Groundbreaking Study Reveals Remarkable Brain Activity Differences in Upsight Phenomenon

A landmark study by one of the world's most prestigious research institutes has shed light on brain activity behind a remarkable phenomenon known as "Upsight"

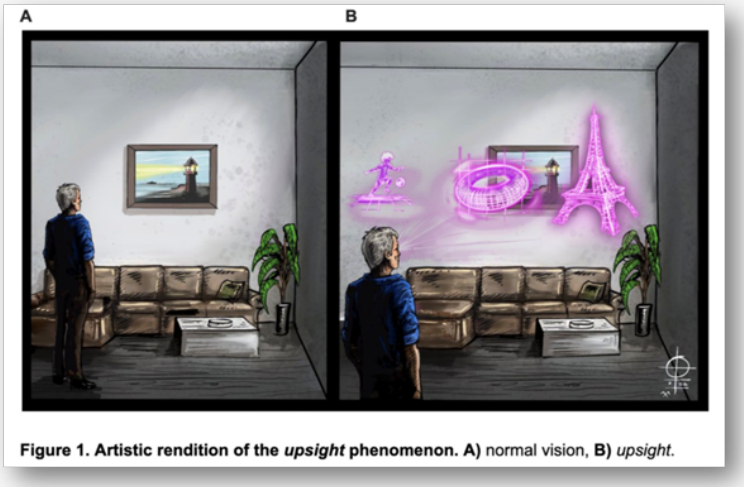

Figure 1. Artistic rendition of the *upsight* phenomenon. A) normal vision, B) *upsight*.

Artistic rendition of Upsight vision

NOVATO, CALIFORNIA, UNITED STATES, February 19, 2024 /EINPresswire.com/ -- In an unprecedented scientific investigation, a recent case study has shed light on intriguing differences in brain electrical activity associated with a unique phenomenon known as "Upsight." Conducted under controlled laboratory conditions, this study offers remarkable insights into the human brain's ability to perceive holographic images within one's visual field.

Tom Matte, the subject of this groundbreaking study, reports experiencing Upsight. He describes it as the ability to consciously perceive holographic images on an internal screen overlaying his normal visual field, whether his eyes are open or closed.

The study's methodology was conducted with meticulous precision. Tom, the central figure of this research, ventured through two distinct experimental conditions. In one, the control condition, he summoned memories of previously seen images. In the other, the Upsight condition, he visually perceived the images on an internal "screen" within his mind. Through these alternating conditions a wealth of data was meticulously gathered, using a cutting-edge 64-channel EEG system.

The results of the study are nothing short of remarkable. Significant disparities in scalp EEG signals were observed between the two conditions, with the most notable differences occurring in the alpha frequency range, particularly at channel PO8 (cluster peak at 11 Hz; $t = -19.5$; $p_{corrected} < 0.001$). Source reconstruction analysis further revealed pronounced alpha asymmetry

in frontoparietal brain regions (cluster peak at 11 Hz in the left frontal midline cortex; t = -17.7; p-corrected<0.001).

These findings have been interpreted in alignment with the asymmetric inhibition model, suggesting that the Upsight experience is correlated with a substantial reduction in inhibition within frontoparietal brain regions. This reduction in inhibition may reflect the participant's deliberate suppression of the Upsight perceptual stream to successfully perform the control condition.

Furthermore, statistical analyses of EEG data at the scalp level demonstrated widespread and significant differences (p<0.001 after spatiotemporal cluster correction for multiple comparisons) between the Upsight condition and the control condition. Notably, six significant clusters were identified:

Cluster 1: 4-26 Hz, peak effect at channel PO8 at 11 Hz (t = -19.5).
Cluster 2: 28.5-32.5 Hz, peak effect at channel F8 at 31 Hz (t = 8).
Cluster 3: 42.5-45 Hz, peak effect at channel F8 at 45 Hz (t = 7.6).
Cluster 4: 39.5-41 Hz, peak effect at channel F8 at 40 Hz (t = 7.2).
Cluster 5: 1.5-2.5 Hz, peak effect at channel O2 at 1.5 Hz (t = -6.8).
Cluster 6: 39-45 Hz, peak effect at channel O1 at 40 Hz (t = 6.5).

The most substantial disparities were evident at 11 Hz in posterior electrode sites, although differences were widespread across all channels, indicating significantly lower alpha power during the Upsight condition relative to the control condition. Alpha waves are typically associated with a lucid, calm, physically and mentally relaxed brain state.

These incredible findings have unequivocally refuted the null hypothesis of an absence of brain electrical activity differences between conditions with a staggering 99.9% confidence level (p<0.001). This study paves the way for further exploration of the source and nature of the Upsight perceptual stream, opening new doors to our understanding of human cognition and perception.

The research team is submitting “A case study on differences in brain electrical activity between recall-based mental imagery and a subjective phenomenon of Upsight" to the Journal of Anomalous Experience and Cognition (JAEX) and is currently under peer review.

The preprint can be read here: https://osf.io/preprints/psyarxiv/e6q7x

Michael Moriarty
PursuingX Marketing & PR Agency
+1 6026495711
michael@pursuingx.com

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