



fMRI Information Sheet

Magnetic resonance imaging (MRI) is a method of creating images of the inside of the body, including the brain. According to current medical knowledge, it is harmless to the participant. MRI utilizes strong magnetic fields and radio frequency signals to create the image; therefore, the presence of metallic foreign bodies in the person, or implants (like surgical prostheses, braces, or pacemakers) can prohibit MRI scanning. Subjects in an MRI scanner are asked to lie very still, and are often supported with padding to prevent any motion from disturbing measurements and blurring the resultant images.

Our lab utilizes both traditional structural MRI as well as newer functional MRI (fMRI) techniques to examine brain activity. fMRI estimates blood flow changes in the brain that accompany increases in neural activity. This information is recorded and converted into pictures of brain activation. Each functional scan usually lasts between three and five minutes, while each structural scan lasts about seven minutes. The total time for a scanning session at the Center for the Study of Learning (CSL) is usually about four hours. We schedule fMRI scanning sessions in amounts of four hours to ensure plenty of time for breaks, filling out forms, and training on tasks which will be performed in the fMRI scanner. Many participants finish their fMRI session in less than four hours, however, we schedule our sessions to allow participants to move through the scanning process at a leisurely pace.

fMRI is currently a research tool and is not used for making diagnoses of specific disorders, such as dyslexia or autism. For research purposes, the acquired fMRI brain images are grouped together and averaged across all study participants. Although CSL does make some data from administered IQ and reading tests available to the participant, we cannot provide individual information about participant's brain activation. We do however; provide each participant with a structural picture of their brain as a gift.

More information about fMRI (including a video) can be found on our website at: https://csl.georgetown.edu/be_involved/