



Neurofeedback and Beethoven music for relieve of stress

Vee Felly*, Norsiah Fauzan

Department of Cognitive Science, Faculty of Cognitive Science and human Development, Universiti Malaysia Sarawak (UNIMAS), Sarawak, Malaysia

ARTICLE INFO

Article history:

Received 14 January 2016

Received in revised form

11 March 2016

Accepted 11 March 2016

Keywords:

Stress

Music therapy

Sound therapy

Neurofeedback

ABSTRACT

Stress is defined as a mild mental disorder and can be relieved using psychological treatment or neurorehabilitation such as neurofeedback training. In this research neurofeedback training (NFT) was applied using sound therapy such as music to reduce stress and increase calmness of final year university students. Data was collected using a quantitative electroencephalogram (QEEG) with Neurofeedback (NFT) and Beethoven music as the therapy medium. The data were analyzed using Microsoft Excel. Five respondents were involved in this research and they were chosen based on their scores from the stress inventory. The subjects were required to complete an inventory to identify their stress levels and were selected based on total points accumulated. The subjects went through pre-test, NFT training session and posttest to look at the changes in brain organization. Delta and Beta training protocol were conducted; the results showed that the most dominant brainwaves to improve calmness (Alpha) were Delta protocol to stabilize the excessive waves.

© 2016 IASE Publisher. All rights reserved.

1. Introduction

Neurofeedback training (NFT) is a form of behavioral training that aimed at developing skills for self - regulation of brain activity. NFT emerged with neuroscience fields involving clinical application based on the general principles of biofeedback. Neurofeedback training had been applied in the treatment of depression and autism. Lubar & Shouse (1976) reported that neurofeedback (NF) activities were applied in the field of child and adolescent psychiatry since the past 30 years ago. Apart from that, NFT had been applied in individuals with depression (Rosenfeld, 1997). Most of the treatment was successful in experiment and the success rate was from 60 - 90 % (Wright & Gunkelman, 1998). Some of the patient might show reduction in symptoms in the earlier session for 5 - 10 sessions. In this research, the purpose of the study is to to analyse the effects of sound therapy on the final year students in order to increase the calmness and reduce the stress among the final year students. Most students were likely to choose music to reduce stress. Stress is a psychological feeling with emotion of nervousness, apprehension and helpless. Stress actually passes through three stages from the time it exists until it reaches the most maximum level (Melgosa, 2000). The three stages

were alarm stage, resistance stage and exhaustion. The alarm stage was a warning by detecting the present of stress agent. Once the cause of the stress was detected, resistance stages occurs when human body system reacts to threaten or challenging the current situation. If an individual can deal or manage the stress, then it would stop slowly. Otherwise, if it is not handled, it will continue until the exhaustion stages. The exhaustion stages are the maximum level of stress which might affect an individual by feeling fatigue, anxiety and depress.

2. Background of the study

In this research, auditory stimulus for the NFT training was Beethoven's music. Beethoven's were composed by Ludwig Van Beethoven from Germany. Beethoven music can be used as relaxation and meditation since the music rhythm were soft and sometimes comes with natural sound. According to Hanser (1985), classical music were used as a tool for relaxation purpose and stress reduction resulting in self - reported, behavioral, and physiological changes related with stress reduction.

Listening to classical influenced the changes of physiology. When a person faced a hard time in their life such as cancer patient, listening to classical music can allow a person to be where they were in coping with the illness. The physiological changes occurred is associated with listening to classical music and related with stress reduction. According

* Corresponding Author.

Address: Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia