

Scientific Benefits of Meditation – 76 things you might be missing out

We all have heard that “meditation is good for you”. But good in what terms? Is that just reports from people doing it for 10 years, or are there good scientific studies showing specific benefits that I care about?

In this massive article I have summarised several scientific discoveries on the benefits of meditation. Over 100 studies were analysed (some of which were already analysis of other hundreds of studies), and categorised the findings into 76 benefits (divided into 46 subheadings). You will be surprised in reading some of these.

You will noticed that on many blogs and forums when people answer the question “why should I meditate” or “what are the benefits of meditation”, they do mention a few benefits, but leave a lot behind. Or they often lack scientific evidence backing up what they say (like [this one](#)). There are [over 3,000](#) scientific studies on the benefits of meditation, but I have not found any blog that compiles hundreds of researches into an organised article, so decided to fill in the gap.

These studies were based on different “styles” of meditation, and I have included details, whenever relevant. Some effects, such as increased compassion and social bonding, are more salient as a result of specific types of meditation (such as loving-kindness Buddhist meditation). However, my understanding and personal practice is that any kind of authentic meditation will include most of these benefits, in one degree or another.

Some of the studies indicated that meditating **even 20 minutes per day** for a few weeks was already [enough to start experiencing the benefits](#).

As you see in the footer, my goal with this blog is to **bring mindfulness and personal growth to one million humans**. That is why I wrote this article, and I will be really grateful if you can **leave a comment**, and **share** this in your social media channels.

[Download our infographic at: <http://liveanddare.com/wp-content/uploads/2015/01/Benefits-of-Meditation-Infographic.png>.

Permission is not required to share; but please provide a reference to it's source.]

1. Brain & Moods

Mindfulness practices decreases depression

In a study conducted at five middle schools in Belgium, involving about 400 students (13 ~ 20 years old), Professor Filip Raes concludes that “students who follow an in-class mindfulness program report reduced indications of depression, anxiety and stress up to six months later. Moreover, these students were less likely to develop pronounced depression-like symptoms.” Another study (University of California), made with patients with past depression, concluded that mindfulness meditation decreases ruminative thinking and dysfunctional beliefs. Yet [another](#) concludes that mindfulness meditation may be effective to treat depression *to a similar degree as antidepressant drug therapy*”.

Sources: [ScienceDaily](#), [Link Springer](#), [Jama Network](#)

Mindfulness meditation helps treat depression in mothers to be

High-risk pregnant women who participated in a ten-week mindfulness yoga training saw significant reductions in depressive symptoms, according to a *University of Michigan Health System* pilot feasibility study. The mothers-to-be also showed more intense bonding to their babies in the womb. The findings were published in *Complementary Therapies in Clinical Practice*.

Source: [Medical News Today](#)

Meditation practices help regulate mood and anxiety disorders

This is also the conclusion of over 20 randomised control studies taken from PubMed, PsycInfo, and the Cochrane Databases, involving the techniques of Meditation, Meditative Prayer, Yoga, Relaxation Response. [Another research](#) concludes that mindfulness meditation may be effective to treat anxiety *to a similar degree as antidepressant drug therapy*. (Somebody please tweet that! The world needs to hear!)

Source: [The Journal of Alternative and Complementary Medicine](#), [Jama Network](#)

Meditation reduces stress and anxiety in general

A study from the *University of Wisconsin-Madison* indicates that the practice of “Open Monitoring Meditation” (such as Vipassana), reduces the grey-matter density in areas of the brain related with anxiety and stress. Meditators were more able to “attend moment-to-moment to the stream of stimuli to which they are exposed and less likely to ‘get stuck’ on any one stimulus.” “Open Monitoring Meditation” involves non-reactively monitoring the content of experience from moment-to-moment, primarily as a means to recognize the

nature of emotional and cognitive patterns. There are other studies as well, for which I simply present the link below, to avoid repetition.

Sources: [NCBI](#), [Wiley Online Library](#), [The American Journal of Psychiatry](#), [ScienceDirect](#), [American Psychological Association](#), [American Psychosomatic Medicine Journal](#), [Medical News Today](#)

Meditation helps reduce symptoms of panic disorder

In a research published in the American Journal of Psychiatry, 22 patients diagnosed with anxiety disorder or panic disorder were submitted to 3 months meditation and relaxation training. As a result, for 20 of those patients the effects of panic and anxiety had reduced substantially, and the changes were maintained at follow-up.

Source: [American Journal of Psychiatry](#)

Meditation increases grey matter concentration on the brain

A group of Harvard neuroscientists ran an experiment where 16 people were submitted to an eight-week mindfulness course, using guided meditations and integration of mindfulness into everyday activities. The results were reported by [Sara Lazar](#), PhD. At the end of it, MRI scans show that the grey matter concentration increases in areas of the brain involved in learning and memory, regulating emotions, sense of self, and having perspective. Other studies also show a larger hippocampal and frontal volumes of grey matter for long-term meditators.

Sources: [Psychiatry Research Neuroimaging](#), [ScienceDirect](#)

Meditation acutely improves psychomotor vigilance, and may decrease sleep need

On a research conducted by the University of Kentucky, participants were tested on four different conditions: Control (C), Nap (N), Meditation (M) and Sleep Deprivation plus Meditation. Non-meditators, novice meditators and experienced meditators were part of the experiment. The results suggest that:

Meditation provides at least a short-term performance improvement even in novice meditators. In long term meditators, multiple hours spent in meditation are associated with a significant decrease in total sleep time when compared with age and sex matched controls who did not meditate. Whether meditation can actually replace a portion of sleep or pay-off sleep debt is under further investigation.

Sources: [NCBI](#), [DoctorsOnTM](#), [Time Magazine](#)

Long-term meditation enhances the ability to generate gamma waves in the brain

In a study with Tibetan Buddhist monks, conducted by neuroscientist Richard Davidson of the University of Wisconsin, it was found that novice meditators “showed a slight increase in gamma activity, but most monks showed extremely large increases of a sort that has never been reported before in the neuroscience literature”.

Source: [The Wall Street Journal](#)

Meditation helps reduce alcohol and substance abuse

Three studies made with Vipassana meditation in incarcerated populations suggested that it can help reduce alcohol and substance abuse.

Source: [Journal Of Alternative and Complementary Medicine](#)

2. Mind & Performance

Meditation improves your focus, attention, and ability to work under stress

A study led by Katherine MacLean of the University of California suggested that during and after meditation training, subjects were more skilled at keeping focus, especially on repetitive and boring tasks. Another study demonstrated that even with only 20 minutes a day of practice, students were able to improve their performance on tests of cognitive skill, in some cases doing 10 times better than the group that did not meditate. They also performed better on information-processing tasks that were designed to induce deadline stress. In fact, there is [evidence](#) that meditators had thicker prefrontal cortex and right anterior insula, and also to the effect that meditation might offset the loss of cognitive ability with old age.

Sources: [Time Magazine](#), [NCBI](#), [Link Springer](#)

Meditation improves information processing and decision making

Eileen Luders, an assistant professor at the UCLA Laboratory of Neuro Imaging, and colleagues, have found that long-term meditators have larger amounts of gyrification (“folding” of the cortex, which may allow the brain to process information faster) than people who do not meditate. Scientists suspect that gyrification is responsible for making the brain better at processing information, making decisions, forming memories and improving attention.

Source: [UCLA Newsroom](#)

Meditation gives you mental strength, resilience and emotional intelligence

PhD psychotherapist Dr. Ron Alexander reports in his book [Wise Mind, Open Mind](#) that the process of controlling the mind, through meditation, increases mental strength, resilience, and emotional intelligence.

Source: [Dr. Ron Alexander](#)

Meditation makes you stronger against pain

A research group from the University of Montreal exposed 13 Zen masters and 13 comparable non-practitioners to equal degrees of painful heat while measuring their brain activity in a functional magnetic resonance imaging (fMRI) scanner. What they discovered is that the Zen meditation (called zazen) practitioners reported less pain. Actually, they reported less pain than their neurological output from the fMRI indicated. So, even though their brain may be receiving the same amount of pain input, **in their mind's there is actually less pain.**

Sources: [Time Magazine](#), [NCBI](#), [David Lynch Foundation](#)

Meditation relieves pain better than morphine

In an experiment conducted by *Wake Forest Baptist Medical Centre*, 15 healthy volunteers, who were new to meditation, attended four 20-minute classes to learn meditation, focusing on the breath. Both before and after meditation training, study participants' brain activity was examined using ASL MRI, while pain was inflicted in them by using heat. Fadel Zeidan, Ph.D., lead author of the study, explains that

This is the first study to show that only a little over an hour of meditation training can dramatically reduce both the experience of pain and pain-related brain activation. (...) We found a big effect – about a 40 percent reduction in pain intensity and a 57 percent reduction in pain unpleasantness. Meditation produced a greater reduction in pain than even morphine or other pain-relieving drugs, which typically reduce pain ratings by about 25 percent.”

Source: [Huffington Post](#)

Meditation helps manage ADHD (attention deficit hyperactivity disorder)

In a study made with 50 adult ADHD patients, the group that was submitted to MBCT (Mindfulness-based cognitive therapy) demonstrated reduced hyperactivity, reduced impulsivity and increased “act-with-awareness” skill, contributing to an overall improvement in inattention symptoms.

Sources: [Clinical Neurophysiology Journal](#), [DoctorsOnTM](#)

Meditation increases the ability to keep focus in spite of distractions

A study from *Emory University*, Atlanta, demonstrated that participants with more meditation experience exhibit increased connectivity within the brain networks controlling attention. These neural relationships may be involved in the development of cognitive skills, such as maintaining attention and disengaging from distraction. Moreover, the benefits of the practice were observed also in normal state of consciousness during the day, which speaks to the transference of cognitive abilities “off the cushion” into daily life. The meditation practice examined was focusing the attention on the breath.

Source: [Frontiers Journal](#)

Meditation improves learning, memory and self-awareness

Long-term practice of meditation increases grey-matter density in the areas of the brain associated with learning, memory, self-awareness, compassion, introspection.

Source: [NCBI](#)

Mindfulness meditation improves rapid memory recall

According to Catherine Kerr of the Martinos Center for Biomedical Imaging and the Osher Research Centre, “Mindfulness meditation has been reported to enhance numerous mental abilities, including rapid memory recall”.

Source: [PsychCentral](#)

Meditation improves your mood and psychological well-being

Researchers from *Nottingham Trent University*, UK, found that when participants with issues of stress and low mood underwent meditation training, they experienced improvements in psychological well-being.

Source: [Link Springer](#)

Meditation prevents you from falling in the trap of multitasking too often

Multitasking is not only a [dangerous productivity myth](#), but it’s also a [source of stress](#). “Changing gears” between activities is costly for the brain, and induces feelings of distraction and dissatisfaction from the work being done. In a research conducted by the University of Washington and University of Arizona, Human Resource personnel were given 8 weeks of training in either mindfulness meditation or body relaxation techniques, and were given a stressful multitasking test both before and after training. The group of staff that had practiced meditation reported lower levels of stress and showed better memory for the tasks they had performed; they also switched tasks less often and

remained focused on tasks longer.

Source: [ACM Digital Library](#)

Meditation helps us allocate limited brain resources

When the brain is presented two targets to pay attention to, and they right after one another (half a second difference), the second one is often not seen. This is called “attentional-blink”. In an experiment conducted by the *University of California*, a stream of random letters was shown in a computer screen, in rapid succession. In each session, one or two numbers or blank screens would appear in the middle, and participants were later asked, immediately after the stream ended, to type the numbers they saw. They were also asked whether they thought a blank screen was shown or not. Subjects that had undergone 3 months of intense Vipassana Meditation were found to have a better control over the distribution of attention and perception resources. They showed less allocation of brain-resource for each letter shown, which resulted in reduction in “attentional-blink” size.

Source: [PLOS Biology](#)

Meditation improves visuospatial processing and working memory

Research has shown that even after **only four sessions of mindfulness meditation** training, participants had significantly improved visuospatial processing, working memory, and executive functioning.

Source: [ScienceDirect](#)

Meditation prepares you to deal with stressful events

A study from *All India Institute of Medical Sciences*, conducted with 32 adults that had never practiced meditation before, showed that if meditation is practiced before a stressful event, the adverse effects of stress were lessened.

Source: [The Journal of Alternative and Complementary Medicine](#)

Mindfulness meditation fosters creativity

A research from *Leiden University* (Netherlands) demonstrates that the practice of “open monitoring” meditation (non-reactively monitoring the content of experience from moment-to-moment) has positive effects in creativity and divergent thinking. Participants who had followed the practice performed better in a task where they were asked to creatively come up with new ideas.

Source: [The Journal of Alternative and Complementary Medicine](#)

3. Body & Health

Meditation reduces risk of heart diseases and stroke

More people die of heart diseases in the world than [any other illness](#). In a study published in late 2012, a group of over 200 high-risk individuals was asked to either take a health education class promoting better diet and exercise or take a class on Transcendental Meditation. During the next 5 years researchers accompanying the participants found that those who took the meditation class had a 48% reduction in their overall risk of heart attack, stroke and death. They noted that meditation “significantly reduced risk for mortality, myocardial infarction, and stroke in coronary heart disease patients. These changes were associated with lower blood pressure and psychosocial stress factors.” There are also other researches pointing out similar conclusions, about related health conditions.

Sources: [Time Magazine](#), [American Heart Association](#), [HealthCentral](#)

Meditation affect genes that control stress and immunity

A study from *Harvard Medical School* demonstrates that, after a practicing yoga and meditation, the individuals had improved mitochondrial energy production, consumption and resiliency. This improvement develops a higher immunity in the system and resilience to stress.

Sources: [Bloomberg](#), [NCBI](#), [American Psychosomatic Medicine Journal](#), [Journal of International Society of Psychoneuroendocrinology](#)

Meditation reduces blood pressure

Clinical research has demonstrated that the practice of Zen Meditation (also known as “Zazen”) reduces stress and high blood pressure. Another experiment, this time with a technique called “relaxation response”, yielded similar results, with 2/3 of high blood pressure patients showing significant drops in blood pressure after 3 months of meditation, and, consequently, less need for medication. This is because relaxation results in the formation of nitric oxide, which opens up your blood vessels.

Source: [The Journal of Alternative and Complimentary Medicine](#), [NPR News](#)

Mindfulness training decreases inflammatory disorders

A study conducted in France and Spain at the *UW-Madison Waisman Centre* indicates that the practice of mindfulness meditation produces a range of genetic and molecular effects on the participants. More specifically, it was noted reduced levels of pro-inflammatory genes, which in turn correlated with faster physical

recovery from a stressful situation.

Source: [University of Wisconsin Madison](#), & [HealthCentral](#) & [Medical News Today](#)

Mindfulness meditation decreases cellular-level inflammation

In the three studies below, the group that undertook mindfulness training had better results at preventing cellular level inflammation than the control groups.

Sources: [ScienceDirect](#) (1), [ScienceDirect](#) (2), [ScienceDirect](#) (3)

Mindfulness practice helps prevent asthma, rheumatoid arthritis and inflammatory bowel disease

In a research conducted by neuroscientists of the *University of Wisconsin-Madison*, two groups of people were exposed to different methods of stress control. One of them received mindfulness training, while the other received nutritional education, exercise and music therapy. The study concluded that mindfulness techniques were more effective in relieving inflammatory symptoms than other activities that promote well-being.

Source: [Medical News Today](#)

Meditation and meditative prayer help treat premenstrual syndrome and menopausal symptoms

This is the conclusion of over 20 randomised control studies taken from PubMed, PsycInfo, and the Cochrane Databases, involving the techniques of Meditation, Meditative Prayer, Yoga, Relaxation Response.

Source: [The Journal of Alternative and Complementary Medicine](#)

Mindfulness meditation reduces risk of Alzheimer and premature death

Results from recent research, published online in the journal *Brain, Behavior and Immunity*, states that just 30 minutes of meditation a day not only reduces the sense of loneliness, but also reduces the risk of heart disease, depression, Alzheimer's and premature death.

Source: [HealthCentral](#)

Mindfulness training is helpful for patients diagnosed with fibromyalgia

In a study published in PubMed, 11 participants that suffered from fibromyalgia underwent an 8-week mindfulness training. As a result, the researchers found significant improvement in the overall health status of the participants and in symptoms of stiffness, anxiety, and depression. Significant improvements were

also seen in the reported number of days “felt good” and number of days “missed work” because of fibromyalgia.

Source: [NCBI](#) (1), [NCBI](#) (2), [Psychotherapy and Psychosomatics Journal](#)

Meditation helps manage the heart rate and respiratory rate

In a study published by the Korean Association of Genuine Traditional Medicine, practitioners of “Integrated Amrita Meditation Technique” showed a significant decrease in heart rate and respiratory rate for up to 8 months after the training period.

Source: [KoreaScience](#)

Mindfulness meditation may even help treat HIV

Quoting from a study from UCLA:

Lymphocytes, or simply CD4 T cells, are the “brains” of the immune system, coordinating its activity when the body comes under attack. They are also the cells that are attacked by HIV, the devastating virus that causes AIDS and has infected roughly 40 million people worldwide. The virus slowly eats away at CD4 T cells, weakening the immune system. But the immune systems of HIV/AIDS patients face another enemy as well – stress, which can accelerate CD4 T cell declines. Now, researchers at UCLA report that the **practice of mindfulness meditation stopped the decline of CD4 T cells in HIV-positive patients** suffering from stress, slowing the progression of the disease. (...) Creswell and his colleagues ran an eight-week mindfulness-based stress-reduction (MBSR) meditation program and compared it to a one-day MBSR control seminar, using a stressed and ethnically diverse sample of 48 HIV-positive adults in Los Angeles. Participants in the eight-week group showed no loss of CD4 T cells, indicating that mindfulness meditation training can buffer declines. In contrast, the control group showed significant declines in CD4 T cells from pre-study to post-study. Such declines are a characteristic hallmark of HIV progression.

Source: [ScienceDaily](#)

Meditation may make you live longer

Telomeres are an essential part of human cells that affect how our cells age. Though the research is not conclusive yet, there is data suggesting that “that some forms of meditation may have salutary effects on telomere length by reducing cognitive stress and stress arousal and increasing positive states of mind and hormonal factors that may promote telomere maintenance.”

Source: [Wiley Online Library](#)

Health benefits of Transcendental Meditation

There is an abundance of studies around the health benefits of Transcendental Meditation (a popular modality of meditation). In a nutshell, TM is found to

- Reduce metabolic syndrome (American Medical Association's Archives of Internal Medicine, June 2006)
- Extended longevity (American Journal of Cardiology, May 2005)
- Lower blood pressure in at-risk teens (American Journal of Hypertension, April 2004; and [DoctorsOnTM](#))
- Reduce atherosclerosis (American Journal of Cardiology, April 2002)
- Reduce thickening of Coronary Arteries (Stroke, March 2000)
- Reduce myocardial ischemia (American Journal of Cardiology, May 1996)
- Help manage and prevent anxiety ([here](#) & [here](#))
- Helps manage cholesterol ([DoctorsOnTM](#))
- Help treat epilepsy ([DoctorsOnTM](#))
- Helps you stop smoking ([DoctorsOnTM](#))
- Creates a state of deep rest in the body and mind (*Hypertension* 26: 820-827, 1995)
- Increases skin resistance (*Physiology & Behavior* 35: 591-595, 1985)
- Clarity of thinking (*Perceptual and Motor Skills* 39: 1031-1034, 1974)

Sources: [David Lynch Foundation](#)

4. Relationships

Loving-kindness meditation improves empathy and positive relationships

In Buddhist traditions we find the practice of *metta*, or loving-kindness meditation, where the practitioner focuses on developing a sense of benevolence and care towards all living beings. According to a study from Emory University, such exercises effectively boost one's ability to empathize with others by way of reading their facial expressions.

Another study points out that the development of positive emotions through compassion builds up several personal resources, including "a loving attitude toward oneself and others and includes self-acceptance, social support received, and positive relations with others", as well as "feeling of competence about one's life" and includes "pathways thinking, environmental mastery, purpose in life, and ego-resilience".

Sources: [ScienceDaily](#), [NCBI](#), [PLOS One](#)

Loving-kindness meditation also reduces social isolation

In a study published in the *American Psychological Association*, subjects that did “even just a few minutes of loving-kindness meditation increased feelings of social connection and positivity toward novel individuals, on both explicit and implicit levels. These results suggest that this easily implemented technique may help to increase positive social emotions and decrease social isolation”.

Source: [American Psychological Association](#)

Meditation increases feelings of compassion and decreases worry

After being assigned to a 9-week compassion cultivation training (CCT), individuals showed significant improvements in all three domains of compassion – compassion for others, receiving compassion from others, and self-compassion. In a similar situation, the practitioners also experienced decreased level of worry and emotional suppression.

Sources: [Stanford School of Medicine](#) (also [here](#)), [Sage Journals](#).

Mindfulness meditation decreases feelings of loneliness

A study from *Carnegie Mellon University* indicates that mindfulness meditation training is useful in decreasing feelings of loneliness, which in turn decreases the risk for morbidity, mortality, and expression of pro-inflammatory genes.

Source: [ScienceDirect](#)

Meditation reduces emotional eating

Scientists believe that Transcendental Meditation help manage emotional eating, which prevents obesity.

Source: [DoctorsOnTM](#)

5. Mindfulness For Kids

In a huge compilation of studies made about mindfulness in schools, MindfulnessInSchools.org presented research evidence for the following benefits for kids:

- reduced depression symptoms
- reduced somatic stress
- reduced hostility and conflicts with peers
- reduced anxiety
- reduced reactivity
- reduced substance use
- increased cognitive retention
- increased self-care
- increased optimism and positive emotions
- increased self-esteem
- increased feelings of happiness and well-being
- improved social skills
- improved sleep
- improved self-awareness
- improved academic performance

There was also numerous reports of benefits for teachers and staff, including:

- increased personal qualities of open-minded curiosity, kindness, empathy, compassion, acceptance, trust, patience, and non-striving, and the skills of focusing, and paying and switching attention
- improvements in physical and mental health that tend to follow the learning of mindfulness, including conditions particularly relevant to the teaching profession such as stress and burnout
- improved teaching self-efficacy
- improved physical health
- increased ability to give more appropriate support for students by through being more motivated and autonomous
- decreased stress
- increased work motivation
- improved spatial memory, working memory and sustained attention

Source: MindfulnessInSchools.org

6. Miscellaneous

Some more interesting facts about meditation:

- Saying the OM sound before a surgery [helps in preparation and recovery](#)
- Meditators are more able to [affect the reality around us](#), in a quantum level
- There is also some account of mindfulness meditation improving your sex life ([here](#), [here](#), and [here](#))
- Reduces race and age prejudice ([Sage Journals](#))

7. Conclusion

In a nutshell, science confirms the experience of millions of practitioners: meditation will keep you healthy, help prevent multiple diseases, make you more happy, and improve your performance in basically any task, physical or mental.

My mission is to *bring meditation and personal growth to a million humans*. If you were benefited, please leave a comment at <http://liveanddare.com/mission/>.

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