

НЕЙРОБИОЛОГИЧЕСКИЕ И ПСИХОФИЗИОЛОГИЧЕСКИЕ
МЕХАНИЗМЫ МЕНТАЛЬНОГО ТРЕНИНГА

NEUROBIOLOGICAL AND PSYCHOPHYSIOLOGICAL
MECHANISMS OF THE MENTAL TRAINING

Результаты комплексных исследований в рамках
российско-шведского проекта

"Ментальный тренинг для спорта и жизни"

Some Results from a Joint Russia-Swedish Research Project
"Mental Training for Sport and Life"

Projectleaders:

Lars-Eric Uneståhl, Ph.D

Pavel Bundzen, Ph.D., D.M.S

Örebro, Sweden

Saint-Petersburg, Russia

SUMMARY

This article summarizes some of the results made between 1995-1999 as a part of an ongoing research program, in cooperation between Scandinavian International University, represented by its president Lars-Eric Uneståhl and Russian Research Institute of physical Culture, represented by its Research Director, Pavel Bundzen.

The investigations have been based on the Swedish model of Mental training "IMT" – Integrated Mental Training. IMT is a systematic and long-term training of mental skills and attitudes, based on an alternative state of consciousness (self-hypnosis operationally defined as the "inner mental room"). The purpose is to develop Peak Performance in Sport and Life combined with Wellness and prosperity in life.

IMT includes more than 50 Swedish audio- and videoprogrammes and 37 of them has been translated and recorded in Russian. This Russian version of mental training has been applied to a number of areas; Sport being one of them. The Sport programs were certified by the Olympic Committee and by the Russia Federation of Sports Medicine and Sports Psychology.

The effects of the programs has also been investigated in the Health area. The studies cover more than 2500 individuals, 11-65 years, from schoolchildren of common and specialized high schools, university students, persons attending fitness- and shaping clubs, pupils of Olympic reserve schools, skilled and ex-athletes and persons who take courses of rehabilitation in health centres.

Among the general health effects can be mentioned the rise of organism psychophysical reserves which are manifested in increasing tolerance to physical and mental stress, as well as the spiritual potential of personality and personal prosperity.

The following psychophysiological and neuro-biochemical mechanisms make up the basis of these health effects:

1. More efficiency of the self-regulatory functions of the level of brain activation and the formation of the high performance brain.
2. Decrease of sympathetic-adrenal system activity by a simultaneous increase of the level of endogenic-opiatic neuro-peptides and age-dependent hormone-dihydroepiandrosterone.
3. Immunomodulating effect expressed in the normalization of cellular and humoral immunity.
4. Optimization of the interaction of ergo- and tropho-tropic subsystems of the cortico-visceral self-regulation.
5. Increased activity in the bioenergetic centers

Special Investigations has been carried out:

1. in the prophylaxis of pre-nozological disturbances of the state of health and, in particular, so-called "alternated psycho-somatic states";
2. in the intensification of the health effects due to physical exercises at the expense of complimentary stress-limiting influence of IMT on the psychophysical state of subjects;
3. for the operative removing of energy deficient states and the mobilization of psycho energetic reserves;
4. for the purpose of increasing the efficiency of the rehabilitation of the patients suffering from cardio-vascular diseases and a chronic painful syndrome.

It should be noted that when IMT is used systematically and for a long period of time, its healthy effect combines for the most part with the formation of a positive psycho energetic state and that the diapason of the social adaptation considerably broadens.

These investigations show such remarkable health effects of IMT, that in consideration of the low cost (self-training) it could be recommended as an extreme cost-effective systems, to be used in the whole area from preventive Health to rehabilitation of long term sick leave.

The personality and mental effects of the training, which are described in other articles, are also a contributing factor to the Performance area as well as the health area. Just to mention one of these changes, increase of the „optimistic level“, where we from Seligman and other researchers know that optimism is related to Performance in Sport, School and Work as well as Health level.