The science of happiness

As we saw in the last chapter, *happiness matters*. In fact, if you ask me the big question "Why are we here? What is the meaning of life?" I think the answer is quite simply that we are here to be happy and make each other happy. And given that leaders by definition have a large influence on other people, and therefore a large potential for creating happiness or unhappiness, it's especially important for leaders to put happiness first.

Given all that, we have to answer a very simple question: What makes people happy or unhappy? If we don't have solid answers for this question, there is no way for us to reliably increase happiness.

Fortunately, we now have actual scientific evidence to help us answer this question, coming from two fascinating fields: Positive psychology and neuroscience. Let's look at the main findings from these two fields that are relevant for leaders.

Positive psychology

Traditional psychology looks at everything that can go wrong with our minds - psychosis, neurosis, phobias, depression, etc. - and asks how these conditions can be treated or cured. It's an incredibly important field that has had tremendous success in easing human suffering.

But in the last 40 years, some psychologists have started asking the opposite question: When are we happy? What does it take for people to live good lives and thrive psychologically? This is called *positive psychology* and it's discovered many fascinating and surprising things about happiness.

What I especially appreciate about positive psychology is that it is entirely evidence-based. This is not about feel-good fluffy guesswork, this is about doing hard research involving hundreds of thousands of people all over the world to figure out what the good life is.

Here are some of the most important findings from positive psychology that are relevant for leaders.

Happiness is about emotions over time

There are many ways to define happiness but the most useful seems to be this:

Since happiness is ultimately about peoples' emotional state, it's important to recognize that emotions change constantly and that no one can be be happy all the time.

If you were to draw an emotional map of someone's day it might look something like this:

XX figure

The goal is not to lead a life where people are at 9 or 10 all the time, the goal is to create as much happiness as possible for as many as possible. In mathematical terms, the goal is to maximize the area under the graph for all people combined:

XX figure

We can do this in three ways:

1. By creating more or higher emotional peaks from good experiences
2. By reducing the number or depth of troughs caused by bad experiences
3. By raising our set-point - how happy we feel in the absence of external stimuli

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You *can* raise your own and others' happiness

Can people affect their own happiness? Or is a person's happiness pre-determined and unchangeable? If the latter were the case, we might as well give up now, right? The most fascinating research on this comes from the Minnesota Twin Family Study which compared happiness levels between identical and fraternal twins. They found that[1]:

> *Identical twins reported similar levels of happiness, while fraternal twins exhibited greater variation in their reported sense of well-being.*
>
> *Lykken and Tellegen concluded that nearly half of happiness can be accounted for by genetic factors. The other half is determined by life's everyday ups and downs.*
>
> *In other words, everyone is born with a certain "set point" for happiness in the same way that your household thermostat is set to maintain a certain temperature in your home. Tragedies and pleasures might affect your level of happiness. But eventually you will return to your genetic set point, just as the temperature of your home will return to your thermostat's set point after you have let in cold air by opening a door or window.*

So while some people are genetically pre-disposed for happiness and others are not, it's important to remember that genetics aren't destiny and the research clearly shows that people absolutely can do things to make themselves and others happier.

The research in positive psychology clearly shows that there are ways to increase our own happiness. You can increase happiness in the short-term, i.e. in ways that make you feel better here and now but the research also shows that there is a cumulative effect so that you can in fact raise your long-term happiness (your set point) through a concerted effort over time.

Emotions matter - a lot!

Emotions are fleeting, but that doesn't mean we can dismiss them because people's emotional state over time turns out to have huge effects. First of all, and maybe most obviously, studies show that positive emotions have large cognitive effects, making us:

- More creative
- Better able to learn
- More resilient in the face of setbacks and challenges

Essentially we now know that when you experience positive emotions, your mind functions in a broader and more open way, what Barbara Fredrickson, one of the leading researchers in positive psychology calls the broaden-and-build effect:

> *The broaden-and-build theory of positive emotions suggests that positive emotions broaden one's awareness and encourage novel, varied, and exploratory thoughts and actions. Over time, this broadened behavioral repertoire builds skills and resources.*

This is also confirmed by the research performed by Teresa Amabile and Steven Kramer who found that:

> *If people are in a good mood on a given day, they're more likely to have creative ideas that day, as well as the next day, even if we take into account their mood that next day.*
>
> *There seems to be a cognitive process that gets set up when people are feeling good that leads to more flexible, fluent, and original thinking, and there's actually a carryover, an incubation effect, to the next day.*

1 https://mctfr.psych.umn.edu/research/happiness.html

A person's emotional state over time also affects their mental and physical health. Happy people experience:

- Less stress
- Fewer depressions
- Lower rates of cardiac disease
- Fewer strokes

Finally, happy people are more successful in life and at work. One fascinating paper looked specifically at the impact of our emotional state[2]:

> *Our focus in this article is on happy individuals -- that is, those who experience frequent positive emotions, such as joy, interest and pride, and infrequent (though not absent) negative emotions, such as sadness, anxiety and anger.*

Using this definition, they found that:

> *Happy people appear to be more successful than their less-happy peers in three primary life domains: work, relationships and health.*
>
> *The results reveal that happiness is associated with and precedes numerous successful outcomes, as well as behaviors paralleling success.*
>
> *Furthermore, the evidence suggests that positive emotions - the hallmark of well-being - may be the cause of many of the desirable characteristics, resources, and successes correlated with happiness.*

Some people argue that emotions don't belong in the workplace. We should leave them at home and come to work and be calm, cool and professional. In light of the research, this attitude makes no sense at all. Emotions are integral to who we are and they're coming with us everywhere we go whether we want it or not.

Satisfaction is not happiness

Many people equate satisfaction with happiness. This is a mistake. For instance, many leaders ignore happiness at work and instead focus on *employee satisfaction*, many companies measure *customer satisfaction* instead of customer happiness and many countries look at the *life satisfaction* of their citizens instead of on how happy they are.

And while the two terms are definitely related, they're still very different. For instance, job satisfaction is what you *think* about your job. When you sit down and weigh all the pros and cons, how satisfied are you with your work situation. This is very much a rational, intellectual, thought-based process that takes place only when you make a conscious effort to think about these things, e.g. once a year when you complete a staff satisfaction survey.

Satisfaction	Happiness
More rational	More emotional
Takes effort and focus	Happens automatically
After the fact	In the moment

2 https://www.ncbi.nlm.nih.gov/pubmed/16351326

Few beneficial effects	Many beneficial effects

As we saw previously, happiness is about emotions over time, so happiness at work is how you *feel* about your job. On a typical workday, how do you feel? This is automatic and takes place all the time and hence tends to affect us much more deeply than satisfaction, which only matters we we are consciously making an effort to think about it.

In other words, satisfaction is how happy you are while you think about how happy you are (which is rarely). Happiness is how happy you are the rest of the time while you're actually going about your life, which is hopefully the vast majority of the time. That alone makes happiness much more relevant than satisfaction.

As we just saw, our emotional state over time has a huge effect on our well-being and performance - satisfaction on the other hand turns out to have very few beneficial effects. For instance, there is a very weak correlation between job satisfaction and employee performance.

Also, there is no way you can energize or excite yourself or other people in your workplace around the theme of satisfaction. “Come on, everybody, let’s make this a workplace where we can all be satisfied with our jobs!” is not exactly the rallying cry of the century.

Seriously, do you want to spend your working life simply being satisfied? When you look back on 50 years spent in business, do you want to be able to say, “Well, I was perfectly satisfied”? No! Make happiness your goal. As in, “Let’s make this a workplace where people are happy to work and which spread happiness to our customers and community.” It has way more potential and sends a much clearer and more interesting message.

Emotions are contagious

Here's a story I heard from a participant at one of my speeches:

> *I had a manager once, who clearly loved his job. He was seemingly always in a good mood, had a smile on his face and was always ready to share a joke or a laugh. Even if you came to him with bad news (maybe you were going to miss a deadline), he'd listen calmly and help you figure out a plan B.*
>
> *His mood spread to the entire team who loved working for him and would go through fire for him.*

Emotions are contagious and tend to affect those around them. Happy people lift the mood of everyone around them and unhappy people bring everyone else down.

In one fascinating experiment[3] a group of subjects were told to have a meeting where they acted as managers on a salary committee negotiating the allocation of a limited sum of bonus money to their employees. Each participant played the role of a department head representing a candidate from his or her own department who had been put forth for a merit bonus increase and was trying to get as much money for that candidate as possible.

The test subjects thought they'd been assigned to present their case in a random order, but in reality the first person to speak was an acting student who was secretly a confederate of the experimenter. These types of experiments can be quite devious. The actual content of the confederate's presentation was always the same, but his mood would be either very pleasant with frequent smiles or very unpleasant and negative. The experiment found that when the confederate displayed happiness, the other participants became happier and the group worked better together.

One study even found that happiness spreads from person to person up to three degrees of

3 http://web.media.mit.edu/~tod/media/pdfs/EmotionalContagion.pdf

separation, meaning that if you are happy, the friends of your friend's friends are measurably happier too[4].

Research also shows that the more attention a person gets, the more that person infects others with their mood. Since leaders by definition receive much more attention, this means that their emotions are the most contagious. In other words, you can make people around you happier, simply by being happy yourself.

Negativity bias

Our minds focus more on anything that's bad than on the good. One fairly depressing review article entitled "Bad is stronger than good" sums it up like this[5]:

> *Bad emotions, bad parents, and bad feedback have more impact than good ones, and bad information is processed more thoroughly than good. Bad impressions and bad stereotypes are quicker to form and more resistant to disconfirmation than good ones.*
>
> *Hardly any exceptions (indicating greater power of good) can be found. Taken together, these findings suggest that bad is stronger than good, as a general principle across a broad range of psychological phenomena.*

Why do we have this negativity bias and why is it so pervasive? The best guess comes from evolutionary psychology. Imagine two young cavemen walking through a field on a beautiful sunny day. To their right is a dense bush and suddenly they hear the rustling of what sounds like a big animal in that bush.

One of the cavemen has a strong negativity bias. He immediately thinks "I bet it's a sabertooth tiger that wants to eat me," and runs away as fast as he can. The other caveman is a much more positive and optimistic soul who instead thinks "What an interesting sound, I bet it's something fun and interesting. I should go check it out." He gets eaten by the sabertooth tiger and never gets to pass on his genes to the next generation unlike his more negative friend who gets to live and have kids.

While this negative focus was great for our survival in more dangerous times, it is still with us now and still affects every aspect of our thinking. This is worth watching out for, because when we overfocus on the negative, which we do, everything ends up looking worse than it is. Many workplaces are plagued by negativity bias and somehow manage to only focus on and talk about failed projects, late deadlines, dissatisfied customers or missed goals while anything that is successful or good is ignored or taken for granted. Or as one researcher put it[6]:

> *The brain is like Velcro for negative experiences but Teflon for positive experiences.*

The good news is that we can train ourselves to focus more on the positive, for instance by practicing gratitude.

Gratitude makes us happy

> *A group of volunteers were asked to write down a few sentences about their week for 10 weeks.*
>
> *Some participants wrote about things they were grateful for that week, some were told to write about irritations or things that had displeased them, and some just wrote about events*

4 http://www.bmj.com/content/337/bmj.a2338

5 http://assets.csom.umn.edu/assets/71516.pdf

6 https://www.ncbi.nlm.nih.gov/pubmed/15701224

that had affected them (with no emphasis on them being positive or negative).

After 10 weeks, those who wrote about gratitude were more optimistic and felt better about their lives. They also exercised more and had fewer visits to physicians than those who focused on sources of aggravation.[7]

If you want to be happier, there are two fundamental ways you can go about it:

1. You can try to get more of the things that make you happy
2. You can practice feeling grateful for the things you already have that make you happy

Both of these are valid approaches, but studies have found that the second turns out to be particularly powerful. To begin with, it's easier. You don't need to achieve any new goals or get anything else - you just need to appreciate what you already have.

But more than that, if you're never grateful for what you have, it doesn't matter how much you have, it will never make you happy. This explains why some people seem to have everything but are still not happy - they're focused on getting more instead of on feeling grateful for what they have.

Small, simple actions can make us happy

It's tempting to think that happiness is a lofty goal that requires huge changes to a person's life. The way to happiness could be through wealth, fame, perfectly health living, spiritual enlightenment or something similarly complicated and difficult.

But according to the research, it's a lot simpler and many small actions can have significant effects on our happiness. Berkeley University has launched Greater Good in Action[8] which collects hundreds of simple, proven interventions like:

- Write a gratitude letter to a person who means a lot to you
- Perform a random act of kindness
- Keep a gratitude journal
- Make an apology
- Write a self-compasion letter

Happiness is a lot less complicated than most people think and there are many simple actions we can take to make ourselves and others happier.

Happiness is social

The *Grant Study* is one of the most fascinating studies of human happiness and flourishing. It started in 1938 and has followed 268 Harvard undergraduate men for 75 years, regularly measuring them on a wide range of psychological and physical traits like personality type, IQ, drinking habits, family relationships and (my personal favorite) “hanging length of his scrotum”[9].

The current lead researcher George Vaillant summed up the study like this:

The seventy-five years and twenty million dollars expended on the Grant Study points to a straightforward five-word conclusion: “Happiness is love. Full stop.”

Those men who had good social relationships with their spouses, parents, children, families and friends were happier, healthier and lived longer. They were also more successful at work and made

7 http://www.health.harvard.edu/newsletter_article/in-praise-of-gratitude

8 https://ggia.berkeley.edu/

9 https://www.theatlantic.com/magazine/archive/2013/05/thanks-mom/309287/

more money. Surprisingly, it turned out that IQ had very little effect on their incomes whereas relationships mattered a lot[10]:

> *The men who scored highest on measurements of "warm relationships" earned an average of $141,000 a year more at their peak salaries (usually between ages 55 and 60).*

One of the biggest mistakes we can make about happiness is to see it as an individual pursuit, something that each of us must create for ourselves. Humans are an inherently social species and our happiness depends hugely on the happiness of those around us. Study after study has found that we are much happier when we have rich, positive social connections to spouses/partners, family, friends, coworkers, etc.

Making others happy makes us happier

Fred Gratzon, a successful US business leader defines success like this:

> *Here is how I know someone is successful — If you are able to give from your abundance.*

My absolute favorite finding from positive psychology and one that has been confirmed in countless studies is that we actually derive more happiness from doing nice things for others than for ourselves. It's simply part of our nature to be altruistic, kind and compassionate. We want to be happy and we want those around us to be happy too.

Many people have a negative view of human nature. They think that we are born selfish and bad and must be trained to behave. Only the threat of punishment, either in this life or the afterlife, is what keeps us on the straight and narrow path. But that's just not true - we are not born bad. Quite the opposite, say scientists:

> *Human children begin to behave prosocially very early in life, before two years of age. Studies have documented one-year-olds' abilities to comfort others in distress, participate in household tasks, and help adults by bringing or pointing to out-of-reach objects*

In my favorite study on this[11], researchers looked at helping behavior in toddlers. A toddler saw an adult with a box in his hands that needed help getting a cupboard open. In the video from the experiment you see these small children consistently walk over and open the cupboard with no prompting from anyone. It's a very positive and devastatingly cute sight[12]. and it clearly shows that wanting to make others happy with no expectation of reward is part of our nature.

Neuroscience

On the very cutting edge of the happiness research neuroscientists all over the world are studying the brain to find how pleasure and pain are expressed in terms of our actual grey matter. The better we understand our brains, the more effectively we can increase happiness[13]:

> *Psychologists have made substantial progress in mapping happiness' empirical features, and neuroscientists have made comparable progress in investigating the functional neuroanatomy of pleasure, which contributes importantly to happiness and is central to our sense of well-being.*

New technologies like MRI scanners (those big, white, noisy machine you slide people into on a tray like sliding a pizza into the oven) let scientists examine how blood flow in the brain changes

10 https://www.amazon.com/Triumphs-Experience-Harvard-Grant-Study/dp/0674059824

11 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088085/

12 https://www.youtube.com/watch?v=aS-QLB8ELyk

13 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3008658/

depending on what subjects are doing, thinking or feeling and while much of this research is in very early stages and subject to a lot of speculation, there have been some fascinating results already which tend to support the findings from positive psychology.

Mirror neurons

Many important scientific discoveries are made by accident and the story of how mirror neurons were found is a great example:

> *Three Italian scientists placed electrodes in the brain of macaque monkeys to study the neurons that control the actions of its hands, for example when it picks up an item. During each experiment, they recorded the activities of a single neuron in the monkey's brain while the monkey was allowed to reach for pieces of food, so the researchers could measure the neuron's response to certain movements.*
>
> *One scientist explains: "I think it was Fogassi, standing next to a bowl of fruit and reaching for a banana, when some of the monkey's neurons reacted. How could this happen, when the monkey did not move? At first we thought it was a flaw in our measuring or an equipment failure, but everything checked out OK and the reactions were repeated as we repeated the movement."*

A mirror neuron is a brain cell which is active both when an animal performs an action and when the animal observes the same action performed by another animal. The neuron "mirrors" the behavior of another animal, as though the observer were himself performing the action. These neurons have been observed in primates, in some birds, and, yes, in humans, and scientists consider them to be one of the most important findings of neuroscience[14].

Have you ever watched a TV show where a characters does something incredibly embarrassing (like in literally every episode of *curb your enthusiasm*) and felt yourself cringe in embarrassment on their behalf? Why do you do that? You have not done anything embarrassing and yet you feel as if you have. Mirror neurons may explain why you do that and why humans more generally share the feelings of those around them. They may be the biological basis for empathy and emotional contagion and why your happiness is deeply connected everyone around you.

Social isolation/rejection causes pain

One fascinating study put participants in an MRI scanner and made them play a simple game called Cyberball where players tossed a virtual ball between them. You can't throw real balls in an MRI scanner, because you have to remain completely still during the scan.

Sometimes the other players would keep tossing the virtual ball between themselves, and keep the participant out of the game, causing the participant to feel socially rejected. The brain scans revealed that this made the participant's brain react the same way it would to physical pain[15]:

> *Being excluded from the game was associated with increased activation in the dACC and the AI, the very same areas involved in physical pain. Similar results have since been shown in other studies conducted in different labs.*

This again demonstrates that humans are intensely social, and that one of the most important factors for happiness is good social relationships with other people.[16]

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14 http://www.apa.org/monitor/oct05/mirror.aspx

15 https://www.ncbi.nlm.nih.gov/pubmed/22286852

16 https://greatergood.berkeley.edu/article/item/the_neuroscience_of_happiness

Healthy brains knows right from wrong

It seems scientists have even found that our brains are wired to do the right thing[17]:

> *Studies indicate a "neuromoral" network for responding to moral dilemmas centered in the ventromedial prefrontal cortex and its connections, particularly on the right. The neurobiological evidence indicates the existence of automatic "prosocial" mechanisms for identification with others that are part of the moral brain. Patients with disorders involving this moral network have attenuated emotional reactions to the possibility of harming others and may perform sociopathic acts.*

Being treated unfairly or seeing others suffer injustice causes negative emotions in most people, the notable exception being sociopaths and psychopaths who have no empathy and experience little or no negative emotions at the suffering of others. And crucially, this may be due to damage to their brains. I can't help wonder how many of those cold, calculating, uncaring, "shareholder value first" leaders can act the way they do because of a brain malfunction.

One slightly scary experiment shows how much we value justice and possibly even revenge. A participant in an MRI scanner was playing a game and saw the opponent cheat them and get away with it. Later they saw the cheater get an electric shock and this caused activation in the pleasure center of the brain of the male participants but not the female[18].

Positive surprises make us happy

According to research, we become happier when good things happen to us (duh!) but the effect is even bigger when good things happen to us unexpectedly:

> *Emory University and Baylor College of Medicine researchers used MRI brain scans to measure changes in human brain activity in response to a sequence of pleasurable stimuli.*
>
> *They used a computer-controlled device to squirt fruit juice or water into the mouths of 25 research participants. The patterns of the squirting were either predictable or unpredictable.*
>
> *The researchers found that the MRI scans showed a brain area called the nucleus acumbens to be much more active when the subjects received unpredictable patterns of juice and water.*

The nucleus accumbens is an area of the brain highly involved in pleasure seeking behavior and is typically active when we get or expect something good to happen to us.

So:

- Something nice happens that you expect = good
- Something nice happens unexpectedly = even better

17 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3163302/

18 https://www.newscientist.com/article/dn8605-brain-scans-reveal-mens-pleasure-in-revenge/