Gratitude on Thanksgiving

The story of Bill Conner of Madison, Wisconsin is not one that would automatically bring gratitude to mind. He became famous for his 2600 mile cycle to the Fort Lauderdale Broward Health Medical Centre, where his daughter’s organs had been prepared for donation. Abigail, at just 20 years old, had been found face down in a pool on her winter holiday with her brother in Mexico. She suffered irreversible brain injury and was kept on life support until doctors could harvest her organs.

Abigail donated four organs, and the donation centre which handled them sent letters to each recipient when they heard about her Dad’s cycle, asking if they would be interested to meet the donor’s father. Loumonth Jack Jr., who received Abigail’s heart, responded. They met on Father’s Day. Loumonth gave Bill a stethoscope so he could hear his daughter’s heart beating. “I’m happy for him and his family”, Bill said, “and at the same time I get to reunite with my daughter”. Loumonth told the gathered television crews “She saved me and I can’t repay her. All I can do is send my love to her family”. [You can watch the video of their meeting here].

These two men find themselves on opposite ends of a tragic story. One family loses a daughter, and one gets to keep a son (Jack was given 10 days to live when he received word of the heart donation). But yet they find common ground in the gratitude they both express – in an irrevocably skewed balance of life, they both share gratitude for the daughter, the donor.

Gratitude is considered by some to be an evolved trait. We all know from personal experience that we are more likely to help those who appreciate our efforts. As such, it can be seen as a ‘social emotion’ with knock-on effects. People tend to like you more if you are grateful, and dislike you if they feel you are ungrateful.

It is an accepted social norm by now, an expected response on receipt of something from someone else, even when that was merely the outcome of a transaction – like buying an apple. It is expected that you say thanks. Parents berate children for not doing it, and we don’t like it when we don’t get it, even at the transactional level. We are also told to be grateful – think of all those people who aren’t as lucky as you when I was growing up we didn’t have all the stuff you haveetc. It’s true, expressing gratitude is a good thing. It’s good for you and good for those around you. It turns out it’s good for your body and brain too. But not all gratitude is the same. The type of gratitude you practice is the key. Being reminded that your Grandad had to walk to school in his bare feet doesn’t do the trick.

A series of studies by Emmons and McCullough in 2003 (1) found a range of benefits to the regular practice of gratitude (what they term “focusing on one’s blessings”). People who were consciously grateful – those asked to keep journal entries with the instruction ‘there are many things in our lives, both large and small, that we might be grateful about. Think back over the past week and write down on the lines below up to five things in your life that you are grateful for” (p.379) – had a range of benefits. They had more positive and optimistic views on their life, they spent more time exercising and reported fewer physical symptoms. In one study in this series, the experimenters ‘manipulated’ gratitude by including specific gratitude examples, such as “I am grateful to my boss for understanding my needs”. This facilitated gratitude even further in this group, all of whom had adult-onset neuromuscular disease.

But for those of us brought up on the nuanced motivational messaging which included thinking of the starving babies in Africa or isn’t it better than a kick in the arse, the practice of actual gratitude for things in your life had more positive effects than just comparing yourself to others who could be considered less fortunate. It was also better than merely reflecting on major life events. These results are quite robust; there was random allocation of participants in all three studies, and mediational analysis – analysis to prove the effects found were caused by the specific intervention in question and not just a general effect of “being intervened upon” – revealed the effects were specific to the gratitude itself. In other words, specifically focusing on things to be grateful for, rather than focusing on the negatives or how much better off you might be compared to others, is good for your health.

What is happening in the brain?

Roland Zahn and his colleagues (2) examined the brain basis of a range of human social values using functional magnetic resonance imaging (fMRI). They asked their participants to read sentences about themselves and their best friend, designed to evoke particular emotions. For example, a participant called Lisa who has a best friend Michelle would read sentences like “I am grateful to my boss for understanding my needs”. This facilitated gratitude even further in this group, all of whom had adult-onset neuromuscular disease.

When participants reported gratitude feelings, the mesolimbic reward network and basal forebrain regions were activated. The mesolimbic reward network, as the name suggests, is an important region in the experience of reward. The main neurotransmitter of this network is dopamine, a key messenger in the reward-motivation system. Thus, experiencing gratitude can automatically and directly activate reward networks in the brain, making us feel good, with all the knock-on benefits to body and brain. To put this area in context, this is the brain area that gives us the reward we feel when we get food, sex, drugs or money. It is a really key area in our motivation and drive, and is even activated when we decide to engage in altruistic behaviours like donating to charity (3).

Other areas which were activated by gratitude were:

- The ventral tegmental area (VTA): the dopamine-producing brain cells of the reward network just mentioned originate here in the VTA. It
is widely implicated in both the drug and natural reward circuitry of the brain, and plays an important role in motivation and intense emotions relating to love.

- **Septum:** although relatively little is known about the function of this area, it is often linked to emotions, and its proximity to structures like the amygdala and dopamine-rich VTA suggests some role relating to emotions and reward. It has also recently been implicated in pair-bonding, rewards from affiliation, and learning (3) (4) (5)

- **Hypothalamus:** a central area in the regulation of the endocrine system via the pituitary gland, with knock-on effects on the release of adrenaline in the body. As such, it has a very important role in the regulation of many body and brain functions, as well as regulating the brain and body’s response to external events, most notably regulating the stress response.

To add to the rich complexity of the brain’s response to feeling gratitude, another system which is regulated by oxytocin (the ‘love’ hormone – also released when we practice self-compassion) is involved. This system is implicated in pair bonding across a range of species, and contains the cingulate gyrus, lateral septal nuclei, medial preoptic area, mediobasal hypothalamus and the VTA (4) (5). What is important is that this brain system is modulated by oxytocin (6), the same hormone that is released when we are in love, feeling soothed and safe, when we engage in sexual activity, give hugs, interact with friends, etc. It has also recently been shown to be involved in the experience of trust.

Thus, expressing gratitude gives your brain a little reward each time you do it. It also stimulates the trust and love hormones. It switches off stress and fight or flight. It downregulates the brain system which fuels the high blood pressure and racing heart we get when we are stressed. It mimics the effects of getting money or food or sex, and is good for your body and brain. All with no negative side-effects.

Now if that was a pill, wouldn’t you take it every day?

**Key points:**

- Practising gratitude gives your brain a dose of reward chemicals and activates many pleasure networks of the brain
- When you express gratitude, the same brain areas activate that are at work when we receive food, sex, drugs and money – your brain really loves it!
- The type of gratitude you practise is key – focus on things you are really grateful for, no matter how small. Just reflecting on your day or life events is not the same, and neither is just comparing yourself to others who seem less fortunate
- Expressing gratitude is an antidote to stress – it switches off the stress response and protects your brain and body from the negative effects of stress

Like any skill, you should take a small amount of time to express gratitude every day. Try it first thing in the morning and last thing at night. Spend 30 seconds listing things you are grateful for, no matter how small. Maybe when you are brushing your teeth or just when you’ve switched off the light, take a few moments to list 10 things – a nice message from a friend, the clean sheets on the bed, toothpaste, a good relationship, the music on your phone, etc. It doesn’t matter how small, just list it consciously for a few moments. By doing so, you can have a very positive impact on your brain and body.

**References:**

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I lost my beautiful daughter at 16 in a car accident. She made a tragic mistake while driving, and it cost her her life. Then less than 2 years later my oldest child, a son, died of a drug overdose at the age of 20. My son was very close to his sister who died and fell into the trap of pain relievers and heroin. My definition of happiness is very different now than before the loss of my children. But journaling and talking with other parents who have suffered the same loss have both been very therapeutic for me. I wish I could tell you it gets better but it doesn't - it just gets more bearable. But you will laugh again - you'll never put down the burden you now carry, but you'll begin to see beauty again and one day you'll start to breathe again.