Lucid Dreaming: Its Electrophysiological Correlates and Induction through Multiple Awakenings

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The phenomenon of lucid dreaming, the state of being aware within a dream, is rare and difficult to control. This study investigates whether multiple awakenings in rapid succession can simulate a quick entry into rapid eye movement (REM) sleep, thus increasing a person's awareness enough to induce lucid dreaming. Polysomnography measures were used to monitor the participants' sleep, and they were awoken in the hypnagogic wake-to-sleep transition 36 times. Then, after being allowed 2 hours of uninterrupted sleep, they were asked to attempt to reach lucid dreaming and verify through eye signals. 9 out of 19 participants reported success in reaching lucidity (efficacy rate = 47%), and 7 of the 19 verified through both eye signals and reports (37%). With this data, it was found that lucid dreamers showed differences in cortical electroencephalogram readings when compared to non-lucid dreamers. Polysomnographic lucid dream readings exhibited lower alpha rhythms than the waking state, but higher than the sleeping state, supporting that lucid dreaming is a hybrid state between waking and sleep. With alpha power as an indicator, lucid dreaming can be plotted on a model for a spectrum of consciousness. The cortical characteristics of lucid dreaming may help to find where consciousness stems from, and this new method of induction will make future lucid dream research more accessible.

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