

# MATH IN BILINGUALS VS MONOLINGUALS

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# PROJECT SUMMARY

This study compares structural and functional MRI differences between English monolingual and Chinese-English bilingual adults in association with various math skills. It is part of a larger fMRI study comparing neural activation in L1 (Chinese) vs L2 (English) for easy vs difficult math problems.

The baseline task was a math parity judgment (even/odd). All stimuli were presented aurally. Participants came for only 1 MRI session. There were fewer monolinguals than bilinguals, so most of the fMRI analyses (by Shin-Yi Fang, using SPM) on these data were just for bilinguals.

## Completed

sMRI data analysis

Created working outline

fMRI data preprocessing

## In Progress

fMRI data analyses [end July]

## Not yet started

Write-up manuscript & submit [end Sept]

# DATA ANALYSIS DETAILS

- sMRI data (Jen & Kaitlyn)
  - Data analyses finished
    - VBM analyses were inconclusive
    - Preprocessed data in Freesurfer
    - Conducted various univariate analyses & group comparisons using Freesurfer's Qdec
- fMRI data (Jen & Ben)
  - Finished preprocessing data with FSL pipeline