Alice in Wonderland Syndrome in Patients with Frontal Lobe, Temporal Lobe Lesions, or Shunting

Joel C. Greenup[1], Bennett L. Schwartz[1], Ricardo J. Komotar[2], Roberto J. Diaz[2], Department of Psychology[1] and Department of Neurosurgery[2], Florida International University[1] and University of Miami Hospital[2]

Abstract:

The purpose of this research is to thoroughly explain a rare neurological disorder called Alice in Wonderland Syndrome (AIWS) and more accurately derive its origin within the brain. AIWS is a visual-time perception complication, where the individual experiences distortion in spatial and depth perception alongside perceiving time in an altered manner. The first phase of the project involves a systematic review with a meta-analysis of existing literature in conjunction with applying chaos theory in an attempt to either bring order to the array of precursors this syndrome has, or in hopes of potentially finding a new chaotic attractor within the areas of the brain this disorder afflicts. The second phase of the project involves a screening diagnostic survey of participants who have frontal lobe meningiomas, temporal lobe meningiomas, or shunts in place where we identify AIWS and Non-AIWS participants. We also use the medical records to further validate answers received from the surveys. The final phase involves providing assessments on depth, spatial, and time perception to the control and AIWS groups in order to examine which area(s) of the brain is directly affected by this syndrome. By identifying AIWS as a neurological disorder, which should be properly recognized by medicine, we would begin to eliminate the existing stigma people may experience for having such an abstract set of symptoms, which is an actual disorder. Furthermore, this research will allow for more precise consideration of etiology and symptomology people experience in hopes of directing future research on the neuronal mapping of such a rare ailment.