

A change of heart changes everything

All you need is love, sang John Lennon.

True, according to most people.

The only challenge: how do you create love?

A quite startlingly simple answer was found to that question in the redwood forests of Boulder Creek, California, south of San Francisco. Since 1991, the Institute of HeartMath has generated a large body of convincing scientific evidence that it is indeed possible to create love. HeartMath's research shows that emotions work much faster, and are more powerful, than thoughts. And that—when it comes to the human body—the heart is much more important than the brain to overall health and well-being—even cognitive function—than anyone but poets believed. Its dominance inside the body is now clearly demonstrated. Thinking clearly with your brain is useful. But feeling positively from your heart provides an amazing boost to health and creativity.

Briefly re-experiencing a cherished memory creates synchronization in your heart rhythm in mere seconds. This increases the release of healthy, energizing hormones, while at the same time decreasing levels of damaging stress hormones, at the same time your immune system is strengthened, blood pressure decreases ... and health and focus increase. Using a simple prescription that consists of a number of exercises that anyone can do anywhere in a few minutes—the details are coming shortly—HeartMath is successfully battling the greatest threat to health, happiness and peace in this world: stress.

Stress is the plague of our time, an epidemic that is spreading rapidly. The World Health Organization (WHO) raised the alarm 20 years ago, but things have only gotten worse. Every day some one million Americans fail to come to work due to stress. The European Union estimated in 2000 that the annual price tag of stress, in the form of healthcare costs and lost productivity, amounts to some three to four percent of the EU's gross domestic product. Stress is one of the most important causes of high blood pressure, which afflicts one in three adults in Europe and North America and is the cause of many serious illnesses such as heart disease and stroke. Stress also lies at the basis of depression and burnout.

"The good news is that the negative effects of stress can be effectively countered more easily than people might imagine. This leads to better performance in every aspect of life. It is therefore a smart strategy for every organization to tackle this source of excessive costs and human strain," according to HeartMath's president and CEO Bruce Cryer.

That insight has now permeated many companies and institutions. Managers are sent to stress seminars. Yoga lessons are offered at company headquarters. And there are even companies that encourage their employees to take vacations. But these measures aren't very effective as long as stress continues to permeate the corporate culture. The sense of relief from a yoga lesson or a weekend at the beach is often lost during the first chat with a frustrated colleague at the coffee machine. A successful anti-stress strategy provides results precisely at the moment the stress is experienced. This is what HeartMath does, which is why its client list now includes such

leading companies as Hewlett Packard, Shell, Unilever, Cisco Systems, and Boeing.

HeartMath was established in 1991 by Doc Lew Childre. Childre had made a name for himself as a researcher and advisor to companies and scientific institutions. With the founding of HeartMath, he embarked on his mission to demonstrate that the heart was central to human health, success and fulfillment. While HeartMath's techniques emphasize the importance of emotional self-management, HeartMath is no new age phenomenon. It is a research institute that in the space of nearly 15 years has published a large body of scientific research in established and respected publications such as the Harvard Business Review and the American Journal of Cardiology. Those publications support HeartMath's central aim of presenting revolutionary scientific discoveries in a solid, "bullet proof" way. It has demonstrated significant cost savings for healthcare organizations struggling with staff turnover, and has shown significant health benefits in an array of studies covering congestive heart failure, diabetes, asthma, and hypertension. As Cryer says, "HeartMath is not based simply on belief. There are proven physiological reactions in how emotion, heart and brain interact." In other words: HeartMath's work is kept scrupulously free of the obvious potential for opportunism.

Which is admirable given that financing and survival issues have presented tricky challenges for the organization through the years. HeartMath's location reflects this cautious strategy. The institute is located in a group of buildings on a lovely retreat-like setting in Boulder Creek, a town that is nearly impossible to find among the tall trees of the ancient Californian forests. Stress and Boulder Creek have little to do with one another, I realize, following a drive through the pouring rain. And yet the decision to locate HeartMath here was not so odd. Forty-five minutes down the road is a well-known hotbed of this "modern plague:" Silicon Valley.

Research director Rollin McCraty is in his office—a simple study with a huge window looking out over a wooded slope—working on one of HeartMath's latest initiatives: a computer-driven experiment that shows how the heart reacts more quickly to external stimuli than the brain (see box). HeartMath programs utilize an innovative biofeedback system—developed by founder Doc Childre—whereby your finger or ear is hooked up to a sensor that shows the heart's activity on a computer screen. The feedback is not a precondition for the result of the HeartMath exercises, but seeing your heart rhythms live on a computer screen makes it easier to convince critics of the favourable effect of positive feelings.

Measuring internal feelings using modern instruments is not new in itself. For example, with the help of the electroencephalogram (EEG), it has been proven that meditating yogis produce completely different brain waves than—say—stock traders on Wall Street. But HeartMath's heart-driven method extends much further than relaxation through meditation. McCraty notes, "Meditation is mainly geared towards consciously separating yourself from the reality around you. That has totally different physical consequences than our approach, which is geared towards actively adding positive energy to a particular situation."

To measure the heart's reaction to particular events, HeartMath uses a relatively new concept—one that is currently a hot item in mainstream medicine—as an indicator of a healthily functioning body: heart rate variability (HRV). Research conducted 10 years ago by Dr Andrew Armour of Dalhousie University in Halifax, Canada showed that the heart has its own neural network—in essence, a little brain. HRV—the rhythm of the time period between two heartbeats—plays a key role in that network. It has now been demonstrated that the heart sends signals to the brain and the hormonal system via nerves which carry the heart rhythm patterns. It doesn't matter so much how many times a heart beats per minute; it's the rhythm of the heartbeat that counts.

Childre, McCraty and HeartMath's research team have discovered that certain patterns in the heart rhythm correspond to a particular emotional state. McCraty explains, "With every heartbeat, information is supplied that affects our emotions, our physical health and the quality of our lives."

This means that feelings of compassion, love, care and appreciation produce a smoothly rolling—HeartMath calls it “coherent”—heart rhythm, while feelings of anger, frustration, fear and danger emit a jagged and capricious—“incoherent”—image. But this is more than a statistical difference. HeartMath’s research shows that a different heart rhythm leads to other chemical and electrical—even neurological—reactions in the body.

Simply put: when people experience love, they not only feel happy and joyful, but they also produce, for example, more DHEA, the hormone that prevents aging, and gives us feelings of youthful vitality. Not surprisingly, a synthetic form of the hormone is currently sold in pill form at drugstores and health food stores. At the same time, the production of damaging stress hormones like cortisol is reduced. High levels of cortisol have been associated with Alzheimer’s disease, diabetes, depression and fatigue. By contrast, a “loving body” absorbs less cholesterol, thereby preventing arteries from clogging while boosting production of immunoglobulin A, an important biochemical that boosts immune function. In addition, blood pressure stabilizes. McCraty links this effect to problems many organizations face: “There is a clear connection between healthcare costs and blood pressure levels. When your blood pressure falls, so do visits to the doctor...” And so HeartMath concludes that love is both an emotional and a physical state: positive feelings—like love—generate health. The reverse is also true. Someone who is angry produces less DHEA and more cortisol. And so on. HeartMath’s slogan—a change of heart changes everything—pretty much sums it up.

But how do you “change your heart?” According to HeartMath research, it is much simpler than it looks. McCraty says, “If you consciously shift your attention to a positive emotion, like appreciation or care, or if you allow your thoughts to return to the feeling of a cherished memory, your heart rhythm changes immediately.” This phenomenon continues to astonish the some 25,000 people who attend HeartMath courses each year. Initially, HeartMath utilized expensive medical equipment to measure and display the heart rhythm. But since 2000 HeartMath has offered a “do-it-yourself” equivalent: the Freeze-Framer, an award-winning computer program with an innovative sensor that anyone can install in their computer at home or at work. So far, HeartMath has sold more than 30,000 of these systems.

The first time I start up the Freeze-Framer at home and attach the sensor to my finger, a freakish pattern appears on my computer screen (see image). My heart rhythm is all wild peaks and valleys or—in HeartMath jargon—an “incoherent pattern.” I then perform my prescribed exercise. I shift my thoughts to the area around my heart, I visualize that I’m breathing in through my heart and out through my solar plexus (the energy point under the breastbone, above the belly button). I remember a sweet memory with my daughter. I feel the warmth of our contact at that moment... and I see the graph on the computer screen change. The exercise, which I’ve only been doing for a couple of minutes, is quick and effective. The volatile peaks change into rolling hills on my screen. My incoherent heart rhythm has synchronized into a coherent rhythm. And what I can’t see on the line of the graph, but know—from HeartMath research—is that my body is now functioning in a more healthy and wholesome way.

The research is convincing. A group of managers from Motorola attended a HeartMath workshop and were tested six months later on the results of their daily exercises. One-quarter of the managers had high blood pressure at the start of the project. After six months, they all had normal blood pressure levels. In another study with Hewlett-Packard managers, the average blood pressure fell from 138/86 to 128/80. This large an improvement is comparable to the effect of losing nearly 20 kilos (44 pounds).

A recent study of employees at the food and household products multinational Unilever shows that the production of the favourable hormone DHEA increased by an average of 50 percent after six months of HeartMath exercises and rose to 90 percent after nine months. The exercises also work for people with chronic diseases. For example, diabetes patients who performed a total of one hour of HeartMath exercises every week for six months scored significantly better on a

number of health aspects crucial to them. Another HeartMath study indicates that the savings on health care costs and absenteeism can run up to \$ 700 U.S. (540 euros) per employee a year. For a company with 1,000 employees, that would mean a savings of \$ 700,000 U.S. (540,000 euros) a year.

The fact the exercises are so easy may well be the most promising aspect of the HeartMath system. Bruce Cryer notes, "Time pressure is continually increasing. No matter how good a program might be for them, many people simply don't take the time to invest in their emotional and physical health every day. People want exercises to take virtually no time, but to yield results. That's the strength of our approach. You can learn the techniques in five minutes and get positive results if you do them a few times a day for 30 seconds. When you're on your way to your next meeting, for example. Or when you start up your computer. Or sitting at a stoplight. Or waiting to make a phone call. Or before starting to check your e-mails. By making the techniques simple and quick, you can integrate them into your daily schedule without having to drastically change your life."

Regularly using the Freeze-Framer is particularly helpful in recognizing stress patterns. You gain insight into your own behaviour and the effect of that behaviour on your health. In that respect, the Freeze-Framer works like a thermometer: you get to the point where you don't need to take your temperature any more to know you have a fever. As a result, it becomes ever easier to quickly correct the experience of stress. Cryer says, "HeartMath's aim is to eliminate stress. Of course we can't eliminate stressful events from our lives, but we can change our physiological and emotional response to them. The goal is to teach you to recognize which circumstances create stress so you can change your reaction to those situations. For example, practising a HeartMath technique helps you not to curse if someone cuts you off on the highway, but to react differently. And the most important result is that no damaging stress hormones are released in your body and no damaging comments come out of your mouth that could make the situation much worse."

Is HeartMath the only effective answer to stress? Clearly not. Every walk on the beach is beneficial. The same goes for an enjoyable concert. And for experiences of friendship and love. There are also other promising initiatives with a comparable focus. Ode previously reported on the work of the Italian Amedeo Maffei (see Ode, June 2002) as well as the computer game Wild Divine (see Ode, April 2004). And there are other projects geared towards synchronising the heart and brain rhythms to stimulate favourable biochemical and electrical processes in our bodies. But the strength of HeartMath lies in the convincing evidence of the effectiveness of the exercises and their simplicity. And its approach takes into account the sense of time pressure continually experienced by the stressed target group.

Less stress and more health is, of course, enough of a recommendation for following HeartMath's system. But there's more: studies show that the electromagnetic field of the heart (which is created by the heart's electrical system, or electrocardiogram) can be measured from between two and three metres from the body. HeartMath has discovered that if someone has a coherent heart rhythm, it has a demonstrably positive effect on other people in close proximity to him or her (and the reverse is also true). Just think about how you feel in the presence of someone who is appreciative or caring, compared to being close to someone angry or frustrated.

That is: if your own heart rhythm is coherent, there is a greater chance that your environment will also behave coherently.

That is: the health of your environment starts with your own health.

That is: changing the world starts with you.

Cryer notes how, "A lot of people feel powerless. Climate change. Poverty. War. Terrorism. There are so many things we could fear in the world. So where do you start as an individual, when the size of the problems seem so daunting? It is important to know that you can have a demonstrably positive effect on the world. We can change the world, starting with ourselves."

That enthusiasm is behind all the solid research done by HeartMath. This vision also explains why the Institute never opted for quick fixes, but instead preferred building steady proof of concept. Cryer concludes, "It is our mission to help the world change, by helping people change. The root of most of our world's problems is a lack of emotional management, a lack of understanding, care, respect and compassion. Most organizations and governments are fairly dysfunctional, because their leaders lack skills to manage themselves emotionally, let alone be an example for others to follow. That dysfunction damages the planet every day. We offer tools that are needed to eradicate major challenges and problems and to prevent wrongs."

Those tools help the heart to make love.

All you need is love, John Lennon sang.

It's as simple as that.

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