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It's good to be good: 2011 5th annual scientific report on health, happiness and helping others

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Abstract

This literature review presents an extensive set of scientific and medical studies regarding the benefits experienced by individuals who act sincerely for the benefit of others. Happiness, health and even longevity are benefits that have been reported in more than fifty investigations using a variety of methodologies. This convergence includes studies on recovery from alcoholism, addiction, and depression; on coping with severe diagnoses and with dying; longevity in older adults and in youth followed over the course of their lifetimes; in neurology, endocrinology and immunology and on self-reported happiness as well as the “helper’s high” in relation to thresholds of volunteerism. The conclusion of this review is that when we help others, we help ourselves, with the caveat that we need balance in our lives and should not be overwhelmed. The evidence for the benefits of giving is now extremely powerful and suggests that healthcare professionals might wish to recommend such activities to patients. A number of studies covered also highlight that public health implications of encouraging prosocial and generous behaviors. In particular, the benefits of contributing to the lives of others are especially clear under conditions of stress or hardship and constitute the essential component of post-traumatic growth. A Darwinian model for these benefits is suggested, as well as a philosophical recognition of the convergence between science and spiritual-moral wisdom with respect to the benefits of doing “unto others”.

Keywords

Altruism, compassion, empathy, happiness, healing, health, helping, society, stress, suffering, support

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Introduction

A loving and helpful life is more likely to be a happier, healthier, longer one. This thesis has been central to me over several decades [1], as recently described in *The Hidden Gifts of Helping* [2]. Each year I present an up-to-date representative review of the scientific evidence for this connection, interwoven with new thoughts on the topic as these arise after 23 years of teaching in two medical schools (Case Western Reserve University in Ohio and Stony Brook University in New York). 2010 was an exciting year for research on health, happiness and helping others. Indeed, if we refer to the United Healthcare/Volunteer Match Do Good Live Well Study (see: www.dogoodlivewell.org/UnitedHealthcase-VolunteerMatch-DoGoodLiveWell-Survey.pdf), an online survey of a national sample of 4,582 American adults 18 years and older, the following remarkable observations stand out:

- 41% of us volunteer an average of 100 hours per year (m 39%, w 42%; C 42%, A 39%, H 38%) (69% of us donate money)
- 68% of volunteers agree that volunteering “has made me feel physically healthier,” 92% that it “enriches my sense of purpose in life,” 89% that it “has improved my sense of well-being,” 73% that it “lowers my stress levels,” 96% that it “makes people happier,” 77% that it “improves emotional health,” 78% that it helps with recovery “from loss and disappointment”
- Volunteers have less trouble sleeping, less anxiety, less helplessness & hopelessness; better friendships and social networks, and sense of control over chronic conditions
- 25% volunteer through workplace, and 76% of them feel better about employer as a result.

The survey was conducted by TNS (Taylor Nelson Solfres), the world’s largest custom survey agency, from 25 February to 8 March 2010 and it would be difficult to

identify any pill or vitamin with such a pronounced self-reported impact on so many lives.

Relevant to my workplace, a cross-sectional survey of all 2,682 medical students attending seven U.S. medical schools in the spring of 2009 (across all four years) showed that students experiencing “burnout” (about half as assessed by the Maslach Burnout Inventory) had considerably reduced altruistic attitudes about physician responsibility to society, including less desire to provide care for the medically underserved [3]. In another study, health professionals who volunteered to undertake medical mission trips of two-weeks duration to South America scored lower on burnout scales following their return and continued to improve at a six-month follow-up [4], suggesting that they were able to reconnect with the gratification that comes from the meaningful care of the needy.

On another major front, Maria E. Pagano, Ph.D. led the study of helping behaviors of alcoholics with a range of 16 to 25 years of continuous abstinence from alcohol. While helping others in general was rated as significant in its contribution to sobriety, considerably higher benefits came from the increased helping of other alcoholics in the context of Alcoholics Anonymous [5]. Alcoholics Anonymous is the oldest and largest self-help group for alcohol dependency and addiction in the United States. Earlier, Pagano and colleagues [6] examined the relationship between helping other alcoholics and relapse in the year following treatment. The data were derived from a prospective study called Project MATCH, which examined different treatment options for alcoholics and evaluated their efficacy in preventing relapse. Two measures of helping other alcoholics in Alcoholics Anonymous (being a sponsor and having completed the Twelfth Step) were isolated from the data. Proportional hazards regressions were used to separate these variables from the number of AA meetings attended during the period. The authors found that “those who were helping were significantly less likely to relapse in the year following treatment.” Among those who helped other alcoholics (8% of the study population), 40% avoided the consumption of alcohol in the year following treatment; only 22% of those not helping had the same outcome. The observation was clear: helping others doubled the likelihood of recovery from alcoholism in a one-year period.

Another exciting area of research that is rapidly evolving focuses on reduced pain levels in persons who endorse behavioral and attitudinal aspects of altruism. It has been reported that individuals suffering from chronic pain experienced decreased pain intensity, levels of disability and depression when they began to serve as peer volunteers for others suffering from chronic pain [7], suggesting that the dynamic between helping actions and the experience of pain is considerable and requires further investigation. The experience of pain is widely understood to be highly influenced by psychological state, both negative and positive. It is probably the case that helping

others shifts the attention of the person away from their own pain, to that of others. The mechanism is not known, but may be biochemical in nature, involving the production and action of endorphins.

I have centered my thought of late on the ways in which contributing to the lives of others through helping activities serves to ameliorate the mental and physical health burdens of major relocation and the consequent loss of social capital. Families on the move for reasons of job loss can suffer tremendous stress and related health effects. The problem of “placelessness” and deep loss of community can be controlled though purposeful focus on the needs of others through volunteerism and a general altruistic attitude [2].

Progress in this quickly evolving field builds on a decade of investigation by many researchers, as has been summarized in a single edited volume [8]. It is good to see not only the rising volume of research in this important area of study, but also the extent to which the work is being captured by major media venues. In the last year, for example, my own interviews have appeared in *O Magazine*, *Parade*, *The New York Times*, *The Daily Show*, and *U.S. News & World Report*. The challenge, of course, is not to portray helping activities in self-interested terms. Helping should be for the other and the benefits to the helper are a side-effect or by-product of sincere giving that are generally experienced, but certainly not always. The difference between the primary motive of doing good for others and the secondary one of doing good for oneself is important.

But not the more helping the better: a threshold effect

Before we go further, let us note that any beneficial activity can be bad if we overdo it.

Almost all the research presented here in this report is based on a threshold effect – a certain amount of self-giving activity shows benefits to the giver, but it is not the case that the more one gives the better one feels. The model is curvilinear and not linear – in other words, as one achieves a certain shift from selfishness to concern for others, benefits accrue. But they begin to tail off once this emotional shift occurs and it is clearly possible to get to a point where benefits stop or helping becomes stressful and potentially harmful. This will be determined by individual constitution, circumstance and meaning system. Most of the research described herein centers on everyday people who engage in helping or who are coping with some illness or another, rather than on the helping professions themselves.

“Doing unto others” to overwhelming degrees can become stressful in itself and can have adverse health consequences. Burnout and depression in overburdened caregivers is not unusual. Those who are not professional caregivers can engage in volunteering or informal helping

activities at self-controlled manageable thresholds. Often, just a few hours a week of volunteer work makes a difference in self-reported happiness and mood. But for those locked into situations requiring intense empathy and generous actions, there is a problem that has been described by psychologist Martin L. Hoffman as “empathic over arousal” (EOA) [9]. Healthcare workers who interact daily with trauma survivors, Red Cross workers who are involved in helping the victims of major catastrophes, activists who work with the poorest of the poor and pastors who are providing love and support for needy congregants around the clock can suffer what has been described as “compassion fatigue” [10]. The results can be severe stress, disrupted cognitive functioning, distancing from close relationships, professional attrition and depression. Empathy is a *very powerful* human impulse; it is literally the glue that binds us together in care and helpfulness. We easily feel the conditions of others with profound emotional depth. When much suffering is involved, we *absolutely must* establish a rhythm of stepping back for replenishment. We need to manage the care of the self in such a way that we do “unto others” in ways that allow us to flourish in the longer term, rather than burn out in a mad dash of empathic altruism that goes beyond the levels associated with wellbeing and health. Balance, rhythm, time away and perhaps spiritual practices of replenishment are vital. This is also true for family caregivers of loved ones with dementia who are unable to find respite support [11] and who often suffer somewhat higher depression rates than the general population. The American College of Physicians recommends specific steps to avoid physician burnout, including balance between work and family, boundary setting and good care of the self, including having fun [12]. The line between self-beneficial and self-destructive giving will be determined individually by physical and psychological variables, as well as by the agent’s meaning structures and sense of higher purpose in life.

As a general rule, professionals who are routinely involved in helping and healing others should abide by the following guidelines:

- Be empathic, but the patient’s suffering is not your suffering (let it go)
- Realize that you cannot fix everything
- Entrust your friends and colleagues
- Step back from your initial emotional reactions
- Have some sort of “spiritual” practice
- Keep in mind the meaning and privilege of being a healer
- Have a balanced life

There are important qualifications to be added to the EOA caveat. Certainly, there are people who find noble causes of such great personal meaning that their capacity to give seems boundless and for whom EOA does not seem to be an issue. For example, at the age of 83, Dame Cicely Saunders, founder of St. Christopher’s Hospice, London,

continued to help daily at the hospice in innumerable ways, including the direct care of the dying. She proclaimed joyfully that “a woman with a mission never retires.” Dame Cicely was a truly generous, buoyant and emotionally radiant older adult. Her powerful sense of meaning and spiritual mission allowed her to do so much for so many, even when faced with death day in and day out.

Does giving money have the same benefits as face-to-face helping?

Most research has focused on activity and volunteerism, not on making a financial donation. In general, the benefits of helping others are most pronounced in direct person-to-person “hands on” activities. This creates a social interaction that engages psychological and biological systems in ways explained below. We have a much fuller experience of personal transformation when we actively engage in helping others through hospice work or innumerable other venues, but there can be great delight in making a meaningful financial contribution to, for example, a charity.

At the current time, researchers at the National Institute of Neurological Disorders and Stroke are working with the National Institute on Mental Health and the National Institute on Aging on a new collaborative project entitled Cognitive and Emotional Health Project - The Healthy Brain. They have discovered that there is a physiological basis for the experience that seems to accompany an act of giving, even when this occurs only in the form of philanthropy. The goal of this research was to uncover the neurology of unselfish actions that reach out beyond kin to strangers. Nineteen subjects were each given money and a list of causes to which they might contribute, ranging from support for abortion to opposition to the death penalty. Functional magnetic resonance imaging (fMRI) revealed that making a donation activated the mesolimbic pathway, the brain’s reward center, which is responsible for dopamine-mediated euphoria [13]. In another study, neural activity was recorded while participants decided how to split one hundred dollars between themselves and a local food bank. Donations to the food bank activated the ventral striatum, a region of the brain associated with feelings of satisfaction and reward [14].

Which comes first: the happiness or the giving?

Lyubomirsky [15] randomly assigned students to a control group and an experimental group in which they were asked to perform five random acts of kindness a week for six weeks. The students who engaged in acts of kindness were significantly happier than the controls at the end of the six

weeks. This intervention demonstrates *causality* – giving generates happiness. This is not to state that positive mood does not also *cause* acts of kindness. There is, in fact, evidence that a positive mood elevates helping behaviors. After experiencing positive events (such as receiving gifts or finding a dime left in a payphone), Isen and Levin [16] reported that people were more likely to help others. Indeed, it makes sense that inducing positive mood might slightly elevate giving. But *giving itself* is clearly mood elevating and hence creates its own internal circuit of enhanced happiness, which in turn feeds back into more giving. This follows the well-accepted fact that activities affect mood and emotion. In other words, one way to elevate happiness is to reach out in helping behaviors and contribute to the lives of others. That happiness in turn elevates giving, which in turn elevates happiness. The two fuel each other in a circular fashion – a classic feedback loop.

In a 2008 study published in *Science*, researchers from Harvard University and The University of British Columbia [17] showed that the ways in which people spend their money can make a difference in their happiness. The researchers were struck by the fact that doing something for others makes people feel happy. They studied 632 Americans, 55% of whom were women and asked them to rate their happiness on a scale of 1 to 5, with 5 being the highest rating for happiness. Then they asked the participants to report their annual income and estimate how much they spent on paying bills, buying gifts for themselves, buying gifts for others and giving to charities. The first two items were termed “personal spending,” and the second two were termed “prosocial spending.” Personal spending was unrelated to happiness, but prosocial spending was associated with significantly higher happiness. In an associated study, the same researchers studied 16 employees of a company in Boston, USA. They questioned participants about their happiness one month before and 6 to 8 weeks after each received a bonus. In the second interview, the employees were asked about personal and prosocial spending. They concluded that “the manner in which they spent that bonus was a more important predictor of their happiness than the amount of the bonus itself.” Prosocial spending resulted in more happiness than personal spending. Finally, 46 Canadian students were given a random envelope containing \$5-\$20. Some were told to spend the money on themselves and others were told to spend it on others in the form of a gift. At 5 pm that day, they reconvened and were asked to rate their happiness. The amount of money had no impact on happiness. Those who had been assigned to buy something for another reported greater happiness.

This finding is, perhaps, not surprising. We know from studies conducted in the 1990s that the third of adolescents who identified their primary motive as helping others were three times happier than those who lacked such motives [18]. More recently, daily diary studies have revealed that ‘other-regarding’ behavior is consistently more strongly related to wellbeing than hedonic behavior [19].

Helping behavior appears causative. For example, in a study of data from the *Americans’ Changing Lives Survey*, it was reported that those participants who volunteered in 1986 reported in 1989 that they had experienced higher levels of happiness, life-satisfaction, self-esteem, physical health and lower rates of depression than the non-volunteers [20]. Furthermore, an analysis of the *Assets and Health Dynamics Among the Oldest Old Study* found that persons aged 70 years or older who volunteered at least 100 hours during 1993 had less decline in self-reported health and functioning and lower levels of depression and mortality in 2000 [21]. An additional study of this dataset found a correlation between volunteering in 1998 and better health and lower mortality in 2000 among older adults born before 1923, *after* controlling for previous health conditions. People who volunteered for at least 100 hours annually were two-thirds as likely to report bad health, and one-third as likely to die [22]. These data suggest the absence of a linear relationship between the extent of volunteering and health benefits – i.e. more volunteering does not necessarily translate into greater benefits. But there is a “volunteering threshold” that is necessary for health benefits and once that threshold is reached (est. 2 hours per week) no additional benefits are acquired. Much less than 100 hours per year appeared to result in no benefits and much more than that does not add benefits beyond the 100-hour baseline. Although the use of such precision in defining this threshold should be viewed with caution due to the presence of individual heterogeneity and meaning structures within the subject sampling. Of importance, too, is an analysis of the contention that people who are depressed tend not to volunteer and that therefore the psychological benefits of volunteering really reflect the more elevated prior condition of the volunteer, are not compelling. While depression may be a barrier to volunteering in some cases, it is actually a *catalyst* for volunteering in older adults, who engage in such behaviors to offset the depression associated with role losses and loss of relationships [23,24]. Older adults who volunteered in 1986 had lower rates of depression in 1994 [25].

Dr. Albert Schweitzer once remarked, “The only ones among you who will be really happy are those who have sought and found how to serve.” Happiness researchers today would concur with such a statement. David G. Myers, a prominent happiness researcher, defines happiness, or subjective well-being, as a lasting perception that one’s life (or the current part of it) is “fulfilling, meaningful and pleasant.” Myers states: “...happiness makes people less self-focused and more altruistic. But it works the other way around too. Doing good makes us feel good. Altruism enhances our self-esteem. It gets our eyes off ourselves, makes us less self-preoccupied, gets us closer to the unself-consciousness that characterizes the flow state” [26]. In other words, caring for others creates a psychological momentum and a sense of self-competence that makes us happier.

Victor Frankl, in *Man's Search for Meaning*, said, "The more one forgets himself – by giving himself to a cause to serve or another person to love – the more human he is and the more he actualizes himself". What is called self-actualization is not an attainable aim at all, for the simple reason that the more one would strive for it, the more he would miss it. In other words, self-actualization is possible only as a side-effect of self-transcendence [27]. The bottom line is that people who think too much about themselves and who are preoccupied with their own desires – or their own troubles – are not very happy.

The psychological benefits of helping others

This discussion of the psychological health benefits of "doing unto others" will focus on the self-help movement's "helper's therapy principle," volunteerism, and a prospective longitudinal study that covers the lifespan.

Helping others as the real self-help

The therapeutic benefits of helping others have long been recognized by everyday people. The concept was first formalized in a widely-cited and often reprinted article by Frank Riessman that appeared in 1965 in *Social Work* [28]. Riessman, a distinguished social psychologist and founding editor of the journal *Social Policy*, defined the "helper therapy" principle on the basis of his observations of numerous self-help groups, in which helping others is deemed absolutely essential to helping oneself. These are grassroots groups that today involve tens of millions of Americans. The saying goes, "If you help someone up the hill, you get closer yourself." Riessman observed that the act of helping another heals the helper more than the person helped. In the early 1970s, the "helper therapy" principle was noted in a few premier psychiatry journals as professional researchers found that helping others was beneficial in a variety of contexts - including teens tutoring younger children [29].

Whether the group is focused on weight loss, smoking cessation, substance abuse, alcoholism, mental illness and recovery or countless other needs, a defining feature is that people are deeply engaged in helping one another and are, in part, motivated by an explicit interest in their own healing. These groups adhere to the view that people who have experienced a problem can help each other in ways that professionals cannot – i.e. with greater empathy and more self-disclosure.

The members of these groups are replacing negative emotional states with the positive state called "the helper's high," a pleasurable and euphoric emotional sensation of energy and warmth. The "helper's high" was first carefully described by Allen Luks [30]. Luks surveyed thousands of volunteers across the United States and found that people who helped other people consistently reported better health

than peers in their age group. Many stated that this health improvement began when they started to volunteer. Helpers report a distinct physical sensation associated with helping: about half report that they experience a "high" feeling, 43% felt stronger and more energetic, 28% felt warm, 22% felt calmer and less depressed, 21% experienced greater feelings of self-worth and 13% experienced fewer aches and pains.

Indeed, many state offices of mental health, including that of New York State, USA, emphasize the role of helping others through involvement in self-help groups. They recommend this activity to persons recovering from depression and schizophrenia [31]. This kind of state initiative is reminiscent of the famous "moral treatment" era in the American asylums of the 1820s and 30s; persons with melancholy and other ailments were treated with compassion and also, whenever possible, directly engaged in prosocial activities [32].

My favorite example of how helping others can be incorporated into mental health recovery is the Magnolia Clubhouse community in University Circle, Cleveland. It is based on the ICCD (International Center for Clubhouse Development) Model begun by Fountain House in New York City in 1948. There are now about 200 ICCD Clubhouses all over the USA and close to that number abroad. They offer training, certification and research conferences on the ICCD model. In Cleveland, Magnolia Clubhouse is a training site for psychology and psychiatry students, and is loosely associated with Case Western Reserve University. Members of the Clubhouse (18 years and over) typically have significant histories of mental illness, live in the area (usually in small apartments or occasionally with family) and are referred to the Clubhouse by health professionals. When they come by the Clubhouse (a large converted red brick mansion), usually in the morning or at midday, they decide on what helping activities they will perform. Lori D'Angelo, Ph.D., Director of Magnolia Clubhouse, responded to a question we posed about the members' helping others by saying, "I think that people tend to be more stable and happy if they feel like they are benefiting people more than themselves, or outside themselves. It helps them feel connected to a larger picture and I would think that of human beings in general." Members are not assigned duties, but choose the kind of helping they want to do and the extent to which they wish to do it. Some prepare meals, serve in the snack shop, help with hospitality, write letters, handle finances, do day-to-day cleaning, outside grounds keeping, snow plowing and the like. ICCD is a self-help program that is reminiscent of the moral treatment era. Clubhouse members, of which there are a couple of hundred at any given time, are treated with immense compassion by the staff and by volunteers from the community (www.magnoliacubhouse.org).

The pattern of one person helping another with the same problem was so central to Bill W., founder of AA, that he summed up the entire 12 steps in terms of surrender to a higher power and service to others [33]. Bill W. died

in 1971, but he is prominent in Life's list of the 100 greatest Americans of the 20th century as the originator of the entire self-help movement in America and worldwide (Life, "Life's 100 Most Important Americans of the 20th Century, No. 13:12, Fall 1990).

A small number of MS patients in a study of chronic illness were trained to provide compassionate, unconditional, positive regard for other MS sufferers through the venue of monthly supportive telephone calls that lasted 15 minutes. Over two years, the helpers showed "pronounced improvement in self-confidence, self-esteem, depression and role functioning" [34]. The helpers especially benefited in terms of protection against depression and anxiety. The researchers posit that providing peer support to others allows the helpers to break away from patterns of self-reference, allowing a shift in quality of life and personal meaning.

Volunteers and lowered depression

Much attention has been given to the health benefits of volunteering, especially among older adults. An early study compared retirees over age 65 who volunteered with those who did not [35]. Volunteers scored significantly higher in life satisfaction and will to live and had fewer symptoms of depression, anxiety and somatization. Because there were no differences in demographic and other background variables between the groups, the researchers concluded that volunteer activity helped explain these mental health benefits. Although non-volunteers spent more days in the hospital and were taking more medications, which may have prevented them from volunteering, the mental health benefits persisted after controlling for disability. Other studies confirm similar benefits [36,37]. Volunteering can provide a sense of purpose among older adults who have experienced a loss of major role identities, such as being wage-earners or parents [38] and is more strongly correlated with well-being for retirees than for those who continue to hold paying jobs [39].

The mental health benefits of giving in the form of volunteerism – a wider form of giving than charitable donation, include fewer depressive symptoms. Research on volunteering and depression, conducted from 1986 to 1994 with 3,617 adults aged 25 years and older, assessed depression using a self-report scale. Consistent volunteering was associated with reduced depression in all age groups, but particularly in those aged 65 or older [25]. These results were significant after adjusting for baseline levels of depression, demographics, employment, socioeconomic status, health and functioning, health behaviors and religious attendance.

Schwartz, et al. [40] focused on a stratified random sample of 2016 Presbyterian Church members located throughout the U.S. to determine whether altruistic social behaviors were associated with better mental health. Mailed questionnaires asked subjects to evaluate giving and receiving help, prayer activities, positive and negative

religious coping and self-reported physical and mental health. Although the sample was skewed toward high physical functioning, multivariate regression analysis revealed no association between giving or receiving help and physical functioning. After adjusting for age, gender, stressful life events, income, general health, religious coping and asking God for healing, both helping others and receiving help were associated with lowered anxiety and depression. The authors concluded that, "helping others is associated with higher levels of mental health, above and beyond the benefits of receiving help and other known psychospiritual, stress and demographic factors". An important qualifier was that "feeling overwhelmed by others' demands had a stronger negative relationship with mental health than helping others had a positive one".

In the context of the old-old (people aged 85 years or more), researchers studied 366 subjects living independently in a retirement community. After controlling for age, gender, marital status and chronic illness, those with higher levels of altruism (determined by questions such as "I place the needs of others ahead of my own") were happier and had fewer symptoms of depression than those who scored low in these attitudes [41].

The existing literature indicates that volunteering – at a level not experienced as overwhelming, does have positive impacts on happiness, mood, self-esteem and mental health. Improved psychological states and mental health appear to emerge from altruism. Mechanisms may include reduction in maladaptive health behaviors and self-absorption, increased sense of meaning or purpose, enhanced social competence and consequent social support.

A lifelong benefit for those who start young

It is well documented that volunteering in adolescence prevents teen pregnancy and academic failure, enhances social competence and self-esteem and protects against anti-social behaviors and substance abuse [42]. Michele Dillon and Paul Wink present novel findings based on longitudinal data [43]. Do generative qualities in adolescents predict better mental and physical health in adulthood? The authors address this question by examining data gathered from two adolescent research cohorts that were first interviewed in California in the 1930s and subsequently interviewed every ten years until the late 1990s. Generativity, defined as behavior indicative of intense positive emotion extending to all humanity, was measured in three dimensions: givingness; prosocial competence; social perspective. It is thus distinguished from altruism in that generative motives for 'other-regarding' behavior need not be entirely selfless. Using this multidimensional measure of generative behavior, the authors were able to isolate a potential mechanism underlying the generativity-health connection. The results of the study indicated that generative adolescents indeed do become both psychologically and physically healthier adults and that this health effect is more pronounced in the

psychological realm. While parental social class and religiousness were surprisingly unrelated to adolescent generative behavior, they found that positive intra-familial relationships strongly predicted generativity. Lastly, the physical health effect appears to only be the result of the prosocial competence dimension of generativity. The authors note that their measure of generativity was indistinguishable from measures of altruism. Their study lends support to the thesis that givingness and warmth are key emotions underpinning altruism, but the ability to put these emotions into practice depends upon the competence to act prosocially. In conclusion, the authors discuss the limitations of the study in terms of sample size and demographic makeup caused by the relative homogeneity of the sample living in San Francisco's East Bay Area in the 1930s. Despite these limitations, Wink and Dillon's study [43] lends crucial support to the notion that it is good to be good and that the benefits of altruism accrue across the entire lifespan.

In light of such lifespan benefits, it becomes worrisome that college students are described in one major survey as becoming more narcissistic. Sociologist Jean Twenge and colleagues [44] examined the responses of 16,475 college students nationwide who completed an evaluation called the Narcissistic Personality Inventory (NPI) between 1982 and 2006. This is considered a highly reliable inventory. In 2006, two-thirds of students had above-average scores, 30% more than in 1982. Narcissists are more likely to have short-lived romantic relationships, lack emotional warmth and to exhibit dishonesty, over-controlling and violent behaviors. The authors trace this trend back to the self-esteem movement that began in the early 1980s and has simply gone too far with regard to permissiveness, over-indulgence and other cultural factors. Such characterizations are rightly met with skepticism, but to the extent that this report is accurate, it is cause for concern.

The physiological connection

The hostile heart

In a study that goes back to 1983, Larry Scherwitz and his researchers at the University of California analyzed the speech patterns of 160 "type A" personality subjects (i.e. always in a hurry, *easily moved to hostility and anger*, high levels of competitiveness and ambition). His data showed that the incidence of heart attacks and other stress-related illnesses was highly correlated with the level of self-references (i.e. "I," "me," "my," "mine," or "myself") in the subject's speech during a structured interview. High numbers of self-references significantly correlated with heart disease, after controlling for age, blood pressure and cholesterol [45]. The researchers suggested that patients with more severe disease were more self-focused and less other-focused. They recommend that a healthier heart can

result when a person is more giving, listens attentively when others talk and does things that are unselfish. There is something about being self-obsessed or self-preoccupied that seems to add to stress and stress-induced physical illness. Perhaps positive 'other-regarding' emotions such as compassion *displace* the negative self-centered emotions that appear to have adverse consequences, thereby preventing stress-related physical harms. The connection between stress and adverse physical health is well documented [46-48].

Further research on hostility and coronary disease was conducted by Redford B. Williams, the distinguished cardiologist at Duke University [49]. The study results indicated that only one of the several components of Type A behavior leads to coronary artery disease - *hostility*. Williams used 50 questions pertaining to hostile emotions, attitudes and actions from the Minnesota Multiphasic Personality Inventory (MMPI), a widely-used psychological test, to form the Hostility Scale. Subjects respond to statements such as "someone bumps into me in a store" or "life is full of little annoyances." Colleagues studied 255 doctors who had taken the MMPI in the late 1950s while in medical school at the University of North Carolina (UNC). As they aged from 25 to 50, the UNC doctors whose Hostility scores were in the upper half were four to five times more likely than those with lower scores to develop coronary disease and nearly seven times more likely to die of any disease. Similar results were found in many other groups, including employees of Western Electric, who showed increased cancer deaths in addition. A group of UNC law students took the MMPI in the 1950s; fully 20% with Hostility scores in the highest quarter of their class had died by age 50, in contrast with only 4% of those in the lowest quarter. Approximately the same outcome was found among medical students. Eventually, the Hostility scale was refined to 27 questions about cynical mistrust of others, frequent angry feelings and overly-aggressive behavior that were more predictive of higher mortality rates. Many studies using the Hostility scale have concluded that hostility is truly a health-damaging personality trait, while being in a rush and hurry is not. Moreover, as a group, people with high Hostility scores are also unhappy. Most researchers explain the increased mortality in hostile individuals from coronary disease and cancer on elevated stress hormones cortisol and adrenaline (also known as epinephrine) and a related lowering of the immune response, perhaps mediated by lowered serotonin levels.

Psychoneuroimmunology

Researchers are only beginning to understand the possible mechanisms for the impact of psychological states on the body. Psychologist Corey L.M. Keyes [50], drawing on the MIDUS survey by the MacArthur Foundation (midlife in the United States), has demonstrated that individuals who are mentally healthy have the fewest chronic physical diseases and conditions. Improved psychological states and

mental health reduce distress-related wear and tear on the body, which enhances physical health through both the psychoneuroimmunologic and psychoendocrinologic pathways [51]. The connection between the nervous system and the immune system is now well documented in the field of psychoneuroimmunology (PNI) and behavioral endocrinology. For example, it is thought that psychological stressors impact the cellular immune response, ultimately affecting the occurrence and progression of certain tumor types [11]. When psychiatric interventions that enhance effective coping and reduce affective stress are provided shortly after diagnosis, they have beneficial effects on patient survival [52]. Stressful life events, such as the death of a loved one can markedly increase the chances of becoming ill. We often hear that someone seemed to have “died of grief”.

Jan Kiecolt-Glaser and Ronald Glaser, of Ohio State University’s Institute for Behavioral Medicine Research [53], demonstrated that emotional states can affect wound healing. They focused on 42 married couples who had been together for an average of 12 years. Each couple was admitted into the clinical research center for two 24-hour visits separated by a two-month interval. On each visit, husband and wife were fitted with a small suction device that created eight tiny blisters on their arms. The skin was removed from each blister and another device was placed over each small wound to form a protective bubble, from which researchers could extract fluids that typically fill such blisters. The couples filled out questionnaires that gauged their stress levels at the beginning of the experiment and were fitted with a catheter through which blood could be drawn. During the first visit, each spouse was asked to discuss some behavior that he or she would like to change. The discussions were positive and supportive. During the second visit, each spouse was asked to talk about an area of disagreement and conflict. Both discussions were videotaped and used to gauge the level of hostility between the spouses. Fluid from the wound sites and peripheral blood samples were also taken from each spouse. The results were as follows: wounds took a day longer to heal after an argument than after initial supportive discussion; couples with high levels of hostility needed two days longer for wound healing than their low hostility counterparts, amounting to a 40% decrease in healing rates; levels of one cytokine (interleukin-6) increased one-and-a-half times in hostile couples. Cytokines are important in the immune response; elevated levels are implicated in a variety of illnesses (e.g., cardiovascular disease, osteoporosis, arthritis, type-2 diabetes).

Genes

On the genetic level, it appears that altruism is associated with the dopamine D4 receptor [54]. 354 families with multiple siblings were administered a questionnaire on measures of selflessness – i.e. “the propensity to ignore one’s own needs and serve the needs of others.” The

researchers then examined two dopaminergic genes that they believed might contribute to prosocial behavior. They found significant multivariate associations between the Selflessness Scale and several of these dopaminergic gene polymorphisms. This finding suggests that “the genetic architecture of altruism in humans is partly built from genes that drive an altruistic behavioral pattern regardless of kin considerations.” In other words, “we feel good and are rewarded by a dopamine pulse, when doing good deeds.” In short, then, research shows that when people do “unto others” in kindness, it lights up that primitive part of the brain that lets us also experience pleasure through eating and having sex. This is good news – giving “unto others” goes with rather than against the evolved social nature of the human. Such research has been duplicated [14].

Doing “unto others”

In one impressive study that began in 1956, 427 wives and mothers who lived in upstate New York were followed for 30 years by researchers at Cornell University. The researchers were able to conclude that, regardless of number of children, marital status, occupation, education or social class, those women who engaged in volunteer work to help other people at least once a week lived longer and had better physical functioning, even after adjusting for baseline health status [55].

In another study, volunteers who volunteered for 100 hours or more in 1998 were approximately 30% less likely to experience limitations in physical functioning when compared with non-volunteers or those volunteering fewer hours per year, even after adjusting for smoking, exercise, social connections, paid employment, health status, baseline functional limitations, socioeconomic status and demographics [22]. In a third example, after making all the same adjustments, researchers who analyzed data from 1,500 adults between 1986 and 1994 found that volunteering predicted less functional disability 3-5 years later [56].

Just thinking about giving seems to have a physiological impact. In the 1980s, the renowned Harvard behavioral psychologist David McClelland discovered that Harvard students who were simply asked to watch a film about Mother Teresa’s work tending to orphans in Calcutta – an example of profound compassion, showed significant increases in the protective antibody salivary immunoglobulin A (S-IgA) over those watching a neutral film. McClelland termed this the “Mother Teresa Effect.” Moreover, S-IgA remained high for an hour after the film in those subjects who were asked to focus their minds on times when they had loved or been loved. Thus, “dwelling on love” strengthened the immune system [57].

Research conducted at the University of Miami School of Medicine compared the effects of elder retired volunteers giving massages to infants with receiving massages themselves. Immediately after the first- and last-day sessions of giving massages, the volunteers had less

anxiety and depression and lower stress hormones (salivary cortisol, plasma cortisol and norepinephrine). These effects were not as strong when the volunteers received massages [58].

Ironson and colleagues [59] at the University of Miami compared the characteristics of long-term survivors with AIDS (n=79) with an HIV-positive equivalent comparison group (based on CD4 count) that had been diagnosed for a relatively shorter time (n=200). These investigators found that survivors were significantly more likely to be spiritual or religious. The effect of spirituality/religiousness on survival, however, was mediated by “helping others with HIV”. Thus, helping others (altruism) accounted for a significant part of the relationship between spirituality/religiousness and long-term survival in this study. More recently, Ironson’s research team has discovered that altruism, as measured by a personality questionnaire (the NEO-PI-R) given to persons with HIV, is significantly related to lower levels of the stress hormones cortisol and norepinephrine [60].

At the Duke University Heart Center Patient Support Program, researchers concluded that former cardiac patients who make regular visits to help inpatient cardiac patients have a heightened sense of purpose and reduced levels of despair and depression, which are linked to mortality [61]. The Corporation for National & Community Service, which provides two million Americans of all ages and backgrounds with volunteer opportunities through Senior Corps, AmeriCorps and Learn and Serve America, conducted a study using health and volunteer data from the U.S. Census Bureau and the Center for Disease Control. It found that states with high volunteer rates also have lower rates of mortality and incidences of heart disease [62]. These findings resonate with those of Robert Putnam who found a strong correlation between level of social capital and good health in his study *Bowling Alone* [63].

One study that has impressed the research community was begun by David Spiegel of Stanford University. He randomly assigned women with advanced metastatic breast cancer to either routine care or routine care plus a cancer patient support group, which provided a safe and caring setting for discussion of issues. Spiegel expected that the support group would enhance patients’ mood, but not survival. As it turned out, the women in the support group survived twice as long (18 months compared with 9 months) as the women without support [64]. Since participation in a support group includes receiving support as well as an immense amount of giving to others, mainly through attentive listening and compassion, this study also points toward the benefits of helping others.

Mortality reduction and volunteerism as a measure of physical health

We previously noted that 20% of the lawyers and doctors with high hostility had died by age 50 [49]. Williams recommended forgiveness, volunteerism and listening to others as techniques to lower hostility. Negative emotions seem to act like a slow-acting poison that catches up with us in the end. There is an antidote to this poison – positive emotions, such as kindness, compassion and giving. Williams specifically suggested that altruism may enhance longevity by enlarging empathic capacities and reducing isolation. This prescription echoes that of Allan Luks, in his quite remarkable book entitled, *The Healing Power of Doing Good* [65]. Luks recommends helping others in situations that include personal contact with those helped, two hours a week of one-to-one caring, use of the helper’s skill set and exertion of self that involves reaching out emotionally or physically. He also suggests that the helper forget about any expected benefits. In essence, Williams [49] prescribes that people “seek those activities in your community that interest you most and also fit your level of commitment. Be as realistic as you can; stretch a bit, but you will gain little by volunteering more time than you can realistically spare or by exposing yourself to a group you are deeply turned off by or deeply afraid of.”

It may also be useful to bear in mind the remarkable studies on mortality reduction and positive emotions, such as kindness and tranquility, that involve the School Sisters of Notre Dame in the Nun Study. This study facilitated an examination of the relationship between autobiographical writings completed at a young age and longevity [66]. Sisters who used the greatest number of positive emotional words in their entrance essays as young women lived 6 to 10 years longer than those using the fewest emotional words. The nuns were an ideal population to study this hypothesis because they all had similar diets, housing and professional responsibilities. This study suggests that emotional states over the course of a lifetime can have significant impact on health and mortality.

A little more evidence to support the relationship between giving and longevity comes from a 1976 study. Nursing home residents were given more responsibility for everyday decision-making and were also able to pick out and care for a plant for their room (rather than having the nurses do it). The control group did not have this increased responsibility. The health of the plant-caring subjects improved, as assessed by doctors who were unaware of the study. In addition, the death rate among the caring subjects was half that of the control group [67].

Altruism is associated with substantial reduction in mortality rates, even after differences in socioeconomic status, prior health status, smoking, social support and physical activity are accounted for. In a large prospective study using a longitudinal survey of older adults, authors from the Buck Center for Research and Aging and Berkeley University tested the hypothesis that

volunteerism may reduce mortality risk [68]. After adjusting for multiple co-variables, the authors found that volunteering was significantly associated with reduced mortality. These results could only be partly explained by health habits, physical functioning and social integration and support. The study population included 2,025 community-dwelling residents of Marin County, California. All participants were aged 55 years or older at the time of the first interview in 1990-91; 95% were non-Hispanic white and 58% were female. The amount of volunteering was measured by the total number of organizations for which the participants volunteered. High volunteerism was defined as involvement with two or more organizations. Moderate volunteerism was defined as involvement with only one organization. The median number of hours volunteered per week was four and participants were dichotomized into less than or more than four hours a week. Co-variables included physical health and functioning status (chronic diseases, self-reported functioning, observed physical performance measures, etc.), health habits (exercise, amount of sleep, alcohol and smoking habits, Body Mass Index, etc.), socio-demographic factors (income, years of education, employment status, ethnic group), social functioning and support (marital status, religious service attendance, living arrangements, social activity attendance, etc.) and psychological variables (East Boston Memory test, self-rated mental health, etc.). Mortality was measured using local obituaries and attempts at re-interview. The National Death Index was consulted for the period from the first interview in 1990-1 to the end of the second examination in November 1995.

The main results were that high volunteers had the lowest mortality rate for both genders ($p < .02$). The older the people were, the greater the difference in mortality rate between non-volunteers and volunteers. For women, the highest mortality rate was among non-volunteers and there was a near linear trend from non-, to moderate-, to high-volunteerism. There was a threshold effect among men for high volunteers versus moderate to non-volunteers. A statistically significant association between high volunteerism and decreased mortality rate remained after correction for health status, resulting in an overall 44% reduction in mortality. When volunteering was dichotomously coded, it remained significantly protective after controlling for baseline health, chronic conditions, health habits and socioeconomic variables.

Oman's research over a decade [69] has focused on volunteering through a formal organization and thus does not treat informal helping behavior. He argues that the physical benefits of volunteerism are not attributable to the volunteer's being more physically active because many forms of volunteerism do not have a physical component. He states that there are health benefits for paid workers, but volunteering is free from the stress and pressures of the work environment, generally involves more meaning and has unique benefits associated with a clearer altruistic grounding. These findings hold true after adjusting for

prior health status as well as social support and other identifiable variables. Oman's research shows that the benefits of volunteerism are consistently complimented by a reframing of life's purposes and that there is a related synergy between volunteering and religious involvement that provides more health benefits than either alone. In other words, a deep sense of the meaning of doing "unto others" adds benefits to volunteering.

In a study from the Center for Health Care Evaluation and Stanford University [70], the researchers used a large national sample of older adults from the Longitudinal Study of Aging (LSOA) to test their hypothesis that frequent volunteering is associated with decreased mortality risk when the effects of socio-demographics, medical status, physical activity and social integration are controlled. They found support for their hypothesis. This retrospective study used a nationally representative sample ($n = 7,527$) of community-dwelling older people (≥ 70 years). Volunteering data were available on 7,496 respondents. Mean age (SD) was 76.8 (5.60) years and the sample was 62.1% female. Participants were asked if they had engaged in different forms of volunteer work in the past 12 months and, if so, how frequently. Covariates included socio-demographic variables (age group, sex, income, ethnic group, years of education, etc.), health (self-reported health, Body Mass Index, medical history items, etc.), physical activity (exercise levels) and social functioning and support (marriage, living arrangements, frequency of social activities, church or temple attendance etc.). Mortality information was obtained from death certificates in the National Death Index. Survival times were calculated to the nearest month for those who died between January 1984 and December 1991 ($n = 2866$). The remaining participants were presumed to be alive at the end of the 96-month screening period. When health and disability variables were included, those who sometimes volunteered had a 25% reduction in mortality risk and those who frequently volunteered had a 33% reduction. When physical activity variables were included, those who sometimes volunteered had a 23% reduction in mortality risk and those who frequently volunteered had a 31% reduction. When social functioning and support variables were included, there was a 19% reduction in mortality for those who volunteered frequently. The authors conclude, "We found that more frequent volunteering is associated with delayed mortality even when the effects of socio-demographics, medical and disability characteristics, self-ratings of physical activity and social integration and support are controlled. The effect of volunteering on mortality appears to be more than a proxy for the well-known effects of social support, health, age, and other variables."

Volunteerism is good for volunteers. It is important to develop programs that sustain volunteerism in older adults. As it turns out, new research from the Corporation for National & Community Service [62] indicates that older adults who volunteer in ways that involve mentoring of young people are much more likely to stay engaged with

this activity. 87% of volunteers who mentor perform at least one other volunteer activity, while only 40% who are not involved in mentoring do so (www.nationalservice.gov).

Brown et al. [71] at the University of Michigan performed a prospective analysis of a longitudinal survey of older married couples in the Detroit Standard Metropolitan Statistical Area who were part of the Changing Lives of Older Couples (CLOC) sample to answer two questions: (1) What is the relative contribution of providing social support to the beneficial effects of social support on health? (2) Does receiving support influence mortality if the effects of giving support and dependence are controlled? The Changing Lives of Older Couples sample included 1,532 married individuals, with data collected in the late 1980s and early 1990s. It focuses on those survey questions that indicate giving and helping others. The Brown study used 423 married couples for whom mortality data on both members were available. The study revealed that no matter how measures of giving support were operationalized, they were associated with decreased mortality risk; this was not the case for receiving support. Giving instrumental support to others (GISO) was measured by four survey questions about providing child care, transportation, errands and shopping for friends, family and neighbors in the past 12 months. Receiving instrumental support from others (RISO) was measured by a single question that asked whether the couple felt they could count on support if they needed it. The analysis of additional measures of giving and receiving support revealed that only one of the 10 different measures of receiving support was significantly associated with decreased mortality risk; all four of the measures of giving support significantly reduced mortality risk. The researchers conclude, "In this study, older adults who reported giving support to others had a reduced risk of mortality. The provision of support was correlated with reduced mortality in all analyses, whether giving support was operationalized as instrumental support provided to neighbors, friends and relatives or as emotional support provided to a spouse." Moreover, they concluded that, "If giving, rather than receiving, promotes longevity, then interventions that are currently designed to help people feel supported may need to be redesigned so that the emphasis is on what people do to help others" [72].

Brown's research [72] builds on the now uncontroversial claim that socially connected people outlive isolated people [73]. The question she asks is how and why this social connectedness enhances longevity. Brown challenges the assumption that people form relationships merely because they need things from others, for this assumes selfishness. Her study finds that social connectedness results in a 20% reduction in risk of death and that the effects of giving to others overwhelm the effects of receiving help from others. What is it about giving that is so protective? Brown argues that giving buffers stress and involves complex hormones, such as oxytocin and vasopressin, as well as a brain-emotion-

immune nexus. In contrast to Oman's research, which focuses on formal volunteering, Brown's work focuses on informal helping behavior in the various areas of life.

The idea that giving "unto others" is, with certain qualifications, good for the giver, is not news in the sense that it echoes perennial moral and spiritual wisdom. Key spiritual and religious texts have long acknowledged the benefits of giving. Although hypocrisy is present in the religious communities, religious people are, generally speaking, more generous and likely to volunteer than the non-religious [74]. This enhanced altruism may explain the greater average longevity among regular worshippers.

Why these benefits?

At the beginning of this paper, I stated that scientists look for the convergence of different methods in support of a hypothesis. The reader will now hopefully find it difficult to dismiss the idea that it's good to be good. Helping others is good for health [75]. The right dose, method and context will vary from person to person and no detailed prescriptions can cover human heterogeneity. But the principle is at least established.

The benefit may be explained in part by the simple fact that it is easier to get one's mind off problems and losses in life by helping others. Altruism is a terrific coping mechanism and many who have lost loved ones to illness or catastrophe become actively engaged as supporters and activists in voluntary associations related to the lost family member or friend.

Positive emotions, such as compassion and care, displace negative ones, such as hostility, rumination, resentment and fear. With the exception of the field of psychosomatics, Western science since the Enlightenment has considered the mind and body as unrelated. Today there are few informed people who do not appreciate the connection between mind and body and between emotional and physical health. The immune and nervous systems communicate with each other, establishing a clear relationship between emotions and disease [48]. In response to stressful emotions such as rage or anger, the body secretes hormones that prepare it for physical exertion; stress hormones make the heart and lungs work faster, tighten muscles, slow digestion and elevate blood pressure. This is a good thing in short bursts to deal with perilous circumstances. But when the body steps on this accelerator in a continuous response to the constant pressures and anxieties of today's world, depression is more likely and physical illnesses can easily result from lowered immune resistance.

Unselfish love and kindness, including manifestations such as forgiveness, displace emotional states such as rage, bitterness, loneliness and hatred, all of which cause stress and stress-related illness through adverse impact on immune function [36,48,76].

Psychiatric diseases linked to long-term stress include anxiety, panic attacks, post-traumatic stress disorder, phobias and depression. Perpetual stressful emotions are like acid searing metal, while positive ones can promote health and healing. Chronic stress has been linked to heart and vascular system disease, gastrointestinal conditions, headaches, skin conditions, chest infections and fatigue, among others. Positive emotional states do have a marked physiological impact, if only by virtue of displacing negative ones. Inner peace, loving relationships, simple joys, serving others, attentive listening, compassion and tranquility somehow link together in forming a buffer against a life where the emotional pot of hostility, ill will, rage, anger and cynicism is always boiling. When we are emotionally caring and connected in giving behaviors, the negative emotions are displaced by positive ones. The results, as indicated by various measures of stress hormones and immune antibodies, are relatively well established – it's good to be good and science says it's so.

Altruistic activities are associated with better care of the self. Adolescent generativity (as present in the lives of a subset of adolescents decades ago) predicted reports of feeling satisfied with life, being peaceful and happy, having good mental health and not being depressed as older adults. The researchers indicate that one important mechanism involved is adolescent prosocial competence, which results in a lifetime of sound judgments, choices and habits. The generative adolescents tended not to be smokers or excessive drinkers [43].

So what kind of creatures are we? The association between a kind, generous way of life and health-prolongevity can be interpreted in the light of evolutionary psychology. While it is not appropriate here to make a full case for evolutionary altruism, it can be asserted that group selection theory predicts a powerfully adaptive connection between widely diffuse altruism within groups and group survival [77]. Members of a successful group would likely be innately oriented to 'other-regarding' behaviors. Anthropologists point out that early egalitarian societies practiced institutionalized or "ecological altruism," where helping others was a social norm and not an act of volunteerism. There appears to be a fundamental human drive toward 'other-regarding' actions. When this drive is inhibited, the human being does not thrive. Evolution suggests that human nature evolved emotionally and behaviorally in a manner that confers health benefits to those who practice benevolent love and helping behaviors. We seem to prosper under the canopy of positive emotions. These emotions have value to the group in its competition against other groups. Based on preliminary data, it seems that our immune and endocrine systems reflect this evolutionary strategy.

The evidence is quite consistent that helping others, so long as it is not experienced as overwhelming, is associated with happiness, psychological and mental health, better self-rated physical health and functioning and (on average) longer life, after adjusting for the standard set of potential confounding variables. We know from the

2006 General Social Survey, in which 27,000 adults were questioned about job satisfaction and general happiness, that those with jobs that involve helping or serving others are more satisfied with their work and happier than those whose jobs do not permit altruistic gratification [78]. The precise correct dose and features of altruism remain vague, in large part because every individual is unique psychologically, physically, socially and spiritually. And not all givers benefit equally.

Charles Darwin, later in his life, in his classic work *The Descent of Man*, wrote "Those communities which included the greatest number of the most sympathetic members would flourish best and rear the greatest number of offspring." Implicit in this observation is that helping others goes with rather than against the grain of human nature and is a powerful aspect of our flourishing. A successful life requires something very different than gladiatorial combat, although the defense of the self is sometimes necessary. Still, the dominant human social reality is mutual aid. One would expect evolved health benefits to be associated with such activities.

My working hypothesis is that one of the healthiest things a person can do is to step back from self-preoccupation and self-worry, as well as from hostile and bitter emotions; there is no more obvious way of doing this than focusing attention on helping others. This transformation of being and doing seems to promote emotional and physical well-being; odds are, it will add some years to life. Whether we get started young or as older adults, this transformation has health benefits. The experience of helping others provides meaning, a sense of self-worth, a social role and health enhancement.

While at McGill university, Hans Selye, the great psychiatrist, discovered a physiological effect that he termed "stress". Rats who were subjected to the trauma of a needle shot showed high adrenaline and cortisol levels that released fatty acids into the blood for additional energy. If prolonged, this stress response shifts from giving an energy boost to converting fatty acids into dangerous levels of cholesterol and causing atrophy of the tissues of the immune system. Selye later wrote his remarkable book, *The Stress of Life*, in 1956 [79]. He believed that one way to lower daily stress levels is to help others, for this quiets stress and allows for the restoration of a healthier state. Through doing "unto others" the giver creates "feelings of accomplishment and security" as others are inspired to "love, good will and gratitude for what we have done or are likely to do in the future" [79]. Allan Luks wrote another important book in the history of this field (1991) that greatly developed Selye's concept. In 1954, the remarkable Harvard sociologist Pitirim Sorokin stated that while "hateful emotion undermines our health," love and kindness make us happier and healthier [80].

Moving into the public health mainstream

Increasingly, this connection has been taken seriously, even by government think tanks. For example, on October 22, 2008, the leading British governmental scientific group, *Foresight* (headed by the government's chief scientist Professor John Beddington and comprised of over 400 distinguished researchers) issued a major report entitled *Mental Capital and Wellbeing*, in which a campaign for the improvement of mental wellbeing and health was described. One of the five key elements of enhanced wellbeing and prevention of mental illness was "giving to neighbors and communities" [81].

There is solid evidence to support the perennial hypothesis that benevolent emotions, attitudes and actions centered on the good of others contribute to the giver's happiness, health and even longevity. Although genuine benevolence must be chiefly motivated by concern for others, it has the side effect of nourishing the giver. Researchers in the social sciences and health outcomes look for a convergence of results across a variety of methods in order to determine the truth of any hypothesis. The evidence that "doing unto others" is good for the giver has reached a high threshold with regard to everyday kindness and good deeds that bestow upon the giver a feeling of meaning, buoyancy and warmth and deflect attention away from the self and its problems.

Of course, helping others is not all there is to leading a happy and healthy life. Exercise makes a difference, as does a good night's sleep. A good diet helps (blueberries have large amounts of anti-oxidants; green tea includes flavanoids, which can protect blood vessels and fight inflammation). Whole grain cereals appear to decrease the risk of developing heart disease. Keep a circle of friends and have a lasting low conflict marriage. Stay hopeful, because optimists are less likely to die of heart-related causes than those who are very pessimistic. All of these recommendations are sound, but the focus here is on the scientific support for our central claim that sincerely contributing to the lives of others is a good way to live a happier and healthier life.

The studies summarized here have enormous implications for how we think about human nature, the moral and spiritual life and well-being. All significant ethical traditions denounce selfishness. "Good" across these traditions has been universally associated with other-regarding virtues and actions and contrasted with narcissism and selfishness. Virtue is its own reward in the sense that doing good brings benefits to the actor by virtue of participating in the emotional energy of benevolence. Reciprocal gains may occur, but they cannot be counted on. Fortunately, the good life brings internal rewards to the agent that can be counted on and these should be experienced without guilt. Generally, these rewards include greater happiness and better health. It's good to be

good and to grasp this is to know the dynamic of the human essence.

Perennial spiritual and moral wisdom

The idea that giving "unto others" is, with certain qualifications, good for the giver, is not news in the sense that it echoes perennial moral and spiritual wisdom. Key spiritual and religious texts have long acknowledged the benefits of giving. Although hypocrisy is present in the religious communities, religious people are, generally speaking, more generous and likely to volunteer than the non-religious [74]. This enhanced altruism may explain any greater average longevity among regular worshippers.

Ralph Waldo Emerson, in his famous essay on the topic of compensation, wrote, "It is one of the most beautiful compensations of this life that no man can sincerely try to help another without helping himself...." The 16th-century Hindu poet Tulsidas, as translated by Mohandas K. Gandhi, wrote, "This and this alone is true religion – to serve others. This is sin above all other sin – to harm others. In service to others is happiness. In selfishness is misery and pain." The 9th-century sage Shantideva wrote, "All the joy the world contains has come through wishing the happiness of others." *Proverbs* 11:15 reads, "those who refresh others will be refreshed." Martin Buber described the moral transformation of shifting from "I-It" to "I-Thou," from a life centered on self as the center of the universe around whom, like the sun, all others revolve. This "I" relates to others only as means to its own ends. But the spiritual and moral self of "I-Thou" discovers "the other as other" and relates to them in compassion and respect. There is still an "I" of course, but a deeper and better I; science now shows a happier and healthier "I" as well. Every major religion recommends the discovery of a deeper and more profound human nature, designated in various ways as the "true self." In *Acts* 20, we find the words, "'Tis better to give than to receive," and these echo down into the *Prayer of St. Francis*. Now science confirms that it is so.

And it is perhaps here that the most meaningful exchange between science and religious thought should occur. For we can no longer afford to believe that we will find happiness and health through self-obsession. Selfishness and greed are not a good way to care for the self, while compassion and doing "unto others" seem to be the successful strategy. In extreme cases, however, self-preservation and love of neighbor can be in conflict; it is here where real loss to the self comes into play and here that the extent of love for another is measured.

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