Why Kindness Is Good For You

Scientific evidence has proven that kindness changes the brain and impacts on the heart and immune system. Scientist and bestselling mind, body, spirit author, Dr David Hamilton, investigates...

Whether you’re being kind or showing compassion, you are changing your brain. In fact, you are always changing your brain, whatever you are doing. This is one of the most exciting neuroscience discoveries of the 21st century.

For a start, the brain changes as we move our muscles. For instance, if you were to move your little finger back and forth for an hour or two and then take an MRI scan of the area of your brain connected to your little finger, it would have changed. The small area that was once governing your little finger would now be a larger area, like a small forest that had expanded. The brain also changes as we think. As ‘out there’ as it may sound, if you were to just imagine moving your little finger back and forth for an hour or two, an MRI scan would also reveal that the forest had grown, and by just as much as when you actually moved your finger.

How does it work?

If you were to zoom in on the brain while you were moving your little finger, you would see brain cells linking with other brain cells and passing information along the connections between them. As you think the same thought over a period of time, you actually create more connections in the brain. And the creation of new connections occurs in the part of the brain that processes the kinds of thought we’re thinking. For instance, thinking compassionate thoughts creates millions of new connections on the left side of the frontal cortex of the brain, which is just above the left eye. Taking another example, moving your right arm creates new connections in a section of the brain known as the motor cortex.

Imagining moving your right arm does the same thing. And, strange as it may seem, imagining moving your right arm over and over again actually makes the muscles stronger. Cellular changes in the right arm occur because of thoughts about the right arm. So, every thought, regardless of what it is about, brings about chemical reactions in your brain and, when it is repeated often, structural changes, too.

Internal wiring

You can be pretty certain that all your inspirations, motivations, loves, fears, hopes and dreams, and even your typical body language, are wired into your brain in the form of connections between cells. These connections become so extensive over time that they even wire into 3-D networks, or circuits, as they are often called.

Acts of kindness, then, find their way into the chemistry and structure of our brain. If kindness becomes a habit, we can significantly alter the wiring of our brain. In fact, as we will examine later, the brain is already wired for kindness. But we are always adding to and changing that wiring.

Throughout life, as we learn new things, grow, change our minds and even change our habits, new networks of new brain connections are laid down and old networks unravel. This neuroplasticity occurs right up until the very last seconds of our lives. One of the benefits of it is that it actually allows the brain to get over injury and disease, as healthy brain cells compensate for damaged ones by sprouting new connections to take over some of their communications or pass the information through the brain by a slightly different route.

To take a simple example, say a person wanted to learn a new skill like playing a musical instrument. The neural circuits involved in coordinating their finger movements and hearing the precise sounds made would initially be quite small and ill-defined. But after a few weeks of practice, more connections would have been laid down and the circuits would have become much more defined. Many, many millions of

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brand new connections between brain cells would have sprouted, like newly planted saplings growing into a thriving forest. In one neuroplasticity study, conducted by scientists at the University of Regensburg in Germany, volunteers learned to juggle three balls over a three-month period. When MRI scans were taken of their brains, the area that processed visual movement had grown larger. Millions of new connections had sprouted, increasing the size of the circuits needed for coordinating the juggling movements.

So, when you change yourself in any way, you change your brain. And if you bring more kindness into your life then you will bring about chemical and structural changes to your brain that will help to establish kindness circuits. You will wire your brain for more kindness.

What does this mean for us in daily life? It means that we can change our habits. We needn't be at the mercy of thoughts like 'That's just my personality' or 'It's in my genes so there's nothing I can do about it.' Negative habits can be replaced with positive ones, selfish ones with kind ones, suspicion with trust, hostility with empathy and complaints with gratitude. And it's not just the brain that changes as we change our thoughts and behaviour. The body changes, too, at the cellular level.

Neuropeptides

The way it works is that chemicals known as neuropeptides are continually manufactured in an area of the brain known as the hypothalamus. From there, many flow into the pituitary gland and are released into the bloodstream in response to our thoughts and emotions. As these 'molecules of emotion', as Candace Pert, one of the scientists who pioneered the study of the mind-body connection, calls them, circulate around the bloodstream, they carry information to different parts of the body. Many of them pass this information into cells by fitting into receptors on the surface of the cells. Think of a child's toy where different-shaped blocks have to be fitted into different-shaped holes. There's often a circle, a triangle, a square and a wavy shape. The neuropeptide is the block and the receptor is the hole that it fits into. The cell is the table or other object that the holes are on. In biological terms, when the block fits into the hole, i.e. when the neuropeptide fits into the receptor, information is passed to the cell. Another way to think of it, less colourful but slightly more accurate, is to think of the neuropeptide as a space shuttle. For it to dock on to a space station, which would be the cell for this analogy, its docking port has to be the same shape as the docking port on the station. When it docks, an astronaut could walk into the space station and enter new information into its computers.

In the same way, a neuropeptide fits into its receptor and passes information to the cell, entering new instructions into its 'computer', which, for this analogy, is the DNA. So some of the information activates or deactivates genes.

In this way, our thoughts, attitudes, beliefs and emotions impact us at the cellular and genetic level. It's happening constantly, throughout the brain and body. It's actually impossible to disentangle your mind from your body. The effects of your thinking and feeling, your loves and fears, your attitudes, behaviour and relationships are all felt at the genetic level.

Thought power

That thoughts affect our genes is not as sensational a claim as you might think. It is a perfectly natural process that occurs 24 hours a day, 365 days a year in the brain and body. It is merely that few people realise it. This is, in fact, why protein or hormone levels in the body can rise and fall in response to a thought. When a signal in the form of a neuropeptide reaches a cell and sticks on to a receptor, information enters the cell and it might tell a gene to switch on. Therefore, a hormone, protein or enzyme is formed and released from the cell. So, as our minds enter periods of, say, stress or calm, genes are switched on or off and the corresponding hormone or protein levels rise or fall in response.

To take a real example; stress causes some genes to turn down their activity that are actually required to repair the body. In one study into wound healing following an operation, over 170 genes were affected by stress and around 100 of these, some of which were supposed to make proteins to facilitate wound healing, were turned down. The wound, therefore, took more than 40 per cent longer to heal.

The other side of stress is calm. It is no surprise to learn, then, that meditation turns down genes that

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**Oxytocin in the brain**
Oxytocin is a neuropeptide made up of nine amino acids. It is made in the brain in an area known as the hypothalamus and new studies show that it is also made in the heart. In the brain, it is delivered from the hypothalamus to the pituitary gland, where it is stored for release into the bloodstream. When released, it travels around the body and carries out different roles, serving as a hormone.

Oxytocin is produced in copious quantities when we connect with others and when we’re in love. It has even been affectionately called the ‘love hormone’. Levels of oxytocin rise when we have sex, especially during orgasm. Even simple loving touch stimulates the release of a flood of oxytocin into the bloodstream. In fact, any sense of connection with another person, or an animal, produces oxytocin.

When you perform an act of kindness, especially where it involves face-to-face contact with the person involved, the momentary connection between you generates oxytocin in both you and them. In a sense, it could also be called a ‘molecule of kindness’. And when you hug someone, oxytocin flows through both of you. Indeed, it has even been called the ‘cuddle chemical’.

**Gaining trust**
As well as being released into the bloodstream, oxytocin projects into the brain and moulds our behaviour. One of the simple consequences of this is that the more oxytocin in the brain, the more trusting we are. Our barriers go down. We become less shy and more confident, which helps us to make connections that we might not ordinarily make. One study even showed that people looked at other people’s eyes in photographs for longer after they had been given a burst of oxytocin.

Trust is a big issue in business. Standard economics tells us that we are inherently untrustworthy, selfish creatures and don’t consider the feelings of others. The ‘greed is good’ philosophy is considered acceptable. Economics models base predictions on a ‘self-first’ philosophy. But these models fail to describe the richness of human behaviour, the fact that, at times, we’re more likely to be selfless, even at significant cost to ourselves, and we do care how others feel. Real interactions in daily life and in business often involve sharing and cooperation. Oxytocin research is beginning to show us that we are indeed wired to show kindness, to commit selfless acts, to cooperate and share and trust. It’s showing us that we have warm hearts and that our brains are wired for trust and generosity. Some of this research is coming from the growing field of neuroeconomics, which looks at what happens in the brain when we make economic decisions.

**How to produce oxytocin**
Oxytocin is called the ‘love hormone’ because it is produced when we’re in love. Here’s a rundown of some of the ways in which we can produce oxytocin...

1. **Express emotion**
   A 2007 study led by scientists at the University of Groningen in the Netherlands showed that differences in how people expressed emotions were linked with oxytocin levels. Reduced emotional expression was related to the susceptibility or rate of progression of breast cancer. Women who suppress emotion, especially negative emotion, are more at risk than those who easily express emotion, and for women who have breast cancer, the disease progresses fastest in those who suppress negative emotion.

2. **Get a massage**
   A 2008 UCLA study found that having a massage stimulated the release of oxytocin.

3. **Support others**
   Research by scientists from the University of North Carolina at Chapel Hill has shown that greater support from a partner is associated with higher blood oxytocin levels. The study involved 58 couples who were living together. They reported on how much they supported each other, which was considered an indicator of the closeness of their bond. Those who had the greatest amounts of oxytocin in their blood were the ones who had reported the most warm support. Research has indicated that even the anticipation of warm support might increase oxytocin levels.

4. **Stroke a pet**
   When we can’t be with another person, a pet is a great substitute. A loving pet is sometimes the only source of love in a person’s life, and it can even save that life. Stroking a dog or cat actually reduces our blood pressure, and stress and even wards off depression. It even reduces the blood pressure of our pets. Stroking a pet also elevates our oxytocin levels. In fact, they almost double.
Reducing anxiety
Not only does oxytocin help us trust more, but it is so good at reducing fear and anxiety, especially fear and anxiety about people and their behaviour, that it can help us change a negative opinion about someone, even turn an enemy into a friend. This is so important in life. Changing negative opinions about others starts us on the road to better-quality relationships, and these improve our health. In a 2017 study conducted by scientists from University College London, the participants had to look at a number of faces while inside an MRI scanner. Some faces were preconditioned to produce fear in the participants. To create this fear, scientists gave the participants an electric shock when they looked at those faces. This produced activation in the amygdala, which we know is an area of the brain linked to fear and anxiety, and also the fusiform face area, which is related to recognizing facial identity. Together, these brain areas signal that a face equates to a threat of some kind. After being shown the faces, the participants were taken out of the scanner and approximately half inhaled oxytocin spray and the other half a saltwater placebo. After 45 minutes, they all went back inside the MRI scanner and once again looked at the faces.

Those in the placebo group reacted negatively to the faces that had had the shocks attached to them and gave them low likeability ratings. However, those who had received oxytocin had absolutely no adverse reaction to those faces and even rated them as likeable. Having turned down activity in the amygdala, oxytocin had deleted the negative reaction to the faces.

In the participants who had received the placebo, there was significant activation in the amygdala, indicating fear or an anxiety about the faces. However, in the oxytocin group there was no activation. Oxytocin had fitted into oxytocin receptors in the amygdala and turned down its activity, producing a different feeling. In the placebo group, there was also significant activation in the fusiform face area, indicating a negative association with the faces. But this activation was again neutralized by oxytocin.

This is what kindness can do. It can turn an enemy into a friend, at least in our own minds, which is where the change first needs to take place.

Face recognition
Other recent research has linked oxytocin to the recognition of faces, even when there's no threat involved. In a 2009 University of Zurich study published in the Journal of Neuroscience, 44 men were shown photographs of faces, landscapes and pictures. Before looking at the photos, 22 of them had inhaled a dose of oxytocin and the other 22 had inhaled a saltwater placebo. The next day they were asked to look at more photographs.

Some of these were new photographs, but some were ones they had seen the previous day. The men were asked to note if they had seen any of the photos before. Those who had received oxytocin were much better at remembering the faces they had seen the day before. As you would expect, there was no difference when they were viewing the landscapes or sculptures, because oxytocin relates to our connections with people. Since we generate oxytocin through our behaviour, this shows we can increase our ability to recognize people and even help ourselves get over negative opinions about others. And all we really need to do to start this all off is to be kind. And have you noticed that when you feel good, when you're in love or you feel connected in some way, you find others more likeable and more attractive? Studies show that not only does oxytocin help us change negative feelings about people, but it also causes us to find others more attractive.

In a study led by psychologist Angeliki Theodoridou, men and women who received doses of oxytocin and then had to rate the attractiveness of a stranger. It was a double-blind placebo-controlled trial involving 96 men and women. Half received a dose of oxytocin and half got a placebo, which was a simple salt solution. Then they rated the attractiveness of 48 men and women. Those who had received the oxytocin gave both men and women higher attractiveness ratings and also regarded them as more trustworthy than those who had received the placebo.

Oxytocin could even help autistic people. Indeed, in a study led by Dr Eric Holland of the Mount Sinai School of Medicine in New York involving autistic adults, it improved their recognition of emotions in a tone of voice. In the study, 15 adults autistic patients were given either oxytocin or placebo injections. Afterwards, those who had received oxytocin were much better at reading the emotions than the others. And the positive changes lasted for nearly two weeks. Scientists at the same university have now shown that oxytocin nasal sprays improve autistic patients' abilities to read and interpret facial expressions as well.

Kindness rules
So oxytocin helps us see others in a better light, remember them and even be better judges of their emotions. With it, we become more skilled at dealing with and interacting with people. And the key to generating it is to be kind.

There is so much that kindness can do for us. But few of us realise just how important and life-changing it is. Henry James, the 19th-century American-British author, wrote, “Three things in human life are important. The first is to be kind. The second is to be kind. The third is to be kind.” And the benefits go far beyond improving our relationships with each other.

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Oxytocin can help people connect