

Online Resource 3: White Matter Query Language (WMQL) Script

Plasticity of left perisylvian white-matter tracts is associated with individual differences in math learning

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White Matter Query Language (WMQL) Script

#Obtain all parcellation definitions from Freesurfer
import FreeSurfer.qry

```
middlefrontalgyrus.side |= (  
    rostralmiddlefrontal.side or  
    caudalmiddlefrontal.side  
)
```

```
inferiorfrontalgyrus.side |= (  
    parsopercularis.side or  
    parstriangularis.side or  
    parsorbitalis.side  
)
```

```
orbitofrontalgyrus.side |= (  
    lateralorbitofrontal.side or  
    medialorbitofrontal.side  
)
```

```
frontal.side |= (  
    superiorfrontal.side or  
    middlefrontalgyrus.side or  
    inferiorfrontalgyrus.side or  
    orbitofrontalgyrus.side or  
    frontalpole.side or  
    precentral.side or  
    paracentral.side  
)
```

```
temporal.side |= (  
)
```

(entorhinal.side or parahippocampal.side or temporalpole.side or fusiform.side or superior temporal.side or middle temporal.side or inferior temporal.side or transversetemporal.side or bankssts.side)

)

parietal.side |= postcentral.side or precuneus.side or supramarginal.side or superiorparietal.side or inferiorparietal.side

superior_parietal_lobule.side |= postcentral.side or precuneus.side or superiorparietal.side

inferior_parietal_lobule.side |= supramarginal.side or inferiorparietal.side

subcortical.side |= VentralDC.side or Thalamus_Proper.side or Pallidum.side or Putamen.side or Amygdala.side or Brain_Stem or choroid_plexus.side

inferior_frontal_gyrus.side |= parsopercularis.side or parstriangularis.side or parsorbitalis.side

middle_frontal_gyrus.side |= caudalmiddlefrontal.side or rostralmiddlefrontal.side

#Fronto-Parietal SLF

SLF_FP.side = (endpoints_in(inferiorparietal.side) or endpoints_in(supramarginal.side)) and endpoints_in(frontal.side) and only(parietal.side or frontal.side or unsegmentedwhitematter.side)

#Parieto-Temporal SLF

SLF_PT.side = endpoints_in(inferiorparietal.side) and endpoints_in(temporal.side) and only(parietal.side or temporal.side or unsegmentedwhitematter.side)

#Fronto-Temporal SLF

SLF_FT.side = (
 (inferior_frontal_gyrus.side or middle_frontal_gyrus.side or precentral.side) and
 (superiortemporal.side or middletemporal.side) and not medial_of(supramarginal.side)
 not in hemisphere.opposite
 not in temporalpole.side not in frontalpole.side not in subcortical.side
 not in rostralmiddlefrontal.side not in lateralorbitofrontal.side
 not in parstriangularis.side not in superiorfrontal.side not in parsopercularis.side
)