affected with depression. For the US, the National Institute of Mental Health (NIMH) reported that in 2017, about 7.1 percent of the population suffered from depression.[1] Broken down by gender, the number was slightly higher for women (8.7 percent) and slightly lower for men (5.3 percent).

While many people suffer with depression in silence and continue to function in their personal roles and work positions, the illness can have a devastating impact. The cost of this highly prevalent disease is staggering, about $210 billion per year in the US alone in 2015,[2] according to the newest data available, yet only 40 percent of this sum is associated with depression itself. The paper reviews recent findings from the WHO World Mental Health (WMH). Only about 40 percent of this sum is directly attributable to the treatment of depression itself. The majority of that cost is due to lost work and productivity, as depressed people often work more slowly, call out sick more often, are fired at disproportionately higher rates, and may end up filing for disability. According to the World Health Organization, depression now causes more disability worldwide than any other disease.[3]

Uncounted in this sad toll is the loss of the most important roles in our lives: mother, father, sibling, spouse, friend, and neighbor. People with depression turn inward and are overcome with negative feelings and thoughts, making it hard for them to be there for others.

Many of my patients remember their depressed mothers who would stay in bed much of the time, or their fathers who were in chronically bad moods and became irate at the smallest

annoyance. In the era when my adult patients were children (usually around the 1960s), there was little awareness of depression as a diagnosable and treatable problem, and few could afford the treatment that was available. Consequently, millions of Americans grew up with parents who were severely afflicted with depression and were absent, neglectful, or abusive. This toll carries on through generations until one person becomes aware of the problem and breaks the chain.

There is an ample amount of research on whether depression has indeed become more common in industrialized societies. Two major trends (and some interesting minor ones) emerge from this work. One is that there is an earlier age of onset of depression[4] than previously seen. The other is a progressively higher rate of depression for each *birth cohort*—the term for a group of people born around the same time—through the twentieth and twenty-first centuries.[5] Different researchers take different approaches in looking at these trends.

Some studies looked at depression and other psychiatric pathology in medical records and other sources of health information over the span of the twentieth century. Most of these investigators only go as far back as World War II, since much further back and memories, while clear about certain aspects of events, are usually not as detailed as researchers need them to be. Since World War II, multiple studies in the United States and other industrialized countries find both an earlier onset—the first time the problem surfaced—and a higher prevalence of depression in progressive birth cohorts through the twentieth century.[6]

In the second type of study, investigators took a more precise and detailed look at the mental health of their research subjects. They conducted extensive interviews using standardized questionnaires designed to diagnose a broad range of psychiatric

disorders. The studies included large numbers of people in different cities at fixed intervals (every five years, for example). In one of the studies, there were more than 18,000 subjects.[7]

These studies looked forward in time and followed their subjects through their lives, with some recent studies looking at the 1980s through the twenty-first century. Even in shorter investigations, we find the same changes in the onset and prevalence of depression.

What is now clear is that depression is more common as time goes on. Every generation, in fact every decade, sees some worsening. And the age that people first develop symptoms of depression is becoming younger. [8]

Depression, like most major psychiatric disorders, has a significant genetic component; it runs strongly in families. What happens with many genetic illnesses of any type is something called *genetic anticipation*, the observation that when a disorder is inherited, it may occur earlier in life and take a more severe course. People who develop depression early are likely to have more periods of depressed mood, fewer periods of normalcy, more impaired function, and more resistance to standard treatments.

This genetic component, subjected to the amplifying effects of modernity, turns out to be a toxic combination. Depression is now more common, begins earlier in life, and has a more difficult course. In 1990, depression was the fourth leading cause of disability worldwide. By 2010 it had climbed to second place, behind only cardiovascular disease. By 2018 it became the leading cause. This represents a fundamental shift in how disease affects humanity.

For as long as scientists have been studying disease, acute diseases, mostly infections, have been the major causes of death and suffering in the world. As far as anyone can tell, this has

been the case for the entire history of humanity. Throw in accidents and trauma from violence (mostly war, as evidenced by the broken bones and wounds found on the skeletal remains of many of our ancestors), and the vast majority of deaths have, until recently, been easily accounted for by these common conditions.

Now, chronic diseases (such as the impairment following a stroke and complications of diabetes) are leading causes of both death and disability in the world. We must now endure our ailments for an extended period of time as they slowly wear us down. When looking at disability alone, depression leads the pack.

Another frightening statistic relates to the rise in suicides in the US. The American Foundation for Suicide Prevention reports that there are in excess of 48,000 suicides per year in the United States (as of 2018). Suicide is now the tenth leading cause of death in the US, greater than car accidents or murder.

Experts don't always agree on the findings of research, even when there are multiple large studies. Therefore, in order to clarify the general increase in common mental disorders in general, and depression in particular, I turned to Myrna Weissman, PhD, at Columbia University in New York City. Perhaps the most accomplished psychiatric epidemiologist in the world, she has spent her life studying the prevalence of mental disorders around the globe. She confirmed that scientists in her community were in agreement about the tragic trends that showed that common mental disorders and depression were on the rise. She highlighted a startling statistic: the cohort of young people she and others had identified in the 1990s as having a high rate of depression were now killing themselves in record numbers.[13]

Which brings up another casualty of depression and suicide: those left behind. When seen up close, suicide looks less like sudden death and more like an atom bomb, its rolling waves destroying much in their path. Those who remain recover very slowly, if at all. They will ache with the pain of loss, guilt, anger, and their own depressions. I tell this to all my patients who are contemplating suicide and feel that their loved ones will be better off without them. This may seem like a harsh thing to say to a depressed person, but in fact, it often brings them back from the precipice and stays with them, as this episode is not likely to be their last struggle with suicidal thinking.

Overall, major depression is common, often devastating, more often chronically disabling, and it is sweeping the world.

5

Bipolar Disorder

Bipolar disorder is a disease of two phases. One is depressive, symptomatically identical to major depression. In bipolar disorder, however, depression alternates with a *manic* phase that lasts for days to weeks. During mania, a person's energy is extremely high, to the point of continually not feeling tired on just a couple of hours of sleep for days or weeks at a time. They may engage in many productive activities, like painting or cleaning, but also out-of-character activities like overspending or risky social/sexual behavior. They may also have rapid speech and thoughts, feel energized, and have a mood that is in some sense a type of *high* that could be euphoric or expansive.

This last factor is important. The manic person feels they are great and superior at whatever they do, devises large-scale plans they believe have tremendous implications, and sees the world as wonderful and full of great things. But the manic may also be angry. These depressive and manic phases may follow one after another in severely affected people, but for most there is a period of normalcy in between. Often the individual has had

only depression for up to a decade before their first manic episode.

When I ask patients if they have any of these symptoms, many surprisingly say, "Yes, I have that." But often the patient is endorsing key terms that sound familiar, like less sleep and angry or rapid thoughts or both, which they heard in a rather long question. A few hours of high energy do not matter, nor does a brief high mood or impulsive episode of spending. Once I point out that in true mania these symptoms last for days or weeks, especially the part about very little sleep every night without being tired, almost everyone realizes that what they are experiencing is not mania.

Mania may evolve into a psychosis when expansive ideas (the person plans to quit their job and start a soon-to-be-billion-dollar business) turn into delusions (the person expects to meet some famous individual and tell them about a discovery or even that aliens are speaking to them). The psychosis may devolve into paranoia and become bizarre, disorganized, and hallucinatory. At this point, the illness is indistinguishable from schizophrenia. Either this state or some excessive act, such as spending a lot of money or acting in uncharacteristic ways, is what lands a person in the hospital.

Bipolar disorder is a serious mental illness. Patients often have many hospitalizations and suicide attempts. They fail at most social activities such as work and marriage, abuse substances, and have a high rate of suicide.

In spite of how serious an illness it is, bipolar disorder has become a *catchall* diagnosis, which seems to be made lightly, on little evidence, resulting in an apparent dramatic increase in its prevalence. This is an unsettling problem as people, children included, are being inappropriately diagnosed and

overmedicated, and yet continue to suffer, since their correct diagnosis has neither been made nor treated.

At first bipolar disorder was *underdiagnosed* in American psychiatry, specifically from the 1950s through the 1980s. Our colleagues in Europe and other areas were much more tuned in to the various presentations of mood disorders, including bipolar disorder. In the US, we assumed that a psychosis was always due to schizophrenia and that anyone who was very mentally ill and had a worsening of their illness and increasing difficulty functioning in society must have schizophrenia. Neither of these assumptions turns out to be true.

In the past several decades, we've tended to overdiagnose bipolar disorder, partly due to fad, which psychiatry can be prone to. I am not implying that psychiatry is not based on good information. It is. But psychiatry is the science of explaining human behavior and it is common for an en vogue explanation to become contagious.

In psychiatry, such fads are often related to groups of patients who are difficult to diagnose, or just plain difficult, be they moody, impulsive, unpredictable, or generally hard to be around and get along with. We saw this in the multiple personality and recovered memories fads in the 1990s. There was never good reason to support either of these phenomena,[1] but large numbers of people were labeled with them, often after a first visit to a clinician. The clinician would recognize characteristics such as moodiness, oversensitivity, and impulsivity, then jump to the dramatic conclusion that sexual abuse had occurred and, consequently, the patient had multiple personalities for reasons the patient could not (yet) recall.

What likely caused bipolar disorder to be the latest *explain-it-all* in psychiatry and, as far as I can tell, in American culture was a misunderstanding of what constitutes bipolar disorder in

general and mania in particular. The problem is multifaceted, but I believe things began to run aground when clinicians mistook screening questions for diagnostic questions. We use screening questions often in psychiatry. Answers to questions such as "Are you often sad?" or "Do you ever feel that life is not worth living?" can alert the clinician to the need to investigate further for, in this example, depression. However, screening questions are designed to alert the clinician of the *possibility* of a problem and thus the need to ask more questions. They are not a diagnosis.

The chief area of confusion in bipolar disorder was seeing moodiness and rapid mood changes, particularly negative mood changes such as anger outbursts along with impulsivity (e.g., spending a lot of money with no thought for the unwanted consequences) as indicative of bipolar disorder. While these responses to screening questions might be clues, they do not constitute the actual illness. In reality, they are common aspects of many problems, including depression, substance abuse, personality disorders, and even reactions to severe stress. By themselves they serve only to invite more specific questions.

So, how much has bipolar disorder increased in recent years? In the case of people admitted to psychiatric hospitals in the 1990s, the increase is 400 percent for children and about 50 percent for adults.[2] For outpatients, there has been up to a *forty-fold* increase in the diagnosis of bipolar disorder in children and a doubling in adults![3] Most experts agree the fad and incorrect diagnoses are clearly driving these astounding numbers. However, we must ask whether there is an actual change in prevalence buried somewhere in these numbers.

The greatest increases of bipolar disorder diagnoses have been in children. However, further research revealed that many of these children do not have the illness. The incorrect diagnoses

have been based largely on irritability in children, while the new research shows that core features of mania, such as expansive thinking, are needed for a diagnosis of bipolar disorder.

In adult research, there is not enough data to form a rock-solid conclusion, especially about an increased prevalence. Studies have attempted to dig deeper into both medical records and the patients' own experiences. In these newer investigations, the researchers often made the diagnosis themselves by either interviewing the patient or looking more carefully into medical records. Some of this work did not find any significant change, while other studies had striking findings of change.[4] There was, as before, increased prevalence throughout the twentieth century. More importantly, the data comes with a troubling discovery: an earlier onset of symptoms and a more virulent course of illness. We saw a hint of this in major depression, but the extent of this finding in bipolar disorder is much more significant and suggests a more severe form of the disease.

While the past century may or may not be bringing new diagnoses of bipolar disorder, it appears cases are becoming more severe by something going on with the patients or their worlds.

6

Attention Deficit Hyperactivity Disorder

Attention deficit hyperactivity disorder (ADHD) is an important and very real illness that affects both children and adults. Increased awareness has helped countless people, including many of my own patients, to rebuild their lives once they received a correct diagnosis and treatment.

ADHD has been on the radar of clinicians, especially those who deal with children, as far back as the 1960s. In those early days, the focus was on the hyperactivity aspect, which occurs almost exclusively in boys. These children were, and still are, quite a handful as they could not sit still and caused chaos in a classroom. Consequently, children, quite often girls, who had the illness but were not hyperactive, suffered in silence. They were mostly branded as underachievers or even *mentally retarded* (now correctly termed *intellectually disabled*) and relegated to lower levels of study.

The inability to concentrate—*selective attention* is a better term, as it reflects our ability to direct our attention at will—is

accompanied by poor organization and impulsivity. A child might do his homework but forget to bring it in. Or, an adult asked to bring milk home after work might forget entirely or bring home bread instead. These issues sound small, but they build up to become larger failures and frustrations. Sitting down to read a book is often impossible. They make lists but never remember to check them. Academic success is uncommon and work history is equally problematic.

When children with ADHD grow up, they have a high incidence of substance abuse (50 percent in hyperactive boys) and depression. Without stimulant medication, along with therapy for the organization problems and issues of self-worth that commonly affect these individuals, their futures would be uninviting.

The use of stimulants, like many treatments in psychiatry, was discovered accidentally. It was simply observed that hyperactive children seemed to have a paradoxical response to stimulants: the drugs made them calm and focused rather than stimulated. This finding has been validated in numerous studies up to the present day. There are no other treatments for the core symptoms of inattention in children or adults with ADHD, and stimulants work well. They not only help with attention, but children who are treated with stimulants also do better in school and have a lower incidence of later life problems such as substance abuse and run-ins with the law.

But these impressive results do not mean stimulants are without problems. In our current climate of rampant substance abuse, teens and adults often sell their stimulants or use them improperly, such as staying up all night to cram for tests or simply to get high. Because of the high street and personal value of stimulants, drug-seeking individuals often present to clinics feigning the symptoms of ADHD in order to get a prescription.

Additionally, some clinicians are overdiagnosing this disorder because they do not understand a simple fact about psychiatric illness. That is, attention difficulties occur in almost all psychiatric disorders. People with depression, anxiety, or even the early stages of psychosis will complain of difficulty concentrating. Inexperienced or undertrained clinicians often mistake this for a diagnosis of ADHD.

From around the year 2000 until recently, the diagnosis entered the realm of *explain-it-all* for many individuals, especially those who may be impulsive, irresponsible, and moody. The *explains-it-all* diagnosis has mostly shifted to bipolar disorder, but the diagnosis of ADHD and its potentially problematic treatment with stimulant drugs continues to rise.

Let's look at some of the data to see if prevalence is actually increasing. The earliest data comes from the 1970s from databases of medical records or pharmacy records of prescriptions written for stimulants. But what has happened in this shorter period of a decade is impressive. Studies have found between a five- and ten-fold increase in the prescription of stimulants or diagnosis of ADHD.[1] Yet researchers are quick to note the many sources of bias in these statistics.[2]

In children, later studies have shown a tripling of the rate of diagnoses in the 1990s[3] and a five-fold increase beyond that. These studies, more carefully performed than their predecessors, sought to eliminate much of the previous bias and suggest something is truly afoot.

We should consider for a moment the fact that parents took their children and adults took themselves to mental health professionals for some reason. Even if they received a mistaken diagnosis for bipolar disorder or ADHD, there was still some reason for their distress and eventual visit to a mental health professional. Large numbers of people, who appear in study after

study, are coming for help because they are struggling. Even if they are misled by a pharmaceutical ad and are pursuing a particular diagnosis or medicine as a result, it does not take them out of our group of modern citizens who find themselves in need of mental health treatment of some kind. Those high numbers, biases and all, are speaking volumes about the need for help felt by citizens of the modern world.

Among the many reasons for biases in diagnosis, most researchers and clinicians see the possibility that some of the observed increase is real,[4] or just diagnosed more often because we are noticing it, and have searched for a reason to explain the apparent increase. Scholars in this area have proposed that increased academic demands placed on today's young students may be the culprit.[5] I see this theory about academic demands as one example of a broader factor influencing the increase in psychiatric disorders in general: the relationship between an inborn biological vulnerability and the stresses inherent in what is now normal society.

Imagine a young boy with ADHD living on a farm. He saunters to school with his friends down open roads surrounded by fields and trees. School is not very demanding. There is recess. There are no after-school activities. He can run home, throw down his books, and go out to play.[6]

Contrast this with a young boy with ADHD waking up early to take a long bus ride. He switches classes every hour and has physical education instead of recess. After school he has tutoring, as he is behind in math. This is followed by soccer practice where he does drills to improve the team's weaknesses from the previous game. He is picked up by a carpooling parent and dropped off in time for dinner. After dinner he has homework and then is allowed time for video games before bed.


image
not
available

Index

A

B