

Discussion Paper

Meditation as a Tool for Happiness

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Introduction

Meditation is increasingly being promoted as a tool for maintaining health and treating serious illnesses including depression. An exponential increase in the level of interest among clinicians and researchers is certainly accelerating this process. This paper will establish some background regarding stress and its effects on mind and body, and then explore scientifically, practically and philosophically how meditation might be used as a tool to promote happiness of mind and body.

Mental Health Today

Figures seem to suggest that the stress of modern life is increasing at an alarming rate. Some studies suggest that there has been a 45% increase over the last 30 years.ⁱ Explanations are many and could include; an increased awareness about stress; that we lead more stressful and busy lives; that many people see happiness as being more dependent on material circumstances; the level of drug and pleasure seeking behaviour; the level of change and instability in modern life. The answer is probably a combination of all these. If trends continue, mental health issues, particularly anxiety and depression, are predicted to be the single major burden of disease within the next two decades.ⁱⁱ Chronic stress and anxiety are, of course, inextricably linked to mood and depression. This is reflected in the fact that stress reduces serotonin levels in the brain, the main neurotransmitter linked to mood.ⁱⁱⁱ

Our modern pharmacological treatments of depression are all aimed at increasing the level of serotonin in the brain. These, which are aimed at changing a chemical, not a thought or behaviour pattern, only provide limited success in treating depression and preventing relapse. Depending on whether one reviews only published data or also includes unpublished data, the level of placebo effect of anti-depressants can vary from 60% to 80%.

The stress response and its effects on the mind, brain and body

"The body is the shadow of the soul." Marsilio Ficino

To understand the mind-body relationship one has to take a metaphysical view. To use the analogy above, the light is the awareness or consciousness. It is primary. Next is the mind with its contents of thought and emotion. The mind intercepts the light and gives it its apparent shape, colour and movement. Then is the shadow, the gross physical world, the end result of this creative process. Thus, if awareness is given to a happy thought it produces one set of effects in the body and behaviour. Given to an angry thought it produces another.

Who is a meditator and who isn't? If meditation is the focusing of attention on a particular thought or object, it may be said that the whole of humanity meditates on something or other: it is just unfortunate that we spend so much time meditating on resentment, anger, fear, depressive thoughts, regrets and the rest. In principle, the physical body, and that includes the brain, will reflect or express whatever is going on in the subtle, or non-physical, mind. The relationship is much like the driver of a car and the car itself. The body has the capacity to

increase performance when it needs to, in order to avert danger. We call this the “fight or flight response”. This response is a natural, necessary, healthy and appropriate physiological response to an exceptional and threatening situation, for example if we were about to be attacked by a lion. In such instances, one needs to respond quickly. The response is aimed at preserving life. The physiological are described in table 1.

Table 1: some of the physiological changes associated with the fight or flight response

- A surge of adrenaline leading to an elevation of blood-pressure and heart rate aimed at increasing cardiac output to meet the challenge and also, in case of blood loss, to maintain circulation.
- An increase in respiration because of an anticipated increase in energy expenditure.
- Mobilizes glucose to sustain energy expenditure.
- An increase in sweating to assist with keeping the body cool while exerting itself.
- Diversion of blood-flow to muscles and away from the gut with the gut’s motility almost ceasing.
- An increase in platelet adhesiveness which means that the blood is becoming ‘stickier’ in order to be more able to stop bleeding.
- A short-term mobilisation of white-blood cells to protect the body if its defences are breached.
- Activation of inflammatory hormones (e.g. cortisol, cytokines, interleukins etc) which play a role in healing damaged tissues which includes accelerating cell replication and laying down new blood vessels.

These changes, activated appropriately and allowed to switch off when they are no longer needed are, generally speaking, not damaging to the health. Activated inappropriately and almost continuously, however, these changes become a significant risk factor for a range of illnesses. It is important to note that the brain will activate the response when told to by the mind; it does not matter if the stressor does not exist, that is, the lion is imaginary. Thus, imagination, rumination, anticipation, exaggeration and dreaming can all activate the fight or flight response. In fact, the vast majority of times when we activate this response it is based on one or other form of misperception; imagining things to be happening which aren’t or perceiving things to be far larger threats than they really are.

The prolonged activation of the fight or flight response, mediated through the Sympathetic Nervous System, leads to wear-and-tear on the body called ‘allostatic load’.^{iv} The brain is not static, as it was once thought of by medical science. It can be wired and rewired (called neural plasticity) to promote the stress response, or to reduce it. If we practice dwelling (meditating) on a particular thought or desire, or if we reinforce a pattern of behaviour, the mind forms deeper and deeper ruts which it is increasingly difficult to get out of. This state of mind will reflect itself in the circuitry of the brain, and so although these responses can be wired in it also means that they can be wired out, much like programming and reprogramming a computer. The level of emotional reactivity to events, thoughts, desires and memories seems to determine to a large extent the level to which this wiring takes place. Learning to be less automatically

reactive to what passes through the mind is possibly a prime way in which meditation helps to protect the body from the damaging effects of chronic stress and depression.

Prolonged allostatic load leads to a range of effects including increased inflammation, impaired immunity (increased risk and severity of infections), accelerated atherosclerosis ('hardening of the arteries'), increases the risk of type 2 diabetes, increases bone demineralization (osteoporosis), and can also lead to atrophy or loss of nerve cells in some vulnerable regions of the brain which are targeted by stress hormones. These regions including the hippocampal formation (important for learning and memory) and the prefrontal cortex (the 'frontal lobes' plays role in working memory, decision making, reasoning, impulse control and emotional regulation). Thus, chronic stress and depression are risk factors for cognitive decline and dementia. Meditation, as will be soon discussed, seems to protect the brain from these damaging effects.

The Importance of Attention

How we develop our ability to pay attention is a rather important issue. It has been seen that attention spans have steadily decreased in recent decades as the pace of life accelerates and the bombardment of banal and mind-numbing stimuli increases. Television watching does not seem to be the best way to enhance a person's ability to pay attention. For example, children who watch higher levels of television by the age of 3 are significantly more likely to display attention problems at the age of 7.^v Throughout one's life the way we use our leisure time has an effect on cognitive decline. Those who have less than average diversity in leisure activities, spend less time on them, and practice more passive leisure activities (principally TV viewing) were nearly four times as likely to develop dementia over 40-year follow-up compared with those who rate higher than average on these parameters.^{vi vii} "Among leisure activities, reading, playing board games, playing musical instruments, and dancing were associated with a reduced risk of dementia."^{viii}

Attention has a number of facets; arousal, orientation and focus.^{ix} The reticular activating system activates other parts of the brain and closes down unnecessary parts of brain activity.^{x xi} The focused or alert brain is a relatively quiet brain, reflected in the term "restful alertness". When attention is aroused other parts of the brain associated with orientation and focus activate and these communicate with frontal lobes for higher decision making and appraisal. The attention centres are activated with concentration and meditative exercises^{xii} and are associated with down-regulating the stress response. Interestingly, it has recently been demonstrated by MRI assessment of cortical thickness (the 'grey matter') that brain regions associated with attention, interoception (being aware of oneself) and sensory processing are thicker in meditators than non-meditators. It seems that meditation might offset age-related cortical thinning and provides "evidence for experience-dependent cortical plasticity associated with meditation practice."^{xiii} That means, we may be able to change the brain anatomically and preserve many functions which are otherwise lost as a part of the ageing process.



The Search for Happiness

Given that all people share this pursuit in common, the ways in which people pursue happiness are many and varied. Possibly the most common concept of happiness in the modern day, and the one which we are bombarded with on a daily basis, is that happiness equates with pleasure. The past experience of pleasure, when viewed as an end in itself, generates desire for the future experience of it and anxiety at the prospect of frustrated desire. Various wisdom traditions would suggest that pleasure is the shadow of happiness and a person soon finds themselves chasing a shadow with ever less substantial returns for the time and energy invested in it. So it is that wisdom traditions tend to encourage people not to dwell on desire but rather to transcend it in order to find lasting peace and happiness. Meditation, when aimed at liberation, is a constant practice in this. The worldly view has it that happiness is attained through the constant and restless fulfillment of desires.

On a biochemical level, dopamine is the neurotransmitter associated with most of the pleasure or reward-seeking behaviours and addictions. It is a prime source of motivation and is also, when abused and depleted, associated with depression. Dysfunction of dopamine transmission in the reward circuit is associated with symptoms such as anhedonia (inability to experience pleasure), apathy (lack of motivation) and dysphoria (disturbed mood).^{xiv}

This is not to say that there is anything wrong with pleasure, because it is a natural part of life and promotes many behaviours which are vital for survival. It does seem to suggest, however, that pleasure doesn't lead to the stable happiness which people seek. When it is sought as an end in itself, and 'meditated' upon, it soon leads to the opposite of the intended effect. One of the effects of true meditation may be that it helps a person to gradually undo such compulsions fanned by imaginings and anticipation by learning to gently refocus attention.

Meditation, Healing and Happiness

Apart from helping to facilitate health lifestyle change, meditation has many other effects which are conducive to greater health and happiness.^{xv} Meditation research began thousands of years ago when many wise sages observed ever more intently their own experience during and after meditation. Modern science seems to be catching up with what many have suspected for a long time: meditation is a powerful healing agent for mind and body. What the sage explores from within, science explores from without. Modern research began with measuring a range of physiological and psychological effects. Over the last 1-2 decades it has increasingly shifted to looking at the clinical outcomes for various illnesses. Summaries are given below of some of the findings on early meditation research. The overall effect is a reversal of the stress response, called the relaxation response (tables 2 and 3).

Table 2: Physiological effects of stress reduction

- decrease in oxygen consumption and metabolic rate
- lowering of cortisol and catechol (adrenaline) receptor sensitivity
- reduction in cortisol levels



- reduction in blood pressure and heart rate
- reduction in serum cholesterol
- increase in skin resistance decrease in blood lactate
- EEG changes (increase in alpha and theta waves and EEG coherence)
- a reduction in epileptic seizure frequency
- changes in neurotransmitters including high serotonin and dopamine
- selective increase in cerebral blood flow
- reduced thyroid hormone levels (TSH and T3 levels)
- improved immune function and reduction of inflammation
- reduced calcium loss secondary to lowered cortisol

Table 3: Psychological effects of stress reduction

- improved response time and reflexes
- improvement in perceptiveness of hearing and other senses
- decreased anxiety
- more optimism, decreased depression
- greater self-awareness, self-actualisation and autonomy
- improved coping capabilities
- adjunct to psychotherapy
- reduced addiction, reliance upon drugs or alcohol
- improved sleep; more restful, less insomnia, and in time less sleep needed
- reduced aggression and criminal tendency
- improved I.Q. and learning capabilities (various age-groups)
- greater efficiency and output and reduced stress at work
- better time management and improved concentration and memory
- ability to change undesired personality traits

Other research looked at the overall effect of meditation, in this case Transcendental Meditation, on healthcare utilization and medical expenses. This field of research is of particular interest to insurance companies. One study found over 11-year follow-up of 600,000 non-meditators & 2,000 meditators that there were significant reductions in illness and a 63% reduction in health-care costs (i.e. 63 cents in the health dollar saved).^{xvi} There were 11.4 times less hospital admissions for cardiovascular disease, 3.3 times less cancer, and 6.7 times less mental disorders and substance abuse. The study did not control for lifestyle and personality factors and so self-selection, healthy lifestyle change and direct physiological benefits would all play a part in the results. Nevertheless, on the strength of the data a number of insurance companies in the US and Europe now offer 30% reductions in health insurance premiums for regular meditators.

Mindfulness Meditation

"Meditation is a way of being." Jon Kabat-Zinn

"To be or not to be, that is the question." Shakespeare; Hamlet

What is mindfulness? One definition is that, "Mindfulness is characterised by dispassionate, nonevaluative and sustained moment-to-moment awareness of perceptible mental states and processes."^{xvii} 'Dispassionate' relates to being non-reactive or non-judgmental about the contents of one's consciousness as one

meditates, and indeed, in day to day life. 'Non-evaluative' means that a person is not trying to intellectually dissect or analyse their thoughts but rather to simply view them as passing events with which one could choose to engage or not. This puts mindfulness-based cognitive therapy (MBCT) at variance with conventional cognitive therapy. 'Moment-to-moment' relates to the importance of being in the now. The present moment is the moment in which we live and the only moment we can respond to. Mindfulness soon teaches us that the past and future are only ever ideas or imaginings held in the mind now. 'Awareness' implies consciousness, that part in us which is looking, as distinct from that part of us which we are looking at, the 'perceptible mental states and processes'.

There are a number of basic assumptions which are often ascribed to mindfulness practice and theory.²⁶

1. People generally operate on automatic pilot and are unaware of moment-to-moment experience
2. We are capable of developing sustained attention
3. Development of this ability is gradual, progressive and requires practice
4. Awareness makes life richer and more vivid and replaces unconscious reactivity
5. Gives rise to veridicality (truthfulness or accuracy) of perceptions
6. Awareness enhances perceptiveness, effective action and control

The effectiveness of mindfulness-based therapies for a range of conditions seems to be confirming its therapeutic potential. A recent meta-analysis revealed 64 empirical studies although the level of quality of those studies was variable.²⁶ Acceptable studies covered a wide spectrum of clinical populations (e.g., pain, cancer, heart disease, depression, and anxiety) and found consistent evidence of significant benefit but it is really in the field of psychotherapy where mindfulness is attracting the most interest.

One study found that mindfulness, used as an adjunct to individual psychotherapy, resulted in more rapid alleviation of symptoms, increased achievement of therapeutic goals, and a decrease in number of therapy sessions compared with undergoing psychotherapy alone.^{xviii} The mindfulness group also showed a significant decrease in psychological distress, greater goal achievement and needed fewer sessions compared to the comparison group. Meditators also seem to have better capabilities to moderate intensity of emotional arousal when having negative emotions experimentally induced.^{xix}

The most challenging emotion for many people is depression and at least 20-25% of people will experience a major depressive episode during their life. In people with a history of severe relapsing depression, MBCT reduced relapse from 78% to 36% in patients with 3 or more previous episodes.^{xx} MBCT may reduce relapses by changing relationships to negative thoughts rather than by changing belief in thought content.^{xxi} Put another way, one doesn't have to control thoughts, but also doesn't have to be controlled by them. To use an analogy, one cannot necessarily control whether 'trains of thought' keep coming into the station, but one can have control over the decision about whether to get on the train or not. Suicidal thoughts are often a feature of depression and are "likely to be reactivated as part of a suicidal mode of mind whenever sad mood reappears."^{xxii}



"Man is not disturbed by events, but by the view he takes of them."
Epictetus

The moment-by-moment attitude of non-judgment and acceptance helps people to be able to see thoughts as mental events rather than facts. This is sometimes called metacognitive awareness, i.e. we are able to stand back from our thoughts and view them objectively. Our common approach to the thoughts, feelings, sensations and experiences which we find unpleasant is to try and block them, suppress them, distract ourselves from them or to numb ourselves to them. Meditation teaches us a way of accepting them and learning to be at peace with them. It is not the presence of a thought, feeling or sensation which determines the response we feel, but rather the attitude we take to it. We potentially make stressors out of life events, or make stressors larger than they need to be.

As an adjunct to therapy for cancer patients, mindfulness has been demonstrated to lower scores on mood disturbance (depression, anxiety, anger, and confusion), and increase vigour.^{xxiii} Patients experience fewer physical symptoms and symptoms of stress. The overall reduction in total mood disturbance was 65%, with a 31% reduction in stress. A program in mindfulness was also demonstrated to produce effects on the brain (more left frontal lobe activity associated with better mood) and immune function (improved response to immunisation).^{xxiv} It also assists with chronic pain^{xxv xxvi}, and improves sleep with better sleep quality, faster sleep latency, longer sleep duration, and less use of sleep medications.^{xxvii}

Mindfulness has been finding its way into medical education. At Monash University a limited amount of mindfulness teaching has been a part of core curriculum for all medical students since 1992. Since 2002 the new curriculum at Monash has included a 6-week mindfulness-based stress management program based on the Stress Release Program.^{xxviii} This program is now also being piloted at Harvard University as a part of the student support programs for their medical students.^{xxix}

It is likely that in the future we will see meditation as an increasingly recognised and practiced life-skill as well as a treatment for depression. It may be the most natural, simple and gentle way we know of to attain the peace, freedom and happiness which we all seek. That it helps us to know ourselves better is probably just another way of saying the same thing.

Table 4: Meditation and happiness - a summary of some key points

1. For better or for worse, the state of mind and emotion is reflected in the body. A happy, focused and peaceful mind, and a contented and open heart, are conducive to a healthier state of physical health.
2. Pleasure and happiness are not the same thing. What begins as a lunge after pleasure in the anticipation of substantial happiness soon becomes a retreat from pain, confusion, fear and anger.
3. Happiness is natural and restores itself given the right conditions. Meditation does not produce an artificial state of mind and emotion, it allows a natural state to reassert itself.
4. We all meditate on something or other. Most of the time, unfortunately, we meditate on anger, stress, worry, depression and the like. The effect

of this indiscriminate, unconscious, habitual and harmful form of 'meditation' is a testament to the power of attention.

5. Consciousness powers, or gives life to, thoughts and feelings. It is indiscriminate and it is an act of intelligence or reason to decide what is worth giving attention to and what is not.
6. We almost constantly think our way out of happiness. Happiness will naturally restore itself given the right conditions. Happiness is never lost, it is only covered.
7. Meditation gently refocusses the attention. A more intelligent and constructive use of our awareness allows us to see our experiences as transitory and offers the potential to gently unhook the attention from unhelpful thoughts and feelings.
8. It is important to learn to be accepting of, and not reactive to, the thoughts and feelings of which we wish to be free. Reactivity and judgment only draws us deeper into the very thing we wish to be free of.

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