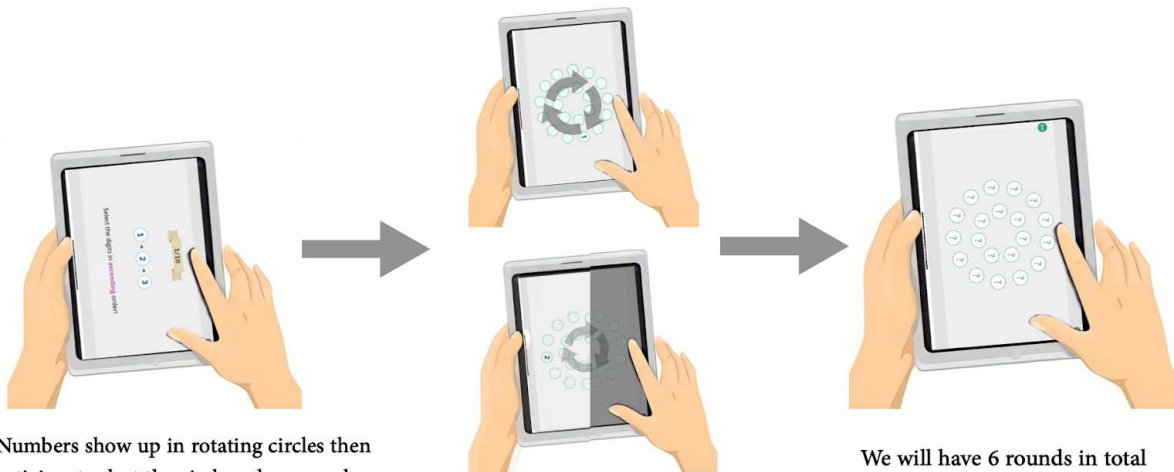


40 Hz Investigation on Brain Cognitive Ability Enhancement

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People with Attention-Deficit Disorder (ADD) or Attention-Deficit Hyperactivity Disorder (ADHD) often struggle academically compared to their peers throughout their education and the resources available to them are limited. This study aims to explore the potential of 40 Hz gamma light therapy as an alternative and affordable therapy method for enhancing cognitive abilities in individuals with attention deficit disorders. The brain generates electrical activity, referred to as gamma waves, crucial for processing and connecting information. Light administered at 40 flashes per second has demonstrated the ability to reestablish the brain's natural resting 40 Hz gamma rhythm. These gamma waves are linked to memory and cognition, which can be impacted by cognitive impairments. We will use the novel iPad app AlzLife to test the effects of 40 Hz light stimulation on memory and problem-solving abilities in healthy young adults. Our experimental approach consists of six rounds, alternating between flickering 40 Hz light or no light for each round until we reach six rounds in total. We will alternate the implementation of therapy between each subject, whether to start with 40 Hz light or no light, to prevent the effects of cognitive learning on the data. Our study found no significant improvement in memory game performance, with higher scores in the beginning and end rounds potentially due to the distraction of participants. Although light therapy initially yielded slower reaction times, increasing the participant pool is needed for more conclusive results.



Numbers show up in rotating circles then participant select the circles where numbers appeared either in ascending or descending order

We will have 6 rounds in total alternating between 40 Hz flashing light and no light therapy