

MIND AND MATTER

By Dr. Cathy

I am constantly asked why I think the mind and emotions are involved in things that affect the body. Of course I have answers for these questions, however, I decided to write an article for our office and newsletter that has solid research behind it for all to see. As a **Zone Healing Chiropractor** the study we undertake is comprehensive in the study of the body, mind and soul. Zone healers treat the “Whole Person” teaching, as we learned, that every part of us is connected to every other part. This branch of healing study is called *PsychoNeuroImmunology* and is the way of future practices in healing, as it should be. When we as a race develop the consciousness of this empowering philosophy we effectively remove the ideas of limitation in all these levels and then see how far we can go!

The human being is the most complex and developed life that exists in the material world and Science has proven without doubt that we and all things are made of the same building blocks; electrons, protons and neutrons, quarks and neutrinos. So far as we know no one has discovered a “sick electron”. So we might question what causes our molecular structure to change when the entire body’s design is one of constant renewal and capable of healing in every case if one is willing to do whatever it takes to change dis-ease to health. I have included an actual research article for you to read and analyze, examining the effect of directing our mind in the development of a physical effect. Evidence this strong can be used to help us expand ourselves in consciousness that we are capable of far more than we know or conceive. In fact we are far greater than we have ever been told, taught or believed. We have infinite possibilities and untapped potential in this realm of understanding ourselves and who and what we really are. I would like to live in a world where we start applying what is right with us instead of what is wrong with us. So far as I have observed no one has ever improved through criticism, negativity and self condemnation or being a victim to a diagnosis given by an authority figure, who could have delivered the same message with a constructive suggestion and knowing the untapped potential within us all.

Seriously speaking, if one human can overcome any disease this is evidence that we are all capable of reproducing the effect. I don’t believe we are meant to be Victims to modern medicine but Victors, however we will have to be willing to apply a new idea and action, making us responsible to turn our health around and it will require knowledge. (At Absolute Health Chiropractic, we offer classes on this type of knowledge every Tuesday night and monthly weekend seminars). As the early scientists and metaphysicians often instructed, there is no incurable disease, only incurable people. This in itself is information for another article, but for today let us look at the research we now have of Mind over Matter. (And this is only one of the many examples I could have used – alas, I must write my book – newsletters are too small)!



SPORTS

Breakthroughs

The power of thought is illustrated by the fact that in 1954 after, Roger Bannister became the first person to run one mile in less than four minutes, 52 others followed suit the same year. According to Marilyn King, Bannister had a mental image of being able to surpass the then-existing record, despite "irrefutable" evidence that to do would be impossible.¹⁴ As director of Beyond Sports and an Olympic champion, King trains athletes to use MI (mental imagery) and advocates a shift in attitude or belief that opens up possibilities beyond what individuals think they are capable of attaining. In other words, it is unlikely that one's body will do more than one's mind believes is possible. Garfield, who trains athletes from a viewpoint similar to King's, believes that recent major breakthroughs in Olympic sports are due to mental training.¹⁵ His peak performance training program includes motivational analysis, goal setting and establishing expectations of success, relaxation exercises, and systematic mental rehearsal. He states that individuals' use of their imagination to create mental images of their performance is a powerful tool in mental training.

MI – mental imagery; MP – mental practice, PP – physical practice

Mental imagery is cognitively reproducing or visualizing an object, scene, or sensation as though it were occurring in overt, physical reality. Imagining yourself in a very quiet, beautiful, peaceful place is an example of using MI as a relaxation and stress-reduction technique. *Mental practice* is "the symbolic rehearsal of a physical activity in the absence of any gross muscular movements. Using MI to practice a golf swing or tennis stroke is an example of MP. Mental practice, therefore, is the repetitious use of MI to achieve a desired result.

The implications for using MP in sports include both physical and psychological benefits. Being able to practice mentally allows athletes to put themselves in an actual sports situation rather than in a practice mode. It allows injured or inactive players to continue practice when not actually in the athletic activity. It is a method for practicing without making mistakes and for rehearsing desired results. Underlying these benefits are other potential advantages such as instilling confidence in the performer, enhancing feelings of control, and facilitating more relaxed performances.

The health care services studies indicate growing evidence that individuals' mental images as well as their mental attitudes can have an influence on physical functions. A quick self-administered method to test this premise using a biofeedback approach, without benefit of equipment other than a watch with a second hand, is to time your own pulse for 10 seconds and multiply it by six to determine the pulse rate per minute. Mentally create images that are either calming or exciting to lower or raise the pulse rate. With a little practice, it is possible to change your pulse rate using ML. Because much of the health care services research is about processes going on within the body, symbolic (representational) imagery is often used. Studies indicate that both realistic (natural) imagery²³ and symbolic imagery³⁴ are effective;



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Studies

The results from many motor learning studies show that skillfulness can be enhanced using MP (mental practice). Vandell et al reported that groups of subjects who mentally practiced basketball free throws or dart throwing demonstrated improved skills similar to those who physically practiced the task.¹⁶ The MP and PP (Physical practice) groups improved 23% and 24%, respectively, as compared with no improvement in a control group that did not practice either task. This classic study from 1943 is often cited as evidence of the effectiveness of MP. After this initial study, researchers began to explore various variables associated with MP. They compared MP and PP groups with a control group (no practice) or with different types of MP groups. The average size of the groups was 15 subjects (range = 3-60+). The groups, which included many college students, consisted of male and female subjects with a wide age range. Statistical comparisons were made of individuals' "before" and "after" test scores and of the groups' overall =performances. Various skills and other influencing variables were also tested. Significant results were found in studies involving the ring toss, a gymnastic skill, and basketball free throws.¹⁷⁻¹⁹ More recent studies have replicated these results.²⁰⁻²² Most of the studies involved the use of kinesthetic imagery. One study consisted of subjects categorized according to "strong" or "weak" kinesthetic ability, with those with strong skills exhibiting greater performance success than those with weak skills in this area.²¹ A gymnastic upstart skill requiring muscle strength and coordination was used by Jones in a study to test initial learning of a skill and to contrast directed versus undirected kinesthetic MP.²³ The undirected group was allowed to create their own MI, and the directed group had each aspect of the skill read to them as they visualized it.

The results were significant for the undirected MI with 73% of the subjects passing the criterion test, as compared with 40% of the subjects in the directed MI group. This study was among the few that included muscle strength and not just motor skills as the physical task to be learned. In these studies, the subjects performed MP a minimum of five minutes per session over at least a two-week period

Research

Considerable evidence exists that MI tends to replicate actual physical performance and that MI and actual visual perception have similarities. Brain activity during MI involves the visual cortex as well as other areas. Electromyographic detection of muscle activation during MI also supports the **mind-body link**. Physical therapists, therefore, should be aware of the connections between the cognitive and physical

The relaxation and quieting of the body often used with MI and MP would contribute to stress reduction. Some other related benefits are greater ease of performance with less anxiety, enhanced ability to concentrate, and more focused attention with a greater awareness of what is needed to perform an activity correctly.

Motivation, expectancy, and a willingness to step beyond our limited concepts about what is possible all play a role in what we are able to achieve. We concur with Garfield and Bennett, who stated: Remember, clear mental rehearsals act as neuromuscular templates or models, precisely directing your thought and feelings. These mental rehearsals help you keep focused in your efforts, maximizing the chances of achieving your goals in the shortest period of time with a minimal output of energy. 15(pl53) Mental practice allows patients to visualize themselves performing physical movements in real-life situations, to practice with ease, and to envision perfect outcomes-even beyond what is generally believed to be possible.



Conclusions

Mental imagery does affect physiological functions, and MI and MP have been shown to produce physical results in the areas of sports **and health care services**. Major variables that influence outcomes are nondirected MI practiced over time, kinesthetic imagery, and vivid images depicting successful results. Physical practice combined with MP and both symbolic and realistic imagery have proven effective. Mental imagery and MP require no special equipment and are easily taught and learned. Doctors and Physical therapists' implementation of MI and MP and other proposed procedures may enable their patients to assist in speeding physical recovery, create a greater ease of performance, enhance their mental clarity, reduce stress, and create a sense of serenity. Breakthroughs in individuals' perceptions of their capabilities are creating expandable vistas of the human potential. Mental imagery can be the beginning of a more inclusive treatment program involving cognitive, affective, and physical modes of expression.

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