

## WELLNESS

Amidst all these statistics it is easy to lose sight of the fact that people *do* get well. Indeed, given the chance, many thrive. Some of the brightest, most talented, most enthusiastic people we have met have been labelled "crazy." Not just crazy, but useless. Stupid.

Journalist and advocate Nora McCabe recalls how she felt the moment her son was diagnosed with schizophrenia. "It's almost as if they tell you that not only does he have this mental illness," she says bitterly, "but he's become a total moron. There's no expectation of function, or reintegration so that you can have any sort of a life a middle-class person would identify as successful or fulfilling."

McCabe and others with insight look beyond the disorder and see something wonderful. They see that the person never truly went away. They see a son with a desire to work, a brother with a sense of humour, a friend who still enjoys a coffee.

The most innovative – arguably some of the most successful – mental health strategies are those that recognize this. Programs that help restore self-worth, give people the right to work, to make decisions. In short, offer people the same kind of inclusion the rest of us take for granted. People, *all* people, need to fulfil a useful role in society. When people are excluded, their potential denied, we cannot possibly expect them to be whole.

The authors are not scientists, have neither the knowledge nor the resources to prove some of our beliefs. But we know what we have seen. And we have seen that the best outcomes happen when people – regardless of diagnosis – are valued.

There are scores of disorders listed in the psychiatric manuals. Disorders that reduce people to symptoms, categories, labels. But when it comes right down to it, there really are only eight kinds of people who suffer from issues of mental health. Someone's husband, father, brother, or son; someone's mother, daughter, sister, or wife.

## K A T H E R I N E ' S   S T O R Y

*I've heard too many times from friends and others that schizophrenia means split personality. These comments really hurt me. But what used to hurt me more was that I would remain silent. I did not try to defend people who have schizophrenia. This made me angry with myself. But I've gotten better at defending people who have schizophrenia after a long period of living with the illness. Schizophrenia may mean a person is split from reality. But schizophrenia has nothing to do with personalities.*

*I have heard other negative comments about those who have schizophrenia. The media will say, "A schizophrenic killed someone today." But they never say, "A diabetic killed someone today." Because the media only reports negative views on people who have schizophrenia, the general population is led to believe that all people who have schizophrenia are criminals, murderers, or some sort of evil monsters. The media is so efficient in portraying these negative views that when I was first diagnosed with schizophrenia I really believed that one day I would turn into an axe murderer or worse.*

*When I first went to a psychiatrist, at sixteen years old, he told me I was just suffering from an identity crisis. But I went back*

him a second time. In his office were old heat radiators that made a strange noise, and I thought there was a tape recorder behind the doctor's chair. Paranoia set in, and I was diagnosed with schizophrenia a short time later by this same doctor. I'm twenty-seven now, so I have lived with the illness for eleven years.

My childhood and early adolescence were happy times. My family has always been very supportive. Right from the start of my illness, my parents were really understanding. If it were not for my parents, I'd have been dead by now.

Schizophrenia turned my life upside down. My parents noticed I was withdrawn and not myself. They noticed I worried more. I could not answer the phone or doorbell, because I was afraid that whoever I talked to would be mad at me or would want to harm me in some way. I couldn't listen to the television or radio either, because they would also trigger a worry. My room seemed to be the place where I felt safest. I spent most of my time there. Sleep seemed to be the only thing that could briefly stop my anxiety, paranoia, and delusions.

I ended up missing half my Grade 11 and Grade 12 years. I would be sick for two weeks, and then well for two weeks. Just as I was getting caught up, I would get sick again. It was a vicious cycle, and it was very frustrating. I don't know how I graduated.

Along with paranoia and anxiety, another symptom of mine is having what I call DLTs. DLTs stand for "delusional thoughts." And delusions are false beliefs. I find with my delusions that sometimes 50% of me believes the delusion is reality and 50% of me believes the delusion is false. But this percentage fluctuates a lot. Most of the time at least 10% of me believes the delusion to be false.

Once, I thought I was getting messages from licence plates. A licence plate, for example, would read CIN 200. I thought this meant I had to drive to the Cinnamon's restaurant and wait for someone who would tell me the truth about my past. I would wait in various restaurants depending on what a licence plate said. Sometimes I would wait for hours. Of course no one came to meet me.

At times I have thought I was an angel who had the ability to heal people with prayers. Sometimes I have also thought I could predict the future. Psychiatrists have diagnosed me with everything: schizoaffective disorder, manic depression, and so on. Most of these mental illnesses are closely related, so it is often hard for doctors to diagnose someone. My latest diagnosis is schizophrenia. I do believe I have a mild form of schizophrenia.

Over the years I've found medications have worked for me for a short time and then suddenly don't work any longer. It is a trial-and-error process. Today, I still experience some delusions and depression. Sometimes my delusions occupy my mind for days or weeks. I try to keep busy so I don't think so much about them. But the DLTs I experience now are not as bad as they used to be, even though some of them are the same.

There was only one time when I had an auditory hallucination. I was on a train ride in Scotland and a voice told me I was going to bite my tongue. I would say no, the voice would say yes. We went back and forth, saying no and yes, for about thirty minutes. I guess I won the argument, because I did not bite my tongue. The only visual hallucination I've experienced was seeing red paint on my forehead. It looked like an aboriginal design. I didn't see it in the mirror for very long. I still don't know what to make of that.

Until recently, I hadn't told friends I've known for over ten years that I have schizophrenia. To my surprise they did not treat me any differently, and I'm still friends with them. It really bothered me that I had kept it a secret. I felt like I was lying to my friends. Originally I told them I had a mysterious disease from the time I visited Africa in 1988 when I was sixteen. My friends believed that story for the longest time.

I am really glad I'm a part of the Partnership Program,\* educating various people about schizophrenia. Most of the time I feel like I'm an outsider looking in. With the Partnership Program, I feel like I have a place in society, that I fit somewhere. It is a good feeling.

\* The Partnership Program, run by the Schizophrenia societies of Alberta and Saskatchewan, introduces high school students to young people with schizophrenia, who talk about their lives. Katherine (a pseudonym) is one of the participants.

*During my eleven years of having schizophrenia I have done a lot of volunteer work, and I have also held full-time summer jobs. I graduated in 1997 with a B.A. in English. I'm presently in my third year of a B.A. in social work. My goal is to become a psychiatrist. Many people say that becoming a doctor is unrealistic. But I'm an optimistic person. I find I need challenges and obstacles in my life to survive. My biggest obstacle has been schizophrenia, and I've somewhat overcome that.*

## C H A P T E R   F O U R

### What Is Mental Disorder?

*Madness has been and remains an elusive thing.*

– Roy Porter, medical historian

Ask a hundred Canadians this question – What is mental disorder? – and you'll likely get a hundred different answers. And a lot of them will be just plain wrong. A character flaw, laziness, lack of discipline, the devil at work; such answers still repeatedly pop up in public surveys.

We'll talk more about stigma in Chapter 11. For now, let's just agree that these answers clearly *are* wrong. What we're interested in here are the right answers. We want scientific proof, concrete evidence, about what mental disorder is and where it comes from. So we turn to modern science – to the researchers of psychiatry, psychology, and social science who devote their careers to the subject.

The curious thing is, here, too, you won't find much of a consensus. Even within disciplines, there is plenty of debate. Truth is, despite huge advances in technology and treatment, *no one* really knows what happens, in the mind or the brain,

when mental disorder strikes. We're still a long way from understanding the dynamics of any one disorder, let alone the broader concept of disorder itself.

Today, we have plenty of theories, and research flowing from them. But they remain just that — theories, or best guesses. In this chapter, we'll talk about some of those best guesses. They're important not just to researchers, but to consumers and family members as well. History has shown that as our notions of disorder shift, so does the treatment we receive.

Those notions can be divided into two basic parts: what *causes* as disorder, and what *causes* it.

### WHAT COUNTS?

Diagnosis is the cornerstone of all medicine. And diagnosis depends upon classification. There are any number of physical diseases and disorders, each with an assigned name. Something goes wrong with some part of the body, and the doctor knows just what to call it.

Psychiatrists follow this medical model; they think of each mental disorder as a separate pathological entity, just like diabetes or tuberculosis. The problem is, we know a lot more about physical disorders than mental ones. Doctors have a good idea of what happens in the pancreas or the lungs when diabetes or tuberculosis strikes. But the mind is far more complex, and nailing down the true nature of its disorders is much harder to do.

How, then, do doctors go about diagnosing mental disorder? What tools do they use to define, for example, schizophrenia?

"We're relying on a person's personal experience of something and how they describe it to us, as a diagnostician, and those are not very reliable ways," says Dr. Mary Seeman, a Canadian authority on schizophrenia. "But that's all we have to go on. We don't have anything else, so that's how we define this nebulous illness, and there's no blood test, there's no X-ray. There's really nothing, other than symptoms."

Symptoms — the pain or problem or experience you describe to your doctor — are obviously important in physical illness too. But in psychiatry, they play a much more pivotal role.

The book that North American psychiatrists use for diagnosis is called the *Diagnostic and Statistical Manual of Mental Disorders* (or DSM), now in its fourth edition. In the world of psychiatry, the DSM defines what counts as disorder. Produced by the American Psychiatric Association, it lists scores of different conditions, each defined by a set of symptoms.

The approach is "descriptive"; the manual defines disorders by what they look like, with no need to understand what causes them. That's because psychiatrists don't *know* what causes most disorders.

"What is the cause of something like erotomania, the delusional belief that someone else is in love with you?" University of Toronto professor Edward Shorter writes in his book *A History of Psychiatry*. "Nobody knows. Psychiatric illness has tended therefore to be classified on the basis of symptoms rather than causes, which is where the rest of medicine was in the nineteenth century."

Most psychiatrists would argue that a symptom-based classification system is better than none at all. Better because it gives clinicians and researchers a common language, so that when they talk about "schizophrenia," everyone knows what the term describes. Better, too, because different treatments can be tailored for different disorders; lithium, for example, is considered an effective treatment for bipolar disorder but not for schizophrenia.

Before the DSM became popular, psychiatrists were accused of making random diagnoses. According to one old joke, if you put a hundred psychiatrists in a room with a patient you'll wind up with a hundred and one diagnoses. (The last one comes from the patient.) That joke no longer applies. While misdiagnosis is still a problem, there's far more consensus than in the past, because psychiatrists now use a common set of criteria.

But those criteria don't tell us much about the disorders themselves. They provide labels attached to lists of symptoms. And not much else. As one critic puts it, "The nature of the 'thing' described remains entirely obscure." Does the diagnosis represent an actual illness, caused by some physiological pathology? Does it represent an adaptation – a behavioural or emotional response – to life experiences? Or is it some combination of these things? Nobody knows for sure. (For this reason, we've chosen to use the term mental *disorder* instead of *illness* in this book.)

The longer the labels are used – and they've been around for several decades now – the greater the risk that we'll put too much stock in them.

"If you don't have the labels it's a mess, because you don't have a language," says Dr. John Strauss, a professor emeritus at Yale Medical School, and a pre-eminent thinker in the field. "And if you do have the labels there's a danger of believing too much in them. I don't have any problem with the current labels, but I wish people weren't so confident that they knew what they meant."

You might wonder how psychiatrists come up with these labels. How do diagnoses make it on to the pages of the DSM? This, too, is controversial. Task forces and work groups get together and agree upon names and matching symptoms. In effect, they *create* categories of disorder by consensus – something other fields of medicine don't do.

"I don't believe the gastroenterologists have task forces to decide whether constipation and pylorospasm should be listed as diseases or not," an objecting member of one DSM task force stated.

The task-force members have tried to base their decisions on "empirical evidence." They want the process to be as scientific as possible. But definitions based on symptoms – especially ones that involve behaviour, personality, thoughts, and feelings – are bound to be subjective. What one culture deems normal, another might call abnormal. What one individual considers to be illness might through different eyes

look like mere eccentricity. In North America alone, our notions of what counts as mental disorder have changed dramatically over the past century.

"Our concepts of what mental illnesses are so elastic," says Dr. Morton Beiser, vice-chair of research at the University of Toronto's Department of Psychiatry. "It's not just a question of medical disorders or psychiatric disorders; it's also a question of what does society define as . . . within the purview of mental illness."

Some critics argue our concepts are so elastic they're meaningless. The antipsychiatry movement – some of its most vocal members being renegade psychiatrists – claims that mental disorder is a purely social construct, not part of medicine at all.

As the well-known critic Thomas Szasz puts it in his book *The Myth of Mental Illness*, physical illnesses look the same the world over. "But this is emphatically not true for the phenomenon of so-called mental illness, whose manifestations depend upon and vary with the educational, economic, religious, social and political character of the individual and the society in which it occurs."

Homosexuality is a good example. Once listed as a mental disorder, task-force members voted to drop it from the DSM in 1973, after intense lobbying from gay-rights groups. "It was less clear that this was a scientific issue than it was, at least in part, a political one," Dr. Mitchell Wilson wrote in the *American Journal of Psychiatry*.

Other disorders have disappeared from the list as medical advances are made. Epilepsy was listed in early versions of the DSM. It's now been dropped, moved to the domain of neurology. The same has happened with other disorders once considered psychiatric.

"Historically, once etiology [the cause] is known, a disease stops being 'psychiatric,'" Drs. Daniel Goodwin and Samuel Guze write in their book *Psychiatric Diagnosis*. "Vitamins were discovered, whereupon vitamin-deficiency psychiatric disorders no longer were treated by psychiatrists. The spirochete

was found, then penicillin, and neurosyphilis, once a major psychiatric disorder, became one more infection treated by nonpsychiatrists.”

While some disorders have been dropped, many others have been added, all with causes unknown or unstated. In fact, the DSM has grown significantly. With each new edition; the list of what counts as disorder gets ever longer. Why is this happening? Is science providing more insights into the many ways the mind becomes disordered? Or are psychiatrists lowering the threshold, pathologizing behaviours even slightly removed from “normal”?

It’s a question critics often ask. A scathing review of the latest edition of the DSM, appearing in *Harper’s Magazine*, raised questions about psychiatrists’ motives. “Here, on a staggering scale, are gathered together all the known mental disturbances of humankind,” writes L.J. Davis, “the illnesses of mind and spirit that cry out for the therapeutic touch of — are you ready for this? — the very people who first wrote the book.” The article notes that the more disorders listed, the more doctors’ billing opportunities, too.

You’d probably be surprised to read some of what counts as disorder in the DSM. Alongside long-standing and widely recognized disorders like depression or anorexia nervosa, you’ll find such conditions as Stuttering, Mathematics Disorder, Caffeine Intoxication, Nicotine Dependence, Pain Disorder, Sleep Disorder — Jet Lag Type. New to the fourth edition is Feeding Disorder of Infancy or Early Childhood, for children who don’t eat adequately or gain weight. Also Substance-induced Sexual Dysfunction, for adults whose sexual problems are “fully explained by substance abuse.”

As the *Harper’s* article notes: “Hangnails seem to have avoided the amoeba’s kiss, and the common cold is momentarily safe (unless it is accompanied by pain) but precious little else is.”

One important proviso is that the disorders listed in the DSM generally include a “clinical significance” criterion.

The symptoms have to cause “clinically significant distress or impairment in social, occupational, or other important areas of functioning.” That means, if your coffee consumption doesn’t bother you, it doesn’t count as a disorder. In clinical terms, the DSM authors were trying to reduce so-called “false positives” — a diagnosis given for unusual but not pathological behaviour.

Even so, the authors of *Psychiatric Diagnosis* — both well-known psychiatrists — have raised a cautionary flag about the vast majority of DSM diagnoses. “In our view there are only about a dozen diagnostic entities in adult psychiatry that have been sufficiently studied to be useful.” The authors argue that only these twelve — which include affective, schizophrenic, panic, phobic, and eating disorders — “can be defined explicitly, and have a more or less predictable course.”

These are the disorders most of us will have heard of. If you haven’t experienced depression or mania, panic attacks or phobia, you probably know someone who has. And you’d immediately recognize the symptoms listed in the DSM.

Perhaps the most controversial diagnoses in the DSM fall under the category of “personality disorders.” We all have personality traits — shyness, impulsiveness, and so on. These become labelled disorders when taken to an extreme. But how to decide what counts as extreme? Where’s the line between normal and abnormal when you’re talking about personality? Here’s a description of one group of personality disorders in a textbook for clinicians called *DSM-IV Made Easy*: “People with the Cluster B disorders tend to be dramatic, emotional, and attention-seeking; their moods are labile and often shallow. They often have intense interpersonal conflicts.” That might sound like any number of people you know.

Again, there’s a requirement of significant distress or impairment. The DSM states that personality disorders must also involve “an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual’s culture.” But still, “enduring” or “markedly” are subjective words. As is “culture.”

Some women's groups have taken exception to one diagnosis in particular: borderline personality disorder (BPD). It's diagnosed more often in women, and often women who've been physically or sexually abused. The symptoms include recurrent suicidal or self-mutilating behaviour, feelings of emptiness, and frantic efforts to avoid abandonment. Do these symptoms represent pathology . . . or just an understandable response to trauma?

"I think that borderline personality can be dismantled," says Dr. Brenda Toner, head of the women's mental health program at the Centre for Addiction and Mental Health in Toronto. "If you look at the behaviours that go into borderline personality, then I think it would be more helpful in terms of describing what the person's going through rather than putting a label on it. . . . I guess it's not 100% trauma but it's a huge component."

Dr. Toner thinks BPD symptoms would be better defined, and treated, as a form of Post-traumatic Stress Disorder.

Which kind of gets us back to where we started. We still don't *really* know what causes something like BPD.

### WHAT CAUSES DISORDER?

Many great minds have tried to answer this question. And many of them have looked to the body. In ancient Greece, Hippocrates thought melancholia (his word for what we now call depression) was caused by an accumulation of black bile. Hysteria was thought to originate in the womb (or *byster*), so only women could get it. Later theories pointed to the heart producing vapours that condensed in the brain. The colon harbouring toxins. The nervous system itself becoming agitated, causing nervous states. Treatments were also physical: laxatives, blood-letting, cold baths, spa treatments. As Roy Porter writes in his book *A Social History of Madness*, "Treating the body was intended to have its impact on the mind as well."

Another approach that's reappeared throughout history was to think of madness as a kind of curse. So we had the

medieval belief in witches' hexes or satanic possessions. The cure was exorcism, and incantations.

It's easy to laugh at these old ideas. But who's to say that centuries from now our own notions of disorder won't seem just as ludicrous? Researchers say that today's approaches are rooted firmly in science. But psychiatry is a young science. Some would even argue it isn't a science at all.

Today, most researchers agree that no one thing causes disorder. Whatever the final answer is, it's unlikely to be quite so simple.

"There's nothing in our existence that's caused by a single thing," says Dr. Peter Liddle, a prominent schizophrenia researcher and head of psychiatry at the University of British Columbia. "If a fire breaks out in a building, what caused the fire? The fact that somebody put a hot object in touch with a flammable object? The fact there was oxygen in the air? The fact that somebody didn't check the security of the building? There are actually many, many different things that have to occur before a fire can break out in a building."

In recognition of this complexity, the word now widely used to describe mental disorder is "biopsychosocial." It acknowledges that biological, psychological, and social elements all play a role in creating (and treating) mental disorder. That sounds great on paper, but in practice it's not so easily applied, because we still don't know quite *how* these elements intertwine.

"That's another place where being able to accept a fair amount of ignorance would be really helpful," says Dr. Strauss when asked about the term. "It's not like you just add them all together. We don't really understand, I think, how the bio, the psycho, and the social interact."

This is where "biopsychosocial" can become a bit of a hollow shell. Although psychiatrists will tell you that none of the elements should be overlooked, they're all bound to emphasize one over another. As Dr. Beiser says, "Everybody has their own pet view of what's really going to turn out to be important."

And what they think is most important is what they'll focus on in research. In practice, those differing approaches have tended to break down into biological or psychosocial. Heredity or environment. Nature or nurture. The age-old debate is still alive and well today.

"Psychiatry has always been torn between two visions of mental illness," Dr. Shorter writes in *A History of Psychiatry*. "One vision stresses the neurosciences, with their interest in brain chemistry, brain anatomy, and medication, seeing the origin of psychic distress in the biology of the cerebral cortex. The other vision stresses the psychosocial side of patients' lives, attributing their symptoms to social problems or past personal stresses, to which people may adjust imperfectly."

This is where culture comes into play. Thirty years ago, psychoanalysis was "in," and the focus was on early-childhood experiences. Today, biological research is dominant. In our quick-fix world, psychiatric drugs have become a multi-billion dollar business, with a pill for every problem.

"There is a kind of sociology of science," Dr. Beiser says. "In the sixties and seventies, the social model was the paramount model, and it was very hard to get funding to do research in genetics. Everybody was putting their money on social factors. . . . Now it's biology. It's neurochemistry, it's brain imaging, it's genetics. No question that's getting the most play."

This emphasis has spilled over into treatment: more on pharmacology, less on psychological or social solutions. And it's spilled over into popular consciousness, too. The media have jumped on the biological bandwagon. Stories abound about the latest genetic breakthrough, the newest brain scan image, the next wonder drug. Major research institutes regularly trumpet new discoveries, even "proof," that various disorders have biochemical or genetic causes.

It's important, amidst all the hype, to stress that there is no final proof. Lots of tantalizing evidence is being accumulated, but it's still just pieces of a puzzle, not yet complete.

## BRAIN SCANS

Some of the puzzle pieces come from new technologies. Scanners like PET (positron emission tomography) and MRI (magnetic resonance imaging) machines can take pictures of the brain, which researchers use to look for neurological differences between people diagnosed with disorders and people who aren't.

Sometimes, they look at the structure of the brain. One 1990 study that got a lot of attention compared sets of identical twins, where one adult twin was diagnosed with schizophrenia and the other not. They found the twins with schizophrenia had slightly smaller brains than their siblings. A couple of specific regions of the brain were also smaller. This was hailed as a major breakthrough, "proof" that schizophrenia was a brain disorder.

Some critics argue these studies have been conducted on patients who've taken neuroleptic drugs or received electroconvulsive therapy, and that it's these treatments – not the schizophrenia – that account for any differences. (Indeed, some brain scans of people with schizophrenia support this view; long-term use of antipsychotic drugs may be correlated with changes in brain structure.)

Other research has focused on chemical neurotransmitters in the brain, which help brain cells communicate with each other. There's a theory that these chemicals become disrupted, causing a disorder. An overactive dopamine system, for example, in schizophrenia. Low levels of serotonin in depression. Psychiatric drugs are formulated to act on those same systems, often relieving symptoms. But is this proof that chemical imbalances *cause* the disorders?

"That's, again, a broad generalization that's too early to make," says Dr. Jacques Bradwejn, a researcher and chairman of Psychiatry at the University of Ottawa. "You could say serotonin is disrupted in depression. Many people will respond to a drug that acts on serotonin. That doesn't mean we know exactly what the cause is."



In fact, we're only beginning to explore the brain's complex neural networks – how many chemicals are in there, and how they interact with one another. For now, we know very little.

“There is absolutely no evidence that ‘biochemical imbalances’ cause mental disorders,” renowned neuroscientist Dr. Candace Pert told a convention of Ontario psychiatrists.

In recent years, thanks to a new machine called an fMRI (for functional magnetic resonance imaging), researchers have also been able to take pictures of the brain at work. They study the way the brain *functions*. Subjects lie inside the scanning machine, performing a prescribed task, and researchers observe patterns of activity – which parts of the brain “light up” or become active. Again, they’re looking for differences between groups of people with a disorder and those without.

Dr. Liddle is especially interested in finding a pattern of activity characteristic of schizophrenia. “Maybe we’re getting there,” he says. “I wouldn’t want to be too confident. But on the other hand I’ve been working for the past few years on looking at the way that co-ordination of activity between different brain areas occurs, and the way that the brain works as a coherent whole. And there are certain patterns that seem to be characteristic of schizophrenia.”

The big question is, what do these patterns tell us about the disorder? The easy answer would be that there’s some biological pathology of the brain that causes the disorder. People are born with a “schizophrenic brain,” which acts in abnormal ways. Interestingly enough, Dr. Liddle doesn’t reach this conclusion. The brain, he says, is not fixed but ever-changing, responding to stimuli – stresses, pleasures – and the tasks it’s given.

“We know that a whole lot of social or psychological things actually change not only the functioning of the brain but the structure of the brain. We know that whenever you do anything, when you talk . . . or when you give someone a hug . . . these things represent things going on in the brain.”

The environment helps *shape* the brain, affecting its growth and development over a lifespan. For example, research has

shown measurable changes in the brain as a result of psychotherapy. As one psychiatrist puts it, “There is a constant interplay between environmental factors and brain development.” This concept of the brain as a highly responsive organ has been described as “plasticity” – and it’s an area that has generated much enthusiasm in recent years.

In practice, brain scans may tell us as much about our life experiences as our biology. “We now know, for example, through neuroimaging, that the history of trauma actually influences brain activation,” says Dr. Toner. “So even if you see differences in the brain, it doesn’t necessarily mean that it’s a biological difference. It could be caused by a chronic environmental stressor like a trauma.”

In effect, then, we’re back to the “which came first” question. Finding discrete patterns of activity might prove useful for clinicians – Dr. Liddle hopes it will help with diagnosis – but brain-imaging work still won’t tell us whether schizophrenia, or any other mental disorder, is biological in origin. (In fact, Dr. Liddle and many other researchers now believe that “schizophrenia” may actually be several different disorders, with different causes, all now erroneously lumped under one label. That would help explain the vastly different courses it can take.)

## GENETICS

It’s extremely popular these days. Research institutions around the world are pouring money into DNA labs. So far, there’s been no definitive proof, no replicated studies confirming a “depression gene” or an “anxiety gene.” Critics say there never will be. But people working in the field believe it’s just a matter of time.

One massive international effort, the Human Genome Project, promises to identify and locate every gene on our chromosomes by the year 2003. Advances in DNA technologies have made this possible. And it’s thought the findings will have profound implications for our understanding of many mental disorders.

Genetic work itself is not new. In the past century, hundreds of studies have compared rates of disorder among twins, family members, and adopted children. These studies have generally found that schizophrenia, bipolar disorder, panic, and anxiety disorders tend to run in families.

In twin studies, researchers look at “concordance rates”: how often *both* twins develop schizophrenia, for example. Identical twins have identical genes, and they have higher concordance rates than fraternal twins (who developed in the womb from two separate eggs rather than from one egg that split). The same is true for bipolar disorder. This suggests genes do play a role.

Research has also shown that children are more likely to be diagnosed with schizophrenia when one or both parents has been diagnosed. This holds true even when children are adopted out at an early age.

Dr. James Kennedy, a genetics researcher at Toronto’s Centre for Addiction and Mental Health, calls these findings “very, very strong evidence that a major portion of the risk for the more severe psychiatric disorders is inherited.”

Of course, not everybody in a family will wind up with a diagnosis. Even between identical twins, the concordance rate is never 100%. And there are a couple of theories about why that might be. Maybe several genes are involved in any one disorder.

“Maybe three genes come together to cause schizophrenia, for example,” says Dr. Kennedy. “So grandfather might have had all three, and he passed two to his son. So his son didn’t have enough of the genetic load to get the disorder. But then his son married a woman who unfortunately had this third gene, and three of their kids would be just fine but one of them would have the same disorder that grandpa had, because those three bad genes came together again.”

Another important point – and even the most enthusiastic genetics researchers would agree – is that biology can’t explain everything. Even if specific genes are one day linked to specific

disorders, environment will still play a role. Researchers now talk about a genetic *vulnerability*.

“We all carry many, many dormant genes within us that still have to get turned on somehow,” says Dr. Seeman. “And that’s where the environment comes in.”

In other words, life events and stressors are the triggers that can turn vulnerability into disorder. “You could use the analogy of a broken leg,” says John Allen, a researcher and associate professor of psychology at the University of Arizona. “We all have the potential for a broken leg. Some have a stronger potential than others, because they have weaker bones. But it’s not until you slip on the curb that you actually break your leg.”

These triggers seem to be different for different people. Here’s where psychological and social factors come into play – factors that are too easily forgotten in the rush for biological answers. And yet, for many consumers, the psychological and social elements clearly matter most.

## ENVIRONMENT

It’s obvious, but not often stated: what happens to us in our daily lives is bound to affect how we think and feel. Psychiatrists who specialize in psychotherapy observe this as they work with clients.

“I can comfortably state that I have never seen a patient who experienced a depression for no reason whatsoever,” one clinical psychiatrist wrote in a letter published in the *National Post* newspaper. “From my perspective, those psychiatrists who speak of such ‘endogenous’ depressions just did not explore their patients’ lives deeply enough.”

Research confirms that psychological and social factors *do* play a role. As with biological factors, they cannot fully predict whether any one person will develop a disorder. But when you look at larger numbers, you start to see trends: risk factors associated with higher rates of disorder, and protective factors associated with lower rates.

“When you move to a high population level, you can really make some correlations,” says David Cohen, a professor of social work at the University of Montreal. “Prosperity is associated with less distress. You can say that. There’s very strong evidence for that.”

In fact, income is one of the strongest predictors of health – including mental health – we’ve found. Poverty is a risk factor; wealth is a protective factor. That doesn’t mean everyone who’s poor develops mental health problems.

“There’s things that intervene,” Prof. Cohen continues. “We call them social supports: self-esteem, coping resources, social networks. Those things protect people from the stress of poverty.”

Ironically, those social supports may be less available to people at lower income levels. Canadian research has shown, for example, that as income levels drop, rates of emotional and behavioural problems in children go up. It has also found that safe neighbourhoods, residential and school stability, and involvement in sports, recreation, and arts activities reduce the risk of childhood emotional problems.

So if you add enough social risk factors together, people become more vulnerable. The same applies for psychological factors, many of which go right back to childhood. As we’ve seen in Chapter 3, the Ontario Mental Health Survey found a strong link between serious physical or sexual abuse in childhood and mental disorder in adult life.

That finding comes as no surprise to Pat Fisher, a trauma specialist. In her recent study of in-patients at Riverview Hospital, a psychiatric facility in Vancouver, 58% of the women she surveyed revealed a history of childhood trauma.

“This group had much higher proportions of not only childhood sexual abuse and physical abuse,” Dr. Fisher says, “but they also had much higher levels of disruptions in care, multiple caregivers, parental neglect, family violence, and on and on. So there’s just this whole litany of risk factors, and of assaults on self.”

Again, there’s no straight cause-and-effect. Not all the women surveyed had a trauma history. And clearly, not everyone who experiences abuse develops a disorder. Dr. Fisher believes genetic vulnerability has a role to play, too. “On the one hand, you’ve got the vulnerability. And that’s a fixed factor. And then, when you lay the stresses on top of that, the risks for that vulnerability to be expressed go up.”

Even when there is no abuse, there can be risk factors in the family. Family dysfunction and inconsistent or negative parenting patterns can have an effect. If a parent is depressed, for example, the risk of a child developing emotional or behavioural problems goes up.

A recent Health Canada report emphasizes the importance of young children forming a “secure attachment” with a parent, based on a loving, secure relationship. “Infants . . . whose parents are unable to form this attachment due to illness or stress are at higher risk for a number of behavioural, social and cognitive problems in later life.”

Called *Toward a Healthy Future*, the report also cites recent studies in neurobiology that suggest early experiences can actually affect how the brain is wired. Neglect or abuse “may produce wiring patterns in the brain that can lead to heightened sensitivity to stimuli and to negative and abnormal behaviour in childhood and adulthood. In other words, the environment around an infant has a major influence on the brain’s development and subsequently on a person’s capacity for control over intense feelings, including anxiety and aggression.”

All of which suggests that nature and nurture are ultimately inseparable. Where does one begin and the other end? How can this even be determined?

“When is it that a certain kind of early childhood experience has certain kinds of effects on the brain?” Dr. Strauss asks. “When is it that a certain genetic makeup influences how early childhood effects have a certain influence on the brain? It’s incredibly complicated, I think.”

Nonetheless, the nature-versus-nurture debate remains a heated one. For some people the idea that their genes or brain chemistry are somehow defective is morally offensive, and implies that they're lesser human beings. For other people, a biological explanation brings immense relief. And that includes many parents, who object to the notion that they may be to blame for their child's disorder.

In the end, we each must find our own answer to the question "What is mental disorder?" And there is good news in this inability of experts to answer the question for us. In the absence of definitive proof, every opinion is as valid as the next. And that includes your own.

## J E H A N ' S   S T O R Y \*

*Her name was Mariam. And she was drop dead gorgeous. She was tall, lithe, and had luxurious waist-length raven hair. My heart would pound and inch up to my vocal chords, choking off any sound I tried to make whenever she said "Hi!" Happiness or despair depended upon how much of her precious time she allocated to me. She ruled my world. We were both thirteen and she was my first crush. Although I wanted to proclaim my love for her to anyone who would listen, I felt ashamed and terrified of my feelings because I was not the opposite sex. So I kept Mariam locked up in the safety of my heart. Thus began my reign of shame and secrecy, which was to last for nineteen long years.*

*That same year, my family moved from Tanzania to Vancouver. My first years in Vancouver were hell. Although I was fluent in English, I had trouble understanding the Canadian accent and found it hard to keep up with the speed at which people spoke. I dreaded going to school. Some classmates would pepper me with spitballs almost on a daily basis. At lunchtime, no one would want to sit near a "Paki." After school, I would be spat*

\* This story was originally published in a slightly different form in the CMHA B.C. journal *Visions*. "Jehan" is a pseudonym. Reprinted by permission.