

Enhancing music and dance performance with EEG-neurofeedback

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We have demonstrated professionally significant enhancements in music and dance performance through EEG-neurofeedback training, where participants learn to control selected brain rhythms through a real time biofeedback process. In our laboratory, other “peak performance” applications in healthy subjects have included attention, memory, and microsurgical skills. These results are reviewed, and new controlled studies are outlined. Earlier results with Royal College of Music students have been extended to novice singing abilities, first in Trinity College of Music instrumentalists, and second in Goldsmiths adult education blues and gospel singers. Slow wave and fast wave EEG training protocols were compared for effects on established song and instrumental repertoire and on improvisation. A study of dance performance is outlined, extending an earlier study with university competitive Latin and ballroom dancers to first year students at the Laban dance conservatoire. EEG slow wave training and heart rate variability coherence training, both successful with ballroom dancers, were compared with kinesthetic instruction. Aside from music and dance, performance outcome measures include cognitive assessment, including creativity and mood and personality.

Keywords: music; dance; EEG; neurofeedback; creativity

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