

ABSTRACT

Title:

Correlation between mental stress, trapezius muscles electrical activity and electrical activity of the brain

Objectives:

The main goal of this thesis is to find out whether a shortterm mental stress induced by solving tests in maths, Czech language and colour word test in a time pressure increases the electrical activity in musculus trapezius and further more to evaluate the change in distribution of alfa activity in electroencephalographic record before and after undertaking the above mentioned tests.

Methods:

The experimental sample consisted of six university students (5 women, 1 man) at the age from 22 to 30. The electrical activity of m. trapezius pars descendens was being evaluated bilaterally using the telemetric surface electromyography TeleMyo Mini of the Neurodata company, and electrical activity of the brain was being evaluated using the EEG Nicolet. The stress load was induced by solving mental tests (Czech language, mathematics and a colour word test) in a time limit. The shorten version of Eysenck Personality Questionnaire was used to determine the characteristics of the individuals. We focused mainly on determining degree of neuroticism.

Results:

No influence of mental load on increasing the electric activity of m. trapezius pars descendens was proven. Electroencephalographic data did not show any change in distribution of alfa activity before and after the mental load.

Key words:

stress, mental stress, electromyography, electroencephalography, Eysenck Personality Questionnaire