

THE UPSIDE TO ANXIETY

IT'S OUR COMMONEST
MENTAL DISORDER – BUT
CAN ANXIETY MAKE YOU
A BETTER EMPLOYEE
AND A NICER PERSON?
DONNA CHISHOLM REPORTS.



GETTY

DONNA CHISHOLM IS NORTH & SOUTH'S EDITOR-AT-LARGE.

As a baby, Ashleigh Webb clung to her mother's legs if she tried to leave the house. At school, she'd hide in the cloakrooms to avoid "looking stupid" in the cross-country. She had her first panic attack at 12, bulimia by 14 and a diagnosis – generalised anxiety disorder – by 18.

Now, at 24, Webb has the anxious person's perfect job. A marketing executive and event planner, she's the backroom nitpicker with the clipboard whose obsessive attention to detail gives Murphy's law the middle finger.

At last, she is harnessing the positive power of a debilitating disorder.

"Planning is my passion," she says. "I organise things on a run sheet and I find it therapeutic. I can control it. I don't have to be out there talking to people. I know what's going on and trust myself it will run smoothly."

She checks, re-checks and checks again. And then touches wood just to be on the safe side. "For someone who catastrophises everything, it's a plus because I've already thought about everything that could go wrong."

In Webb and tens of thousands like her with anxiety disorders – from obsession and compulsion to phobias – the primeval fight-or-flight instincts that helped our ancestors survive are misfiring in an almost perpetual state of false alarm. For them, the sabre-tooth is not in the bushes, but around every corner. It's frightening, it's uncomfortable, and it's tiring. And it's back in the news this year, largely as the result of the gut-churning, best-selling memoir *My Age of Anxiety*, by Scott Stossel, editor of the *Atlantic* magazine.

Stossel, on tranquillisers or anti-depressants of one sort or another since the age of 10, topped up in his adult years with liberal doses of beer, wine, gin, bourbon, vodka and scotch, is a self-



Scott Stossel, editor of the *Atlantic* magazine, at home with his wife, Susanna, and son, Nathaniel, 7. Stossel has written a book, *My Age of Anxiety*, about how he has dealt with the condition throughout his life.

THE GLASS HALF-EMPTY LEAVES US WITH A THIRST TO SUCCEED – OR, PERHAPS, SIMPLY NOT TO FAIL.

described "twitchy bundle of phobias, fears and neuroses".

We read much – too much – about one of the worst physical effects of Stossel's anxiety: his regularly loosened bowels. About how he's been forced to bivouac in the bogs near the Trevi Fountain as impatient Italians bang on the door, and scurry from restroom to restroom in Eastern Europe "on a kind of grand tour of the local latrines".

It is more than a memoir, however, as Stossel, with what one reviewer called

"the thoroughness of the true paranoiac", investigates the causes of anxiety with forensic zeal. Genes? Over-protective parenting? An evolutionary hangover? Probably all of the above, he concludes.

His attempts to use psychotherapy to combat his fears are disastrous. "Here's what worked," he writes. "Nothing." Perhaps, he wonders forlornly, the book itself will be somehow therapeutic.

Yet, as he is forced to admit by the end of the memoir, despite all this, "despite my flirtations with institutionalisation, despite the genotype of pathology handed down to me by my ancestors, despite the vulnerability and what sometimes feels like the unbearable physical and emotional agony of my anxiety", Stossel is, in every other respect, a conspicuous success. The father of two has an apparently happy family life, edits a successful magazine and has authored two books.

There is, then, an upside to anxiety. The glass half-empty leaves us with a thirst to succeed – or, perhaps, simply not to fail.

"People with anxiety are generally nicer people," says clinical psychologist Jock Matthews, of Auckland's specialist anxiety and depression clinic, Rojolie, where a third to a half of his



Ashleigh Webb

"PEOPLE WITH ANXIETY ARE GENERALLY NICER PEOPLE"

Clinical psychologist Jock Matthews

patients have an anxiety disorder and low mood. The vast majority, he says, are "lovely, warm, intelligent people".

University of New York research published two years ago suggests anxiety and intelligence are linked. In a small study of 26 patients with a disabling anxiety, those who reported worrying most also had the highest IQs. Confoundingly, though, the opposite was seen in 18 healthy volunteers – those with the lowest IQs had the highest levels of worry.

Study leader, psychiatrist Jeremy

Coplan, hailed the virtues of anxiety, saying too little worry could be problematic for both individuals and society. "Some people are incapable of seeing danger, even when danger is imminent." He pointed to the housing bubble and Global Financial Crisis as evidence of the costliness of such laissez-faire. "If these folk are in positions as leaders, they are going to indicate to the general populace that there's no need to worry."

Matthews agrees it's useful "having the monkey at the top of the tree who

is prone to a bit of anxiety", even if the trigger is sometimes set too finely.

"They go, 'Whoaaaa – there's a tiger!' Oh, no it's okay, it's not a tiger, not a tiger. Sorry about that guys, back to your work.' It's useful, but individually it's hard for the lookout."

Auckland psychologist Grant Amos, on the other hand, thinks the anxious monkeys in business are better off a couple of branches lower on the hierarchical tree. For the top monkey, "You're looking for the one who says, 'Okay, things are tough, but what are we going to do to get through this?' If they say, 'Oh, the grasses are rustling, here comes the tiger' all day, people are going to quit. You want your second or third layers to have a few people worried about the grass rustling. The top person may be worried, but cannot let that dominate or influence – they need to detach and focus on good decision-making."

Businesses with anxious leaders who cut staff and slashed costs in the recession, sure that "everything was doom and disaster", took longer to recover when the economy improved. "Anxiety is the primitive, reptilian brain talking – it's not really thinking," says Amos.

Anxious leaders also risk becoming authoritarian and controlling. "They've got to screw it down because they can't deal with uncertainty."

But as employees, says Harvard psychologist Jerome Kagan – who's spent 60 years studying the anxious temperament – worriers are tops. He hires only the anxious as his research assistants, explaining to the *New York Times*, "They're compulsive, they don't make errors, they're careful when they're coding data and are generally conscientious and almost obsessively well-prepared."

Matthews says anxiety is also associated with high integrity and regard for our fellows, although some don't always show their thoughtfulness "because that would involve being assertive, which many of them aren't. They're well-read and they're often deep thinkers."

And, frequently, they're just a bit obsessive. As Californian psychiatrist Allan Mallinger noted in his 1992 book *Too Perfect*, they're "solid, good people of the world: honest, reliable, hardworking, responsible, exacting, self-controlled". But it's the very traits that bring them success that can cause serious problems when, as the book's subtitle puts it –



A remembrance service in Hagley Park, Christchurch, on February 22, 2012.

ANXIETY AFTERSHOCKS

If anyone has an excuse to be anxious, it's Cantabrians. Nearly four years on from the earthquakes and aftershocks that ravaged the city, many survivors are still struggling to manage their shredded nerves.

Psychiatrist Caroline Bell, clinical head of the Anxiety Disorders Unit in Christchurch, says therapists are seeing a new group of patients with anxiety problems – those with no history of mental health issues, “highly in control, highly competent, highly organised people – people who’ve been the absolute rocks of their community”.

In the immediate aftermath of the quakes, she says, these people “just carried on desperately trying to be in control, sorting everything, usually not their own needs but looking after other people”. But as time has gone on, they’ve realised they weren’t – and couldn’t be – in charge of their own lives because of issues outside their control.

“It’s rocked their whole view of the world. You think you live an organised life, you do things right and if things go wrong, you can sort them. You can contact someone who can make it right; you can find a way through it in a calm manner because you’re a reasonable person. You just have a reasonable conversation or write a reasonable letter and you’ll solve it. And that’s just not the case. That doesn’t work in Christchurch.”

A clinic set up for people with extreme, earthquake-related post-traumatic stress is receiving about 10 referrals a month – down from 15-20 two years ago, although most are being treated by GPs or counsellors in the community.

A common risk factor for those having long-term problems is a “terrifying” perception of what they experienced in the quakes. “If your perception was that you were going to die, your experience of that overwhelms everything you could possibly think of. It’s not that you had to be in a building that fell down, or you saw lots of terrible things, it was how you perceived it at the time.”

It’s difficult to know why some survivors experienced the same threat so differently, but Bell says it’s likely genetics plays a part. “Your instinctive way of responding to stress is different. It could be genetic, or that you’ve grown up in an environment where you learn how crises are handled without consciously noticing. It’s likely to be a combination of both.”

The “in control” group now seeking treatment has done well with cognitive behavioural therapy. “They get it, and once you get it, it makes sense.”

People having severe post-quake problems are being recruited for a study which compares them with those who identify as resilient. They’ll have brain scans and memory and neuropsychological tests to try to identify important differences.

While it’s said that catastrophes can ultimately act as a sort of immunisation which can make a population more resilient, Bell says in Christchurch, that hasn’t happened yet. “People are at hugely different places. Some are positively thriving and others are still really anxious. It’s changed people’s view of the world.”

ANXIETY IS OUR MOST COMMON MENTAL HEALTH PROBLEM.

being in control gets out of control.

Any number of triggers can tip the balance, says Matthews. Sometimes, people chronically exposed to high stress and demand can simply wear out or burn out. Or a change in circumstances alters someone’s perceptions of their ability to manage. For the “slight obsessive” who likes to be in control of their finances, for example, the GFC or an illness can turn niggling worry into pathological anxiety.

With about 15 per cent of New Zealanders estimated to have active anxiety disorders – putting us third in the world behind the United States and Ukraine on 2011 figures (Ukraine could well have surged ahead of us by now), anxiety is our most common mental health problem. Last year, more than 330,000 prescriptions for anti-anxiety drugs alone were dispensed – up 20 per cent in less than 10 years.

In an informal survey *North & South* conducted among nearly 1800 readers, 30 per cent said they’d had an anxiety disorder diagnosed at some time in their lives; more than half in the past five years.

The psychiatric diagnostic bible DSM-V lists six types of anxiety disorder – social anxiety, post-traumatic stress, phobias, panic, obsessive-compulsive disorder and generalised anxiety, typically lasting six months or more.

But for those who can manage and control it – as most do without the need for professional help – anxiety has plenty to recommend it. “If you experience anxiety generally, then you’ll be more applied, you’ll be structured and organised,” says Matthews.

And, often, a top performer. Witness the celebrities opening up about their anxiety disorders – David Bowie, Johnny Depp, Eric Clapton, Nicole Kidman, Alanis Morissette and Rebecca Gibney among others all say they suffer panic attacks, while Charlize Theron, Cameron Diaz and Justin Timberlake are said to suffer from Obsessive Compulsive Disorder (OCD).

Hollywood might be a hotbed of illegal substances from hash to heroin, but it’s clearly also awash with adrenaline, the biggest performance-enhancing drug of them all. “Adrenaline,” says Matthews, “helps you react, respond, think faster, think more.” Along with talent, it’s a key to doing your job well.

“There are obsessive compulsive perfectionist surgeons who don’t see me. That doesn’t mean their lives are okay,” he says. “They would be very good at what they do, but it doesn’t mean their non-work lives are always good. Sometimes their relationships are affected, sometimes their happiness in life is affected.”

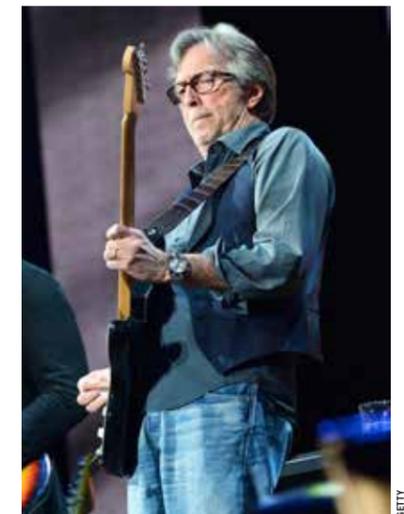
But would he want that same guy doing his heart surgery? “Absolutely.” And would he care if his home life wasn’t so flash? “Well, no, actually. I know that sounds a bit selfish, but actually I don’t. I would choose to have slightly obsessive professionals helping me in my life and that’s useful, because they have high standards, they follow through, and they’re disciplined.”

He says many patients with anxiety fear when they come for treatment that they’ll be told not to worry. “They say ‘Don’t make me not worry, because worry helps me.’ But we want to help them to worry in a way that’s not unhelpful.”

While the recognised “gold standard” treatment is cognitive behavioural therapy – helping people to understand the symptoms and their triggers, and recognise and address unhelpful thoughts – psychologists also recognise “defensive pessimism” as a useful strategy.

In her 2001 book *The Positive Power of Negative Thinking*, American psychologist Julie Norem promoted the “almost heretical” argument of using pessimism to control anxiety. By setting high standards but lowering expectations, says Norem, defensive pessimists take pressure off themselves, which in turn makes them feel less anxious. “Research shows that expected disappointments, while still unpleasant, are easier to bear than unexpected disappointments. If we know what to expect, even if we expect the worst, we feel more in control... to defuse the emotional power of the outcomes we’re worried about.”

Defensive pessimists, wrote Norem, “spend lots of time and energy mentally rehearsing, in vivid, daunting detail, exactly how things might go wrong.



Top performers who suffer from panic attacks include (clockwise from top left) David Bowie, Johnny Depp, Eric Clapton and Nicole Kidman, while Charlize Theron, Cameron Diaz and Justin Timberlake are said to have OCD.

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Before a business presentation, they worry that PowerPoint might fail, that the microphone will go dead, that – worst of all – they will stare out at the audience and go blank. Before a dinner party they imagine the sushi will give everyone food poisoning.” But by god, when the time came, they had every eventuality covered.

Although optimism, and accentuating

the positive, might be the perceived wisdom, in psychology, one size doesn't fit all, she wrote. Defensive pessimism allowed anxious people to plan well. In a study in which defensive pessimists were led to believe they would do well in an upcoming task, their performance suffered when they were more optimistic. "They did just fine if left to their pessimism. When we took away their pessimism, we didn't take away their anxiety – we disabled a key component of their strategy."

"Being prepared is a good trait," Matthews agrees. "People when they predict their future are generally happier, but unfortunately if there are distortions in that prediction, and those distortions are catastrophic, it can become overwhelming."

How well we're able to control our anxiety often comes down to something we have no control over at all – our genes.

Kagan's decades of research into heredity in anxiety found up to one in five babies was more timid, distressed and easily startled than others from only a few weeks of age. When they grew up, their brains looked and worked differently from their placid counterparts; they were predisposed to be anxious young adults – hard-wired to fret.

Genetic research into participants in the Dunedin Multidisciplinary Health and Development Study bolstered the hypothesis, reporting in 2003 that the 5-HTT gene – dubbed the Woody Allen gene when its long and short forms were discovered in the 1990s – mediates our responses to stress. The short version is linked – albeit weakly – with neuroticism and the longer variant with emotional resilience. Young men and women with two long genes did not develop depression in response to stress, irrespective of their upbringing. However in those with one or two short genes, adversity led to increased depression.

Then, in 2012, University of Bonn researchers focused on two variants of a gene known as COMT. This gene controls an enzyme that weakens the signal of the neurotransmitter dopamine, and those most likely to be anxious, the scientists found, had inherited two copies of one variant.

Musician Mike Chunn, whose career as bass player with Split Enz and Citizen



Mike Chunn

"THE CHUNN FAMILY, I BELIEVE, HAS ONE LINK THAT'S WEAK. AND IT DOESN'T TAKE A LOT OF EXTERNAL FACTORS TO SNAP IT."

Band was curtailed by his panic attacks and agoraphobia, has long been convinced that genetics played a key role in his own illness.

With four family members having phobias, he says, "the Chunnies have a fragile psychic constitution. We all have a chain of links, but the Chunn family, I believe, has one link that's weak. And it doesn't take a lot of external factors to snap it."

For Mike Chunn, the link snapped one night in 1974 when he took LSD and contaminated Thai sticks, triggering a severe panic attack. Finding himself stuck at someone else's house without a car left Chunn with an enduring fear



Our brains evolved in the Stone Age, when we lived in a world of predators (above left). Now, in the space age, the fight-or-flight reflex that saved our ancestors from a bear might increase our heart rate before a meeting (above right), even though our life is not in danger.

of being away from home – a fatal flaw for a musician travelling New Zealand and later the world. He thought he'd just had a bad drug trip until his second panic attack in Wellington a few months later, when he was playing with Space Waltz on TV talent show *Studio One New Faces*. But this time, there were no drugs – just a chicken dinner.

"Subconsciously, my mind thought, 'Here we are in Wellington, you've got to get home, boy.' That was the first one without drugs, and once you've had one, you're bugged. The link had snapped."

There were about 15 panic attacks over the years, bad enough to wish himself dead. "People talk about how a panic attack makes your hands sweat. I don't give a shit about that," he says. "It's the terror. Say you blinked right now and everywhere you looked there were big spiders. You'd run away. But what if everywhere you went they were still all around you. You think you're surrounded by poisonous spiders, you can't see any, but you still believe they're there – that's the net effect. Reason enough to say the only way I'm going to get out of this is to be dead."

The memory of that chicken dinner in Wellington became a trigger in his mind; to try to prevent another attack, he stopped eating at night and lost kilos. The only way he could feel normal was taking tranquillisers daily, prescribed by his GP dad. "It turned me into a dozy, slightly dreamy, drift person. In the end, in America, the head is going, 'Get

THRUST US INTO A ROOM OF STRANGERS, OR ONTO A STAGE FOR A SPEECH, AND SOME OF US WOULD PREFER TO TAKE OUR CHANCES WITH THE SABRE-TOOTH.

back home, fuck off out of here, get back, go back to your home.' The heart is going, 'We've dreamed of being in a band like this. We've dreamed of being in America playing to sold-out shows in Boston, Washington and New York.' The head is going, 'I don't care.'"

The head won and Chunn's days with Split Enz were over.

He felt the condition almost physically lifting from him on a trip to Sydney in 1992. He'd just scored a job – and his first salary – as head of APRA, the Australasian Performing Right Association, and realised "for the first time in my life, I could provide for my family". He was 40 years old.

Chunn, now CEO of the Play it Strange

Trust, which encourages young New Zealanders into music, didn't seek professional help until 1999, when he had a brief relapse. He says the psychiatrist made him realise the onset all those years earlier may also have been linked to his deep despair when his brother Geoff, Split Enz drummer, left the band in 1974. "I thought we had the perfect band. We were freakin' good. And then he left. I felt we'd let something go... foolishly let it go."

Exposing those feelings for the first time since that day brought him to tears – and still does. But by the end of the session, says Chunn, the psychiatrist told him, "There is no reason for you to have agoraphobia."

"I believed him. I walked out his door and I could do whatever I wanted. I could fly to the moon. That's the mystery of what we call brains. They are very odd."

There are no sabre-tooths in the bushes, our young men don't have to go off and fight in the trenches, and we're not dying of starvation. Yet we've never been more anxious. Why? Why do we get so anxious about things that are never going to kill us? Thrust us into a room of strangers, or onto a stage for a speech, and some of us would prefer to take our chances with the sabre-tooth.

Part of the answer may lie in evolutionary theory. "If you don't make the right social relationships work, you

TOM'S BROKEN OUT INTO COLD SWEATS AND THROWN UP AT EXAM TIME, AND ONCE, IN LATIN, FELT SO FAINT HE HAD TO LEAVE THE HALL FOR A FIVE-MINUTE LIE-DOWN.

aren't going to have a partner, you aren't going to have children, and Darwin would say that's just as bad as dying," says Otago anxiety researcher Professor Neil McNaughton.

"We have to interact with thousands of people in a way the hunter-gatherer wouldn't, so some of where modern anxieties come from may be just a richer source of conflicting situations – particularly the fact that in the modern world, things keep changing"

Dr Henry Plant, a psychiatrically trained doctor with Auckland's Phobic Trust, says it's about how much stress we think we're under and how we deal with it. "The thing that's really changing is that our ability to tolerate stress is

going down, down, down. We have a remote control for the TV, we're pretty well off for food, we're warm, we have cars to take us places. From an early age, we're very comfortable and people have come to expect if there's anything wrong, someone will rescue them."

It's the old cotton-wool generation thing, he says. "If you don't face up to risk, are you ever going to learn?"

Rojolie Clinic anxiety specialist, psychologist Melanie Stapelberg, says while modern society may lack a tolerance for anxiety, and tend to label normal anxiety as problematic, we're all adapting to new stresses every day. "Take someone out of 1914, but give them the demands of learning how to manage a mobile phone and the internet and fit into a modern life that requires all sorts of strange things from you and they'd struggle."

Six minutes into my interview with Stapelberg, I check that the tape recorder is working. "Functional anxiety!" she says, although I call it defensive pessimism. "That teaches you to do enough checks to get what you want – if you were jumping up every five minutes, it'd be dysfunctional."

It's the same instinct that gives us butterflies before a performance or an exam, and the motivation to practise and study hard. "There's a threat to failing an exam."

For Auckland Grammar fifth former Tom, that threat is failing to get enough marks to get into med school. He's broken out into cold sweats and thrown up at exam time, and once, in Latin, felt so faint he had to leave the hall for a five-minute lie-down. But after nearly passing out, he passed – easily.

"I've become more anxious about exams, because I know what they mean now. No one can make me study. I study because I want to do well."

While Tom's slogging over his studies, other teenagers don't even bother to open a textbook but Stapelberg says that, too, can be an anxiety response. "The thought of the exam can be so uncomfortable they avoid it. There's procrastination and it's swept under the carpet."

Generally, though, as anxiety increases, our ability to function increases with it. "With low anxiety, you won't do a good job of anything unless it's an overlearned skill like buttering your toast. Anxiety gets you focused, gets you engaged, gets you problem-solving, prepared and



Harvard research has found one baby in five is more easily distressed than the others.

DEFENSIVE PESSIMIST OR STRATEGIC OPTIMIST?

American psychologist Julie Norem, in her 2001 book *The Positive Power of Negative Thinking*, uses this questionnaire to identify defensive pessimists and strategic optimists.

Thinking about a situation in which you want to do your best in your work, social life or a goal, rate how true each statement is for you, with 1 being not true at all, and 7 very true of you.

- I often start out expecting the worst, even though I will probably do okay.
- I worry about how things will turn out.
- I carefully consider all possible outcomes.
- I often worry that I won't be able to carry through my intentions.
- I spend lots of time imagining what could go wrong.
- I imagine how I would feel if things went badly.
- I try to picture how I could fix things if something went wrong.
- I'm careful not to become overconfident in these situations.
- I spend a lot of time planning when one of these situations is coming up.
- I imagine how I would feel if things went well.
- In these situations, sometimes I worry more about looking like a fool than doing really well.
- Considering what can go wrong helps me to prepare.

• Higher scores indicate a stronger tendency to use defensive pessimism. If you score above 50, you qualify as a defensive pessimist in Norem's studies – below 30 and you're a strategic optimist. If you score between 30 and 50, she says you can use both strategies, or neither consistently.

anticipating what might go wrong. It's the boy scout emotion."

But there's a cross-over point, at which too much anxiety tips the balance and nudges us into dysfunction, such as panic attacks.

"They're perfectly rational people and they are frustrated it happens because there's no reason for it," says Stapelberg. "Explaining that it's a fear response at the wrong time tends to provide a lot of relief and reassurance."

At the Phobic Trust, clinical services manager Emma Barker says it's not generally worries about money, relationships, job or health that bring people into treatment, but rather "fear of the fear".

"Panic attacks are so terrifying that it becomes self-perpetuating. If they have a panic attack at the supermarket, they won't go back to that supermarket or put themselves in a situation where they might not be able to get out of it if they want to, so they develop agoraphobia."

The trust has treated children as young as five and Barker says patients are often "big thinkers, super-aware, very alert people – especially the kiddies who are pretty bright and more vulnerable to noticing potential dangers."

Our perceptions of stress and tolerance to it vary widely, says Stapelberg, who's battled her own anxiety and had therapy in the past. She's used the techniques

PATIENTS ARE OFTEN "BIG THINKERS, SUPER-AWARE, VERY ALERT PEOPLE".

she teaches to others to handle three violent attacks in as many years before she left her homeland of South Africa six years ago.

After an attempted car-jacking, an aggravated robbery and being incapacitated by a pepper-spray-wielding attacker while out jogging, she says she made an "actuarial decision" to leave the country "to save my life".

"I'm not a poster girl for anything, but what I use works and that's why I believe in it as much as I do."

Webb, who we met at the start of this story and would have been one of Kagan's "reactive" babies, says she still has a lot to learn about her anxiety. The child who was convinced her mum wasn't coming back each time she left the room is still irrationally frightened of the same thing.

"Mum lives in Hamilton and, every

time she leaves me, she has to call when she gets home. She knows I can't rest until I know she's okay."

After a spate of terrifying panic attacks, her biggest fear is having the next one. "I'm so scared of them my nightmares are panic attacks." Her life is still, to an extent, dictated by her anxiety, for which she is still on medication. "Every interaction I have, in the back of my head, I'm thinking, 'What are they thinking? Do I smell funny? Do I look funny? Did I say something stupid? Oh my god, I sound so stupid.' I feel sometimes I can't have genuine interactions with people because I can't just be in the moment – I'm thinking ahead and thinking that the person is going to think I'm dumb."

But, at least today she acknowledges the positives. "My anxiety has made me really aware of others in a good way. I've always looked out for people around me and I'm aware if someone is upset. I'm a perfectionist and I will always go the extra mile to make an event amazing. It's somewhere I can use my anxiety."

By pushing herself to do what she fears, she's come further than she expected and takes heart from achieving things she never expected she could. Those positive thoughts help "fight away the little gremlins".

She's hopeful now, that anxiety will keep loosening its grip. Touch wood.



Professor Neil McNaughton

UNDERSTANDING THE ANXIOUS BRAIN

OTAGO RESEARCHER Professor Neil McNaughton has spent his career trying to understand the anxious brain. “It’s taken me nearly 50 years to crack anxiety and I do believe I’ve cracked it. I think I know what it is. I think I know how it’s structured in the brain and I think I know how to manipulate it.”

So what is it? It is not fear, he says, but all those adaptive reactions that occur that help us approach danger rather than run from it. And now he’s published ground-breaking research into what he

believes is the first biomarker – a scientifically measurable brain response – associated with generating anxiety.

McNaughton has recorded a brain rhythm in the hippocampus of rats that is reduced by anti-anxiety drugs and controls goal-conflict response – the “anxiety” that occurs, for example, when a rat wants a food reward but is faced with the risk of a shock or meeting a cat. He’s found the same sort of drug-sensitive rhythm in recordings from the human scalp above the frontal cortex during

“WHAT WE’RE LOOKING FOR IS A BIOLOGICAL CAUSE...”

tests to mimic the goal-conflict effect of anxiety. He has just received a \$1 million Health Research Council grant for further trials to validate the biomarker in patients with fear and anxiety disorders in the hopes of bringing it to clinical use.

To generate the biomarker, participants are told to click the mouse when an arrow appears on a computer screen – but not if they also hear a beep. The timing of the beep is adjusted so withholding their response is easy, difficult, or evenly balanced, so they’re able to refrain from clicking only 50 per cent of the time. The brain biomarker response is strongest when the conflict is evenly balanced between the goal of approach and the goal of avoidance.

The HRC grant will be used to test whether the biomarker response is high in a subgroup of patients with anxiety disorders, and whether it can predict successful treatment. Such a measure could produce better targeting of drugs, now prescribed largely by trial and error. “The current labels of disorders are really just describing buckets of symptoms – ‘spotty high temperature disorder’ kind of thing. What we’re looking for is a biological cause of what may or may not be a standard set of symptoms.”

McNaughton believes the area of the brain most commonly associated with controlling memory – the hippocampus – is, along with the amygdala, a key for anxiety. He and renowned British psychologist, the late Jeffrey Gray, collaborated on research to pin down where in the brain anti-anxiety drugs worked, and what they actually did. Gray’s theory was that the drugs affected the hippocampus and a related area, the septum, and so stopped the brain’s natural behavioural inhibition system working properly. The drugs do this by reducing the conflict-related brain rhythm, which is distinctive in the hippocampus.

“Nobody has ever got a biological definition of any mental disorder,” he says. “We may have the first one of these.” +