And the Winner Is...: Developing a Computer Program to Investigate Neural Competition with Mulitimodal Stimuli

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Neural competition occurs when two stimuli fight for representation. Unimodal neural competition occurs when two stimuli within a single modality compete for embodiment. Bimodal neural competition occurs when two stimuli from different modalities compete for representation. An example of this is when visual and auditory stimuli compete. The engineering goal of this project was to create a series of computer programs using an icon-based programming language to test neural competition. A Raspberry Pi was purchased on which to run the programs. Scratch, an icon-based programming language, was used to construct the programs. The engineering goal of this project was accomplished. Three different unimodal programs were created. Each of the programs tested different aspects of perception and attention, including visual stimuli with multiple visual distractors, attention with visual distractors, and memory with visual distractors. Two bimodal programs were also constructed. These tested auditory stimuli with visual distractors, and speed perception of auditory or visual stimuli. One of the five programs was selected for further development. It could be used for the testing of bimodal neural competition with speed perception.

Awards Won:

National Institute on Drug Abuse, National Institutes of Health &amp the Friends of NIDA: Honorable Mention