

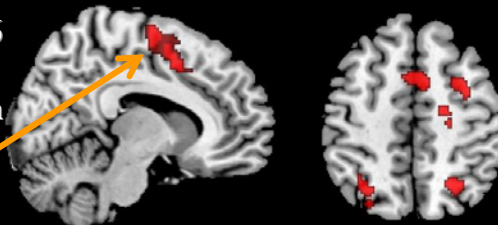
Word Finding/Semantic Memory Project

- Reported word finding problem that neuropsych did not consistently detect
- Developed Semantic Object Retrieval Task for clinical measures and fMRI and EEG measures of how brain performs
 - Word-Word Object SORT
 - Picture-Word Object SORT
 - Semantic Object Inhibition Task

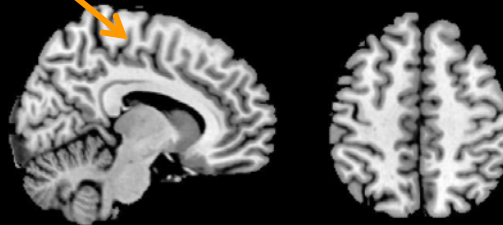
Word-Word SORT

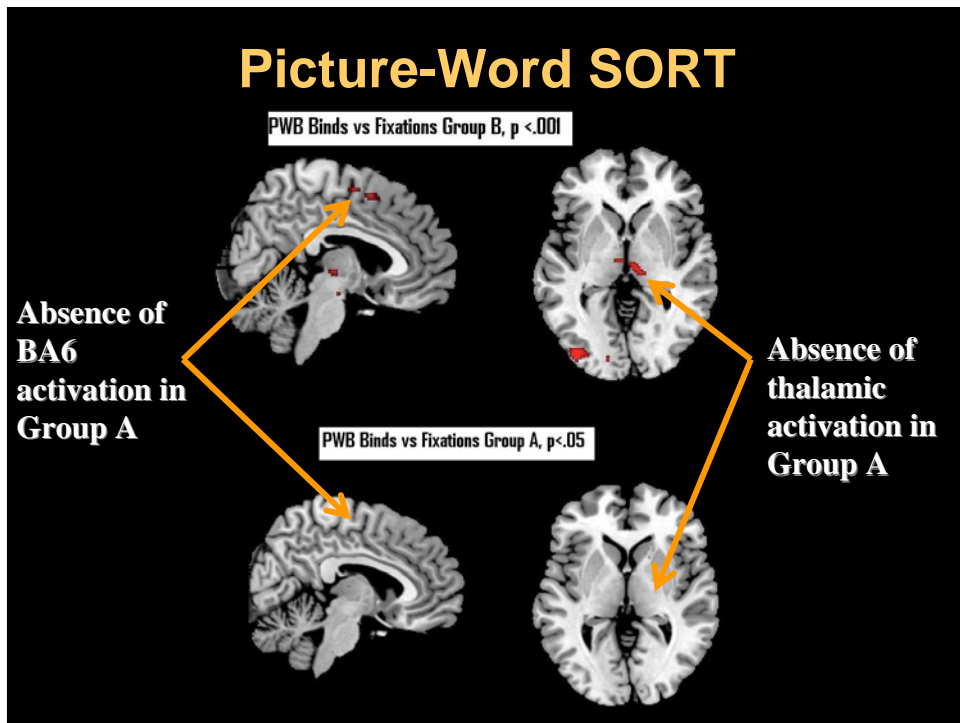
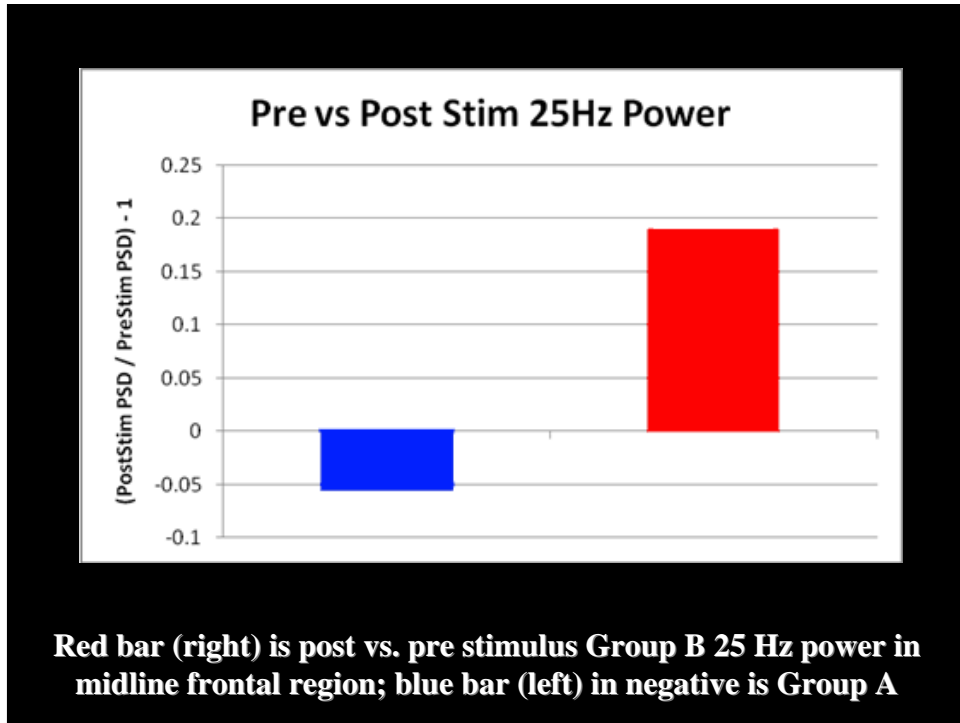
WWB Binds vs. Fixations Group B, $p < .0001$

Absence of BA6
activation
(associated with
25 Hz
binding
rhythm) in
Group A

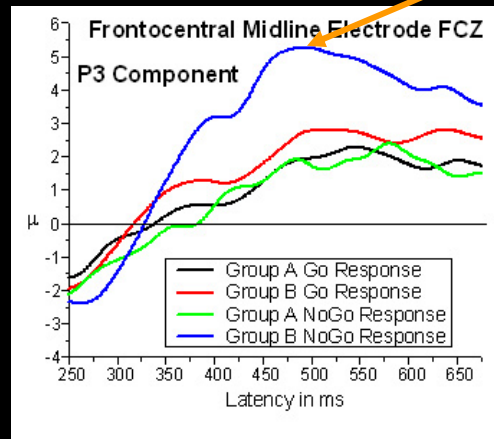


WWB Binds vs. Fixations Group A, $p < .05$





Semantic Object Inhibition



Typical P3
ERP to a No-
Go in Group
B; Absent for
Group A

Conclusions

- Significant number of clinical SORT impairments in group A and slower
- Absent fMRI signal in thalamus for Group A
- Absence of midline frontal brain region and its associated 25 Hz binding rhythm
- Inability to choose or inhibit correct memory on P3 ERP

Implications

- Suggest inability to find semantic memory with name finding difficulties secondary
- Suggest possible dopamine role
- Further delineate disruptions of memory and/or name production