

DMP: Social and Behavioral Science

The proposed project will include human subjects data consisting of background demographic information (including age, gender, education, and handedness), reaction times and error rates from computer-based language and working memory tasks, and structural and functional neuroimaging data from MRI scans, with the functional data collected during the performance of the computer-based tasks.

The functional neuroimaging data will be used to determine the brain regions subserving language processing and to determine their overlap with brain regions supporting working memory. The behavioral data will be used to verify that the findings from the computer-based tasks replicate previous findings regarding the conditions affecting the difficulty of sentence comprehension and the capacity of working memory. The demographic data will be needed for published reports to convey the characteristics of the subject population.

The demographic data will be collected from a questionnaire administered by the PI and student/postdoctoral researchers associated with this project, and will be entered into electronic spreadsheets. The data from the computer-based tasks will consist of tab-delimited output from the programs running the tasks. Raw structural and functional magnetic resonance data will be obtained in DICOM format and transferred on DVD or external hard drives managed by the University. DICOM files will be converted to NIFTI format for compatibility with various neuroimaging analysis packages. Analyzed neuroimaging data will be stored in the AFNI file format.

Since these data will be from human subjects, approval for human subjects research will be obtained through the Institutional Review Board (IRB). As detailed in the human subjects section of the proposal, because of confidentiality issues, each subject will be assigned an arbitrary code, which will be associated with the demographic, behavioral, and neuroimaging data. One file that contains the correspondence between subject names and codes will be kept in an encrypted password-controlled file accessible only to the PI and subject coordinator. Personal information (name, date of birth, etc.) will be permanently removed from raw neuroimaging data with various DICOM viewers (e.g., OsiriX) prior to data analysis.

The de-identified electronic data will be preserved on DVDs and external hard drives. Copies of these data will also be preserved offsite at the University's storage facility. Completed questionnaires (as well as representative blank questionnaires) and human subject consent forms will be stored in a locked area of the PI's laboratory accessible only to the PI and subject coordinator.

If requested, access to the de-identified data will be provided by contacting the PI. Data will in principle be available for access and sharing as soon as is reasonably possible, normally not longer than one year after publication of the data. The data will be preserved for at least three years beyond the award period, as required by NSF guidelines.

We do not anticipate that significant intellectual property issues involved with these data will arise. However, in the event that discoveries or inventions are made in direct connection with these data,

access to the data will be granted upon request once appropriate invention disclosures and/or provisional patent filings are made.

The data acquired and preserved in the context of this proposal will be further governed by the University's policies pertaining to intellectual property, record retention, and data management.