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Neuro Approach to Examine Behavioral Competence: An Application of Visible Mind-Wave Measurement on Work Performance

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ABSTRACT

The purpose of this study was to evaluate the mind-wave of different work performances from the neuro-science approach. NeuroSky's Mindset headset was used as a minimally invasive method to measure the attention, meditation, stress, and fatigue level of the participants' mind-wave during various work performances such as relaxing, playing flute and writing calligraphy. Various mind-wave data were measured as electroencephalogram (EEG), included α wave, β wave, γ wave, and δ wave. Even though there were some limitations of the study, the main finding illustrated that an expert demonstrated higher meditation and lower stress as compared to novice. Visual work performances, like calligraphy writing, tended to significantly need more attention than audio performance ─ like playing a flute. Some recommendations were provided to improve future work performance.

Keywords: NeuroSky's Mindset, mind-wave, electroencephalogram (EEG), work performance, Taiwan