

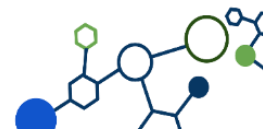
Out of Body Experience during Sleep Paralysis: an altered state of consciousness. Preliminary results.

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INTRODUCTION

We understand consciousness as the subjective experience the "How is it..." to perceive a scene, recognize a face, hear a sound, or reflect on the experience itself¹. It can be considered a dynamic process and it can be temporarily divided into states². The states of consciousness depend one's subjective experience and its associated neurobiological correlates, and they can be divided in physiological, pathological or altered states². The Out of Body Experiences (OBEs) are an altered state of consciousness, defined as the experience in which an observer perceives the world from a point of view outside of their physical body³. OBEs reflect an alteration in the multisensory association cortexes, with the parieto-temporal junction (TPJ) playing a fundamental role^{4,5}. These experiences can occur during sleep paralysis². Sleep paralysis is caused by an intrusion of Rapid Eye Movement sleep (REM) into wakefulness⁶. It is a state which can occur when waking up or falling asleep, in which a person is aware but unable to move or speak. It can be accompanied by a sense of a presence, auditory and visual hallucinations and in some cases OBEs⁴. OBEs during sleep paralysis can occur spontaneously, or they can be induced by training⁷. Here, we conducted an interview with subjects who had spontaneous OBE during sleep paralysis (S-OBE) and subjects who apply techniques to induce it (I-OBEs).

METHODS

EXPERIMENTAL GROUPS

Subjects who had had more than two OBE during sleep paralysis were invited to participate in the study

S-OBE. (N=11). Subjects who had had spontaneous OBE during sleep

I-OBE. (N=8) Subjects who applied techniques to induce out of body experiences.



INTERVIEW

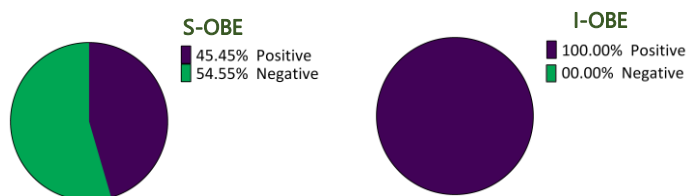


We conducted an interview in order to distinguish different aspects associated with the experience:

- **Emotions** : "How are your emotions when you are in this state?"
- **Bodily sensations**: "Do you feel something in your body when you are about to have an experience?", "Do you hear any sound when you are about to have an experience?"
- **Color perception**: "How do you perceive colors?"
- Perception of the subjective **state of consciousness** during the experience: "How would you describe the state of consciousness that you have during these experiences?"

RESULTS

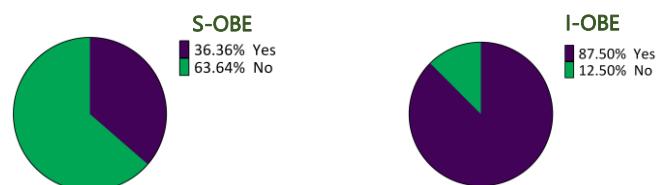
EMOTIONS ASSOCIATED WITH THE EXPERIENCE



We observed that in the I-OBE group 100.00% of the participants (n=8) reported positive emotions associated with the experience, significantly higher than the 45.45% (n=5) reported by the S-OBE group $X^2(1, N = 19) = 6.3, p < .012$.

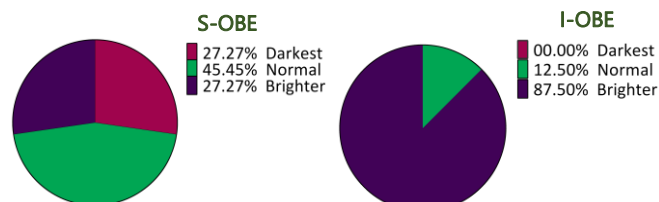
BODILY SENSATIONS, AN AURA FOR OBE INITIATION?

VIBRATIONS



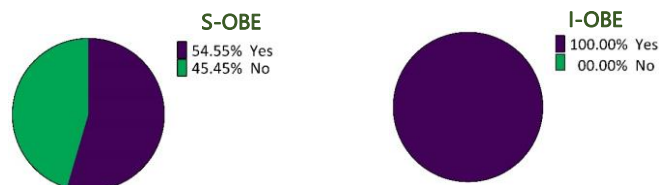
We observed that in the I-OBE group 87.50% of the participants (n=7) reported to feel body vibrations before the experience, significantly higher than the 36.36% (n=4) reported by the S-OBE group. $X^2(1, N = 19) = 4.9, p < .026$.

COLOR PERCEPTION



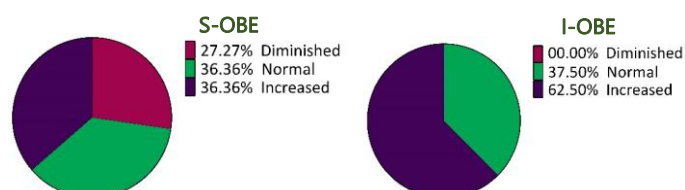
We observed that in the I-OBE group 87.50% (n=7) of the participants reported brighter colors during the experience, significantly higher than the 27.27% (n=3) reported by the S-OBE group. $X^2(2, N = 19) = 10.05, p < .007$.

SOUNDS



We observed that in the I-OBE group 100.00% of the participants (n=8) reported having heard sounds before the experience, significantly higher than the 54.55% (n=6) reported by the S-OBE group. $X^2(1, N = 19) = 4.9, p < .026$.

SUBJECTIVE STATE OF CONSCIOUSNESS DURING THE EXPERIENCE



We observed no significant differences between groups in the subjective state of consciousness during the experience. $X^2(2, N = 19) = 2.59, p < .274$.

CONCLUSIONS

We observed that both groups described the state of consciousness associated with the experience as similar to wakefulness or even increased. This augmented state was related to a subjective perception of increase in information processing. I-OBEs significantly identified sounds and body vibrations before the OBE was initiated, and thus we suggest that they could be considered aura sensations for OBE initiation. Importantly, we found that I-OBEs showed significantly more positive emotions associated with the experience (like peace and joy) while S-OBEs showed more negative emotions. At present, there is no specific treatment for sleep paralysis. Sleep hygiene is recommended and selective serotonin reuptake inhibitors are used but they are not always effective⁸. Thus, we propose that the OBE could be used as a way to overcome sleep paralysis.

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