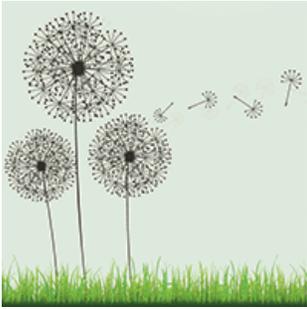


The Compassionate Mind

Science shows why it's healthy and how it spreads

By **Emma Seppala**

Related Topics: Emotions, Happiness, Health, Interpersonal Relationships, Mental Health, Personality/Social



Decades of clinical research has focused and shed light on the psychology of human suffering. That suffering, as unpleasant as it is, often also has a bright side to which research has paid less attention: compassion. Human suffering is often accompanied by beautiful acts of compassion by others wishing to help relieve it. What led 26.5 percent of Americans to volunteer in 2012 (according to statistics from the US Department of Labor)? What propels someone to serve food at a homeless shelter, pull over on the highway in the rain to help someone with a broken down vehicle, or feed a stray cat?

What is Compassion?

What is compassion and how is it different from empathy or altruism? The definition of compassion is often confused with that of empathy. Empathy, as defined by researchers, is the visceral or emotional experience of another person's feelings. It is, in a sense, an automatic mirroring of another's emotion, like tearing up at a friend's sadness. Altruism is an action that benefits someone else. It may or may not be accompanied by empathy or compassion, for example in the case of making a donation for tax purposes. Although these terms are related to compassion, they are not identical. Compassion often does, of course, involve an empathic response and an altruistic behavior. However, compassion is defined as the emotional response when perceiving suffering and involves an authentic desire to help.

Is Compassion Natural or Learned?

Though economists have long argued the contrary, a growing body of evidence suggests that, at our core, both animals and human beings have what APS Fellow Dacher Keltner at the University of California, Berkeley, coins a "compassionate instinct." In other words, compassion is a natural and automatic response that has ensured our survival. Research by APS Fellow Jean Decety, at the University of Chicago, showed that even rats are driven to empathize with another suffering rat and to go out of their way to help it out of its quandary. Studies with chimpanzees and human infants too young to have learned the rules of politeness, also back up these claims. Michael Tomasello and other scientists at the Max Planck Institute, in Germany, have found that infants and chimpanzees spontaneously engage in helpful behavior and will even overcome obstacles to do so. They apparently do so from intrinsic motivation without expectation of reward. A recent study they ran indicated that infants' pupil diameters (a measure of attention) decrease both when they help and when they see someone else helping, suggesting that they are not simply helping because helping feels rewarding. It appears to be the alleviation of suffering that brings reward — whether or not they engage in the helping behavior themselves. Recent research by David Rand at Harvard University shows that adults' and children's first impulse is to help others. Research by APS Fellow Dale Miller at Stanford's Graduate School of Business suggests that this is also the case of adults, however, worrying that others will think they are acting out of self-interest can stop them from this impulse to help.

It is not surprising that compassion is a natural tendency since it is essential for human survival. As has been brought to light by Keltner, the term "survival of the fittest," often attributed to Charles Darwin, was actually coined by Herbert Spencer and Social Darwinists who wished to justify class and race superiority. A lesser known fact is that Darwin's work is best described with the phrase "survival of the kindest." Indeed in *The Descent of Man and Selection In Relation to Sex*, Darwin argued for "the greater strength of the social or maternal instincts than that of any other instinct or motive." In another passage, he comments that "communities, which included the greatest number of the most sympathetic members, would flourish best, and rear the greatest number of offspring." Compassion may indeed be a naturally evolved and adaptive trait. Without it, the survival and flourishing of our species would have been unlikely.

One more sign that suggests that compassion is an adaptively evolved trait is that it makes us more attractive to potential mates. A study examining the trait most highly valued in potential romantic partners suggests that both men and women agree that "kindness" is one of the most highly desirable traits.

Compassion's Surprising Benefits for Physical and Psychological Health

Compassion may have ensured our survival because of its tremendous benefits for both physical and mental health and overall well-being. Research by APS William James Fellow Ed Diener, a leading researcher in positive psychology, and APS James

At a Glance

Gathering Empirical Evidence About Compassion

- Michael Tomasello and other scientists at the Max Planck Institute have found that infants and chimpanzees spontaneously engage in helpful behavior and will even overcome obstacles to do so.
- Steve Cole at the University of California, Los Angeles, and Barbara L. Fredrickson at the University of North Carolina at Chapel Hill found in a study that people who are happy because they live a life of purpose or meaning had low levels of the cellular inflammation associated with many diseases, including cancer.
- A brain-imaging study headed by neuroscientist Jordan Grafman from the National Institutes of Health showed that the "pleasure centers" in the brain, i.e., the parts of the brain that are active when we experience pleasure (like dessert, money, and sex), are equally active when we observe someone giving money to charity as when we receive money ourselves.

McKeen Cattell Fellow Martin Seligman, a pioneer of the psychology of happiness and human flourishing, suggests that connecting with others in a meaningful way helps us enjoy better mental and physical health and speeds up recovery from disease; furthermore, research by Stephanie Brown, at Stony Brook University, and Sara Konrath, at the University of Michigan, has shown that it may even lengthen our life spans.

The reason a compassionate lifestyle leads to greater psychological well-being may be explained by the fact that the act of giving appears to be as pleasurable, if not more so, as the act of receiving. A brain-imaging study headed by neuroscientist Jordan Grafman from the National Institutes of Health showed that the “pleasure centers” in the brain, i.e., the parts of the brain that are active when we experience pleasure (like dessert, money, and sex), are equally active when we observe someone giving money to charity as when we receive money ourselves! Giving to others even increases well-being above and beyond what we experience when we spend money on ourselves. In a revealing experiment by Elizabeth Dunn, at the University of British Columbia, participants received a sum of money and half of the participants were instructed to spend the money on themselves; the other half was told to spend the money on others. At the end of the study, which was published in the academic journal *Science*, participants who had spent money on others felt significantly happier than those who had spent money on themselves.

This is true even for infants. A study by Lara Aknin and colleagues at the University of British Columbia shows that even in children as young as two, giving treats to others increases the givers’ happiness more than receiving treats themselves. Even more surprisingly, the fact that giving makes us happier than receiving is true across the world, regardless of whether countries are rich or poor. A new study by Aknin, now at Simon Fraser University, shows that the amount of money spent on others (rather than for personal benefit) and personal well-being were highly correlated, regardless of income, social support, perceived freedom, and perceived national corruption.

Why is Compassion Good For Us?

Why does compassion lead to health benefits in particular? A clue to this question rests in a fascinating new study by Steve Cole at the University of California, Los Angeles, and APS Fellow Barbara Fredrickson at the University of North Carolina at Chapel Hill. The results were reported at Stanford Medical School’s Center for Compassion and Altruism Research and Education’s (CCARE) inaugural Science of Compassion conference in 2012. Their study evaluated the levels of cellular inflammation in people who describe themselves as “very happy.” Inflammation is at the root of cancer and other diseases and is generally high in people who live under a lot of stress. We might expect that inflammation would be lower for people with higher levels of happiness. Cole and Fredrickson found that this was only the case for certain “very happy” people. They found that people who were happy because they lived the “good life” (sometimes also known as “hedonic happiness”) had high inflammation levels but that, on the other hand, people who were happy because they lived a life of purpose or meaning (sometimes also known as “eudaimonic happiness”) had low inflammation levels. A life of meaning and purpose is one focused less on satisfying oneself and more on others. It is a life rich in compassion, altruism, and greater meaning.

Another way in which a compassionate lifestyle may improve longevity is that it may serve as a buffer against stress. A new study conducted on a large population (more than 800 people) and spearheaded by the University at Buffalo’s Michael Poulin found that stress did not predict mortality in those who helped others, but that it did in those who did not. One of the reasons that compassion may protect against stress is the very fact that it is so pleasurable. Motivation, however, seems to play an important role in predicting whether a compassionate lifestyle exerts a beneficial impact on health. Sara Konrath, at the University of Michigan, discovered that people who engaged in volunteerism lived longer than their non-volunteering peers — but only if their reasons for volunteering were altruistic rather than self-serving.

Another reason compassion may boost our well-being is that it can help broaden our perspective beyond ourselves. Research shows that depression and anxiety are linked to a state of self-focus, a preoccupation with “me, myself, and I.” When you do something for someone else, however, that state of self-focus shifts to a state of other-focus. If you recall a time you were feeling blue and suddenly a close friend or relative calls you for urgent help with a problem, you may remember that as your attention shifts to helping them, your mood lifts. Rather than feeling blue, you may have felt energized to help; before you knew it, you may even have felt better and gained some perspective on your own situation as well.

Finally, one additional way in which compassion may boost our well-being is by increasing a sense of connection to others. One telling study showed that lack of social connection is a greater detriment to health than obesity, smoking, and high blood pressure. On the flip side, strong social connection leads to a 50 percent increased chance of longevity. Social connection strengthens our immune system (research by Cole shows that genes impacted by social connection also code for immune function and inflammation), helps us recover from disease faster, and may even lengthen our life. People who feel more connected to others have lower rates of anxiety and depression. Moreover, studies show that they also have higher self-esteem, are more empathic to others, more trusting and cooperative and, as a consequence, others are more open to trusting and cooperating with them. Social connectedness therefore generates a positive feedback loop of social, emotional, and physical well-being. Unfortunately, the opposite is also true for those who lack social connectedness. Low social connection has been generally associated with declines in physical and psychological health, as well as a higher propensity for antisocial behavior that leads to further isolation. Adopting a compassionate lifestyle or cultivating compassion may help boost social connection and improve physical and psychological health.

Why Compassion Really Does Have the Ability to Change the World

Why are the lives of people like Mother Teresa, Martin Luther King, Jr., and Desmond Tutu so inspiring? Research by APS Fellow Jonathan Haidt at the University of Virginia suggests that seeing someone helping another person creates a state of “elevation.” Have you ever been moved to tears by seeing someone’s loving and compassionate behavior? Haidt’s data suggest that elevation then inspires us to help others — and it may just be the force behind a chain reaction of giving. Haidt has shown that corporate leaders who engage in self-sacrificing behavior and elicit “elevation” in their employees, also yield greater influence among their

employees — who become more committed and in turn may act with more compassion in the workplace. Indeed, compassion is contagious. Social scientists James Fowler of the University of California, San Diego, and Nicholas Christakis of Harvard demonstrated that helping is contagious: acts of generosity and kindness beget more generosity in a chain reaction of goodness. You may have seen one of the news reports about chain reactions that occur when someone pays for the coffee of the drivers behind them at a drive-through restaurant or at a highway tollbooth. People keep the generous behavior going for hours. Our acts of compassion uplift others and make them happy. We may not know it, but by uplifting others we are also helping ourselves; research by Fowler and Christakis has shown that happiness spreads and that if the people around us are happy, we, in turn become happier.

Cultivating Compassion

Although compassion appears to be a naturally evolved instinct, it sometimes helps to receive some training. A number of studies have now shown that a variety of compassion and “loving-kindness” meditation practices, mostly derived out of traditional Buddhist practices, may help cultivate compassion. Cultivating compassion does not require years of study and can be elicited quite rapidly. In a study Cendri Hutcherson, at the California Institute of Technology, and I conducted in 2008 with APS Fellow James Gross at Stanford, we found that a seven-minute intervention was enough to increase feelings of closeness and connection to the target of meditation on both explicit measures, but also on implicit measures that participants could not voluntarily control; this suggests that their sense of connection had changed on a deep-seated level. Fredrickson tested a nine-week loving-kindness meditation intervention and found that the participants who went through the intervention experienced increased daily positive emotions, reduced depressive symptoms, and increased life satisfaction. A group led by Sheethal Reddy at Emory with foster children showed that a compassion intervention increased hopefulness in the children. Overall, research on compassion interventions show improvements in psychological well-being, compassion, and social connection.

In addition to questionnaire measures, researchers are finding that compassion interventions also impact behavior. APS Fellow Tania Singer and her team at the Max Planck Institute conducted a study that looked at the effects of compassion training on prosocial behavior. These researchers developed the Zurich Prosocial Game, which has the ability to measure an individual’s prosocial behavior multiple times, unlike many other prosocial tasks that only measure prosocial behavior in individuals once. Singer found that daylong compassion training did in fact increase prosocial behavior on the game. Interestingly, the type of meditation seems to matter less than just the act of meditation itself. Condon, Miller, Desbordes, and DeSteno (in press) found that eight-week meditation trainings led participants to act more compassionately toward a person who is suffering (give up their chair to someone in crutches) — regardless of the type of meditation that they did (mindfulness or compassion).

More research is needed to understand exactly how compassion training improves well-being and promotes altruistic behavior. Research by Antoine Lutz and APS William James Fellow Richard Davidson at the University of Wisconsin-Madison found that, during meditation, participants display enhanced emotional processing in brain regions linked to empathy in response to emotion-evoking cries. A study led by Gaëlle Desbordes at Massachusetts General Hospital indicated that both compassion and a mindfulness meditation training decreased activity in the amygdala in response to emotional images; this suggests that meditation in general can help improve emotion regulation. However, compassion meditation did not reduce activity for images of human suffering, suggesting that the compassion meditation increased a person’s responsiveness to suffering.

In collaboration with Thupten Jinpa, personal translator to the Dalai Lama, as well as several Stanford psychologists, CCARE has developed a secular compassion training program known as the Compassion Cultivation Training Program. Preliminary research spearheaded by Stanford’s Philippe Goldin suggests that it is helpful in reducing ailments such as social anxiety and that it elevates different compassion measures. In addition to having taught hundreds of community members and Stanford students who have expressed interest, we have also developed a teacher-training program currently under way.

Given the importance of compassion in our world today, and a growing body of evidence about the benefits of compassion for health and well-being, this field is bound to generate more interest and hopefully impact our community at large. CCARE envisions a world in which, thanks to rigorous research studies on the benefits of compassion, the practice of compassion is understood to be as important for health as physical exercise and a healthful diet; empirically validated techniques for cultivating compassion are widely accessible; and the practice of compassion is taught and applied in schools, hospitals, prisons, the military, and other community settings.

Establishing A Compassion Center at Stanford University School of Medicine

The Center for Compassion and Altruism Research and Education (CCARE) at Stanford University School of Medicine was founded in 2008 with the explicit goal of promoting, supporting, and conducting rigorous scientific studies on compassion and altruistic behavior. In 2005, His Holiness the Dalai Lama spoke at Stanford University before 5,000 people. During his visit, he shared the stage with a number of prominent neuroscientists and psychologists in a dialogue about the brain and emotions. James Doty, clinical professor of neurosurgery at Stanford University, was so inspired by the event that he created an informal research group of scientists to pursue research on compassion. He called this group “Project Compassion.”

In 2008, following a meeting with the Dalai Lama during which an invitation was extended to again visit Stanford to speak on compassion, His Holiness made a spontaneous donation to CCARE — the largest he has ever given to a non-Tibetan cause. Following that visit and on the receipt of two other significant donations, “Project Compassion” was formally integrated into the Stanford Institute for Neuro-Innovation and Translational Neurosciences as “The Center for Compassion and Altruism Research and Education.”

Founded and directed by Doty, CCARE is established within the Stanford Institute for Neuro-Innovation and Translational Neurosciences. CCARE has collaborated with a number of prominent neuroscientists, behavioral scientists, geneticists, and biomedical researchers to closely examine the physiological and psychological correlates of compassion and altruism. The center

has also developed a secular compassion education program with Thupten Jinpa, Buddhist scholar and personal translator to the Dalai Lama.

Doty has a longstanding interest in the fundamental motivations of individuals to do good. This interest stemmed out of personal experience. A neurosurgeon with a background that involved poverty, hopelessness, and neglect as the child of an invalid mother and alcoholic father, Doty is no stranger to suffering. Through a series of acts of compassion by and love from strangers, however, he found his life transformed.

Despite the emotional challenges and financial difficulties of his life as a child and young adult, Doty was able not only to attend college but to complete medical school, a long-standing dream, and to go on to become a successful neurosurgeon, entrepreneur, inventor, philanthropist, and father of three. Deeply inspired by the compassion he received as a child, Doty now devotes much of his time to promoting compassion in society through research, education, events, and writing.

“I have received the greatest gift in my life and that is seeing the power of compassion to result in transformation,” Doty says.

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