

# QUANTITATIVE EEG COMPARATIVE ANALYSIS BETWEEN AUTISM SPECTRUM DISORDER (ASD) AND ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

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## Abstract

**Background:** Autism or Autistic Spectrum Disorders (ASD) is a mental developmental disorder, manifested in the early childhood. Attention deficit hyperactivity disorder (ADHD) is another [psychiatric disorder](#) of the [neurodevelopmental](#) type. There are evidences that the both disorders affect the information processes in the nervous system altering the mechanism, how the neurons and their synapses are connected and organized. It is not yet clear the etiology and the physiological mechanisms of ASD and ADHD.

**Purpose:** To examine if quantitative EEG (QEEG) assessment is sensitive and simple enough to differentiate children with ASD from ADHD and neurotypic children.

**Material and methods:** QEEG is a type of electrophysiological assessment that applies computerized mathematical analysis to convert the raw waveform data into different frequency ranges. Each frequency range is averaged across a sample of data and quantified into mean amplitude (voltage in microvolts mV).

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## Biography

Doctor Plamen Dimtrov is researcher in the field of neuroscience, quantitative EEG, brain mapping, biofeedback, rTMS, tDCS and other techniques for augmentation of the brain functions. Presently I am completing PhD work over QEEG ANALYSIS IN AUTISTIC CHILDREN. Applying rTMS, tDCS and EEG feedback in children with autism, ADHD, dyslexia, dyscalculia, behavior problems and in adults with cognitive

and psychological disorders. Interest in dementia and degenerative neurological diseases. Doctor Plamen Dimitrov is a researcher at the Department of Physiology and Department of Neuroscience at Medical University of Varna, Bulgaria. He has also master degree in Clinical psychology at the University of Sofia "St. Kliment Ohridski" - the oldest higher education institution in Bulgaria