

Remarkable New Research About Stress and the Brain

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In a perfect world, stress would come with an adjustable dial. And there would be six day weekends. And coffee, beds and breakfasts would make themselves. What we lack in adjustable dials and the automated making of beautiful things, we make up for in creativity and adaptability, and a profound capacity to protect ourselves from the assault of stress.

We might not be able to stop the stress, but we can stop it causing ruin. New research explains why giving ourselves priority needs to become less of an option and more of a must do.

Relationships, money, children, work, and day to day life stress mean that it's not always possible to adjust the volume and intensity of stress in our lives. What we can do is manage it, but tending to our own needs often doesn't make it anywhere near the 'must do' list, hovering instead on the 'maybe one day when I get a cheque six million dollars and don't have to work or buy my own groceries' list. If you have ever needed a reason to get serious about taking time out to de-stress, remarkable new research has something for you.

Stress and the brain. What they found.

The research by Rockefeller University was conducted on mice, but don't let that take anything away from the findings and what they mean for us humans. Mice are often used in studies because they are so genetically, biologically and physiologically close to humans.

In the study, [published in the journal, Molecular Psychiatry](#), researchers exposed the mice to chronic stress by keeping them in a small space for 21 days. They then looked at the mice to see which of their behaviours had changed. They were also interested to see whether there were any changes in

the brain cells within the three different areas of the amygdala, the part of the brain that regulates emotions such as fear and anxiety.

The exposure to chronic stress caused changes in the amygdala. These changes have been associated with anxiety and depression.

In the first area of the amygdala the researchers looked at, the stress did not appear to cause any noticeable changes.

In the second area, they noticed the branches of the cells had become longer and more complex. This is a healthy change and points to the ability of the mice to adapt to certain environments.

In the third area, they noticed shrinkage of the branches that connected with other parts of the brain. This change is a worrying one. When these crucial connections are lost, the brain is less able to adapt to new experiences. Effectively, it becomes trapped in an anxious or depressed state.

Protecting the Brain.

The research also highlighted a new experimental drug that might protect the brain against these changes.

'While this rewiring from chronic stress can contribute to disorders such as anxiety and can contribute to disorders

such as anxiety and depression, our experiments with mice showed that the neurological and behavioral effects of stress can be prevented with treatment by a promising potential antidepressant that acts rapidly.' *Carla Nasca, researcher.*

The treatment that was used to protect against the effects of chronic stress was acetyl carnitine, a molecule that is being explored for its potential as a rapid-acting antidepressant. The mice who were treated with this drug were more sociable and showed less adverse brain changes, than the stressed mice who weren't treated. Humans and mice both naturally produce acetyl carnitine. Animals that are more vulnerable to depression show a deficiency in acetyl carnitine. Researchers are looking into whether people with depression show the same abnormally low levels.

Here's the rub. As with any physiological symptom, the symptoms of stress are a sign that something needs changing. Chronic stress is a sign that the environment is drawing on more emotional, physical and/or physiological resources than you have.

The promise of the experimental medication is that it will protect the brain from the neurological effects of stress that we know about, but it doesn't get rid of the stress. Stress has other effects on the body and mind, outside the brain.

Of course, it's not always possible to change your life, which is

why protecting your whole self from the effects of stress is so important. Medication may be one part of the answer, but it's certainly not all of it, nor is it the only one.

If I can't reduce stress in my life, what then?

Ok. So you can't leave you job, your relatives, your bills, the traffic and the nailbiting ups and downs of The Great British Bake Off (for the love of lemons why does anyone *have* to leave?) – what can you do instead?

A powerful way to protect against stress is to reframe it. [Research from Harvard](#) has found that [reframing stress as helpful rather than harmful](#) can reverse the physiological changes brought about by stress.

In a massive [study](#) that involved almost 30,000 people, researchers found that people who experienced high stress *and* who believed that it was harmful for them, had a 43% increase in the risk of premature death. However – people who were highly stressed but didn't believe that it would harm them had a risk of premature death that was even lower than people who claimed they had a pretty low-stress existence.

And finally ...

Stress and modern living often tend to come as a bundle. If we

can't change the stressors that cozy up beside us day after day, we need to change the way we deal with them. There are many life-giving ways to put back what stress takes out, including exercise, reframing the way we think about stress, sleeping, playing, connecting with our crew, listening to music, or meditating. The challenge then, becomes finding ways or opportunities to become our own priority from time to time. Life opens up when we love ourselves as much as we love the ones close to us.

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