

## Supplemental Information

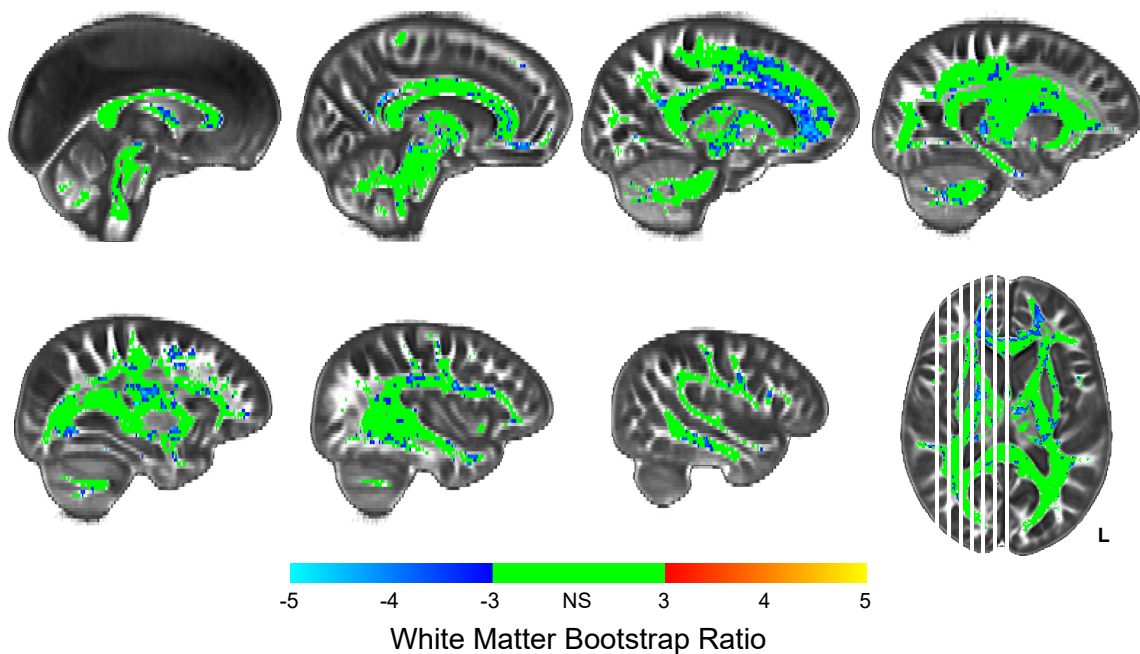
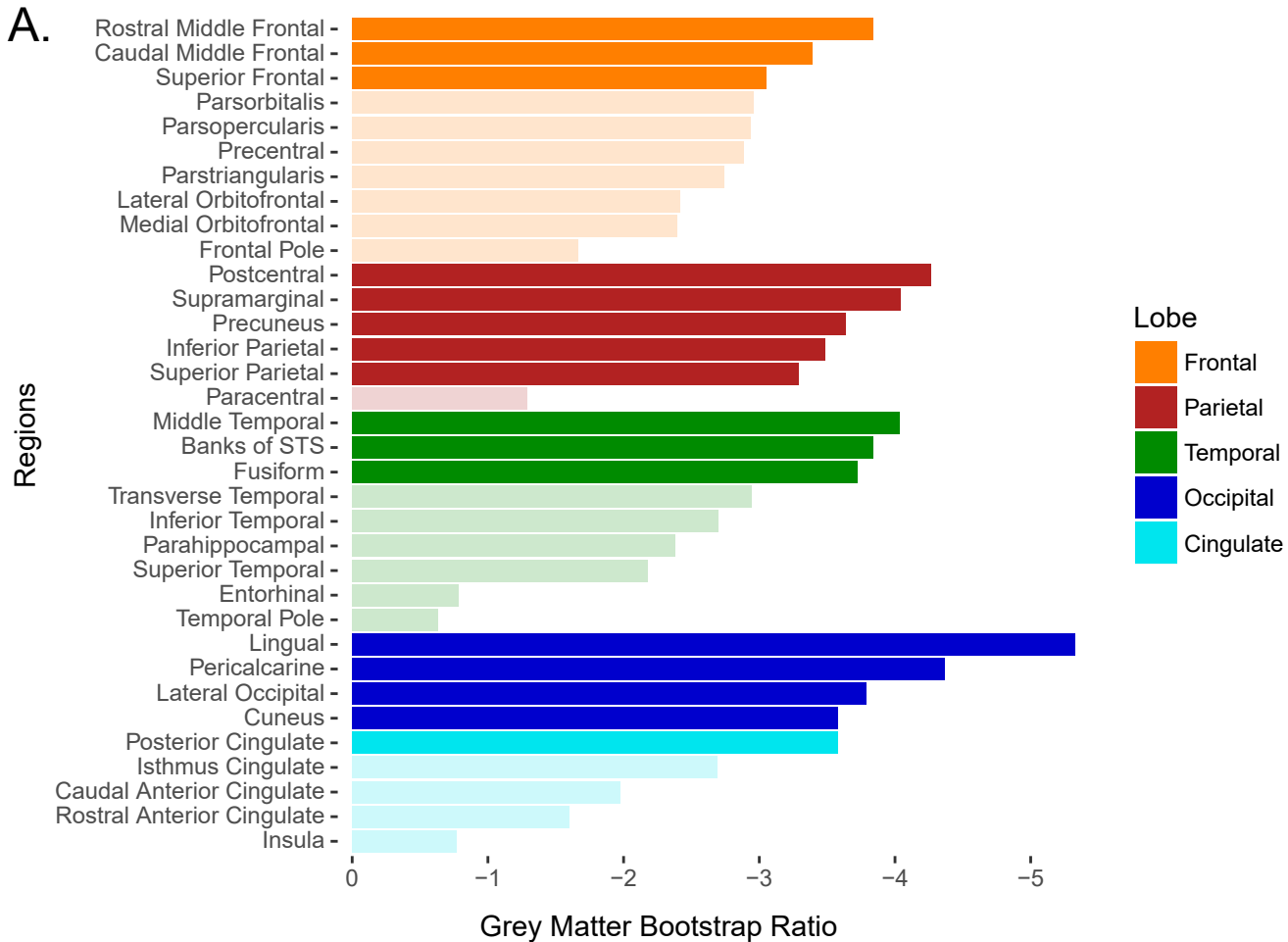
*Supplemental Figure S1. Bootstrap ratios for Surface Area FA (A) and MD (B).* Barplots show bootstrap ratios for GM surface area regions, while brain images show bootstrap ratios for WM voxels. Bootstrap ratios below an absolute value of 3 are considered non-significant and are faded in GM barplots, or green in WM voxelwise brains. Note. STS = Superior Temporal Sulcus.

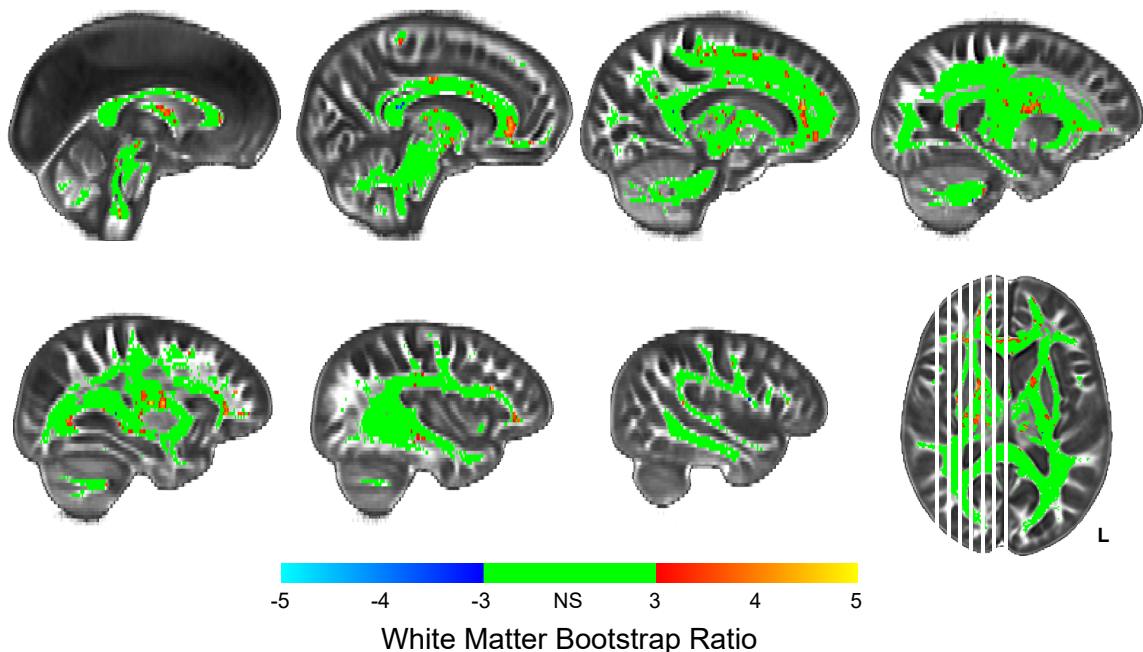
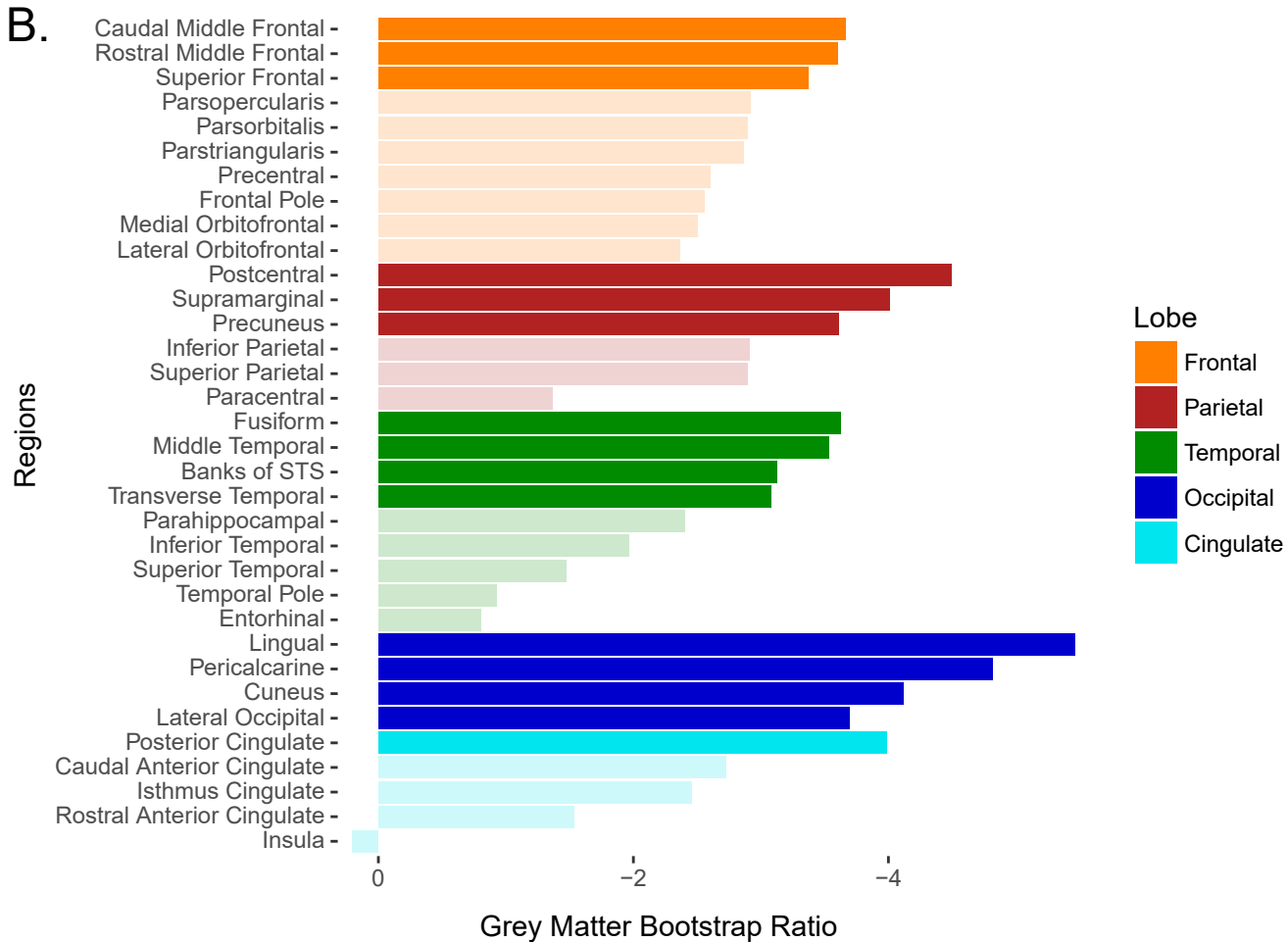
*Supplemental Figure S2. Surface Area Latent Variable Projections and the Relationship of each Brain Score with Age for (A-C) FA and (D-F) MD.* Grey matter brain scores increase linearly with increased age demonstrating that data from younger adults drive the negative side of component 1, while data from older adults drive the positive side of component 1 (shown for FA in panel B and for MD in panel E). A similar pattern is observed in white matter brain scores in a nonlinear fashion (i.e., accelerates with age) (for FA in panel C and for MD in panel F). Scatter dots represent individual participants, triangles represent the mean of an age “group”, and blue color fade from dark to light blue represents younger to older adults, respectively to illustrate the age effect. Both linear and nonlinear regression lines are illustrated on the scatterplots, with the more significant fit denoted with bold solid lines, and the lower fitting line denoted by faded dashed lines. Note. YA= Younger Adults; MA = Middle-Aged Adults; OA = Older Adults; VOA = Very Old Adults.

*Supplemental Figure S3. Bootstrap ratios for GM Volume FA (A) and MD (B).* Barplots show bootstrap ratios for GM volume regions, while brain images show bootstrap ratios for WM voxels. Bootstrap ratios below an absolute value of 3 are considered non-significant and are faded in GM barplots, or green in WM voxelwise brains. Note. STS = Superior Temporal Sulcus.

*Supplemental Figure S4. GM Volume Latent Variable Projections and the Relationship of each Brain Score with Age for (A-C) FA and (D-F) MD.* Grey matter brain scores increase linearly

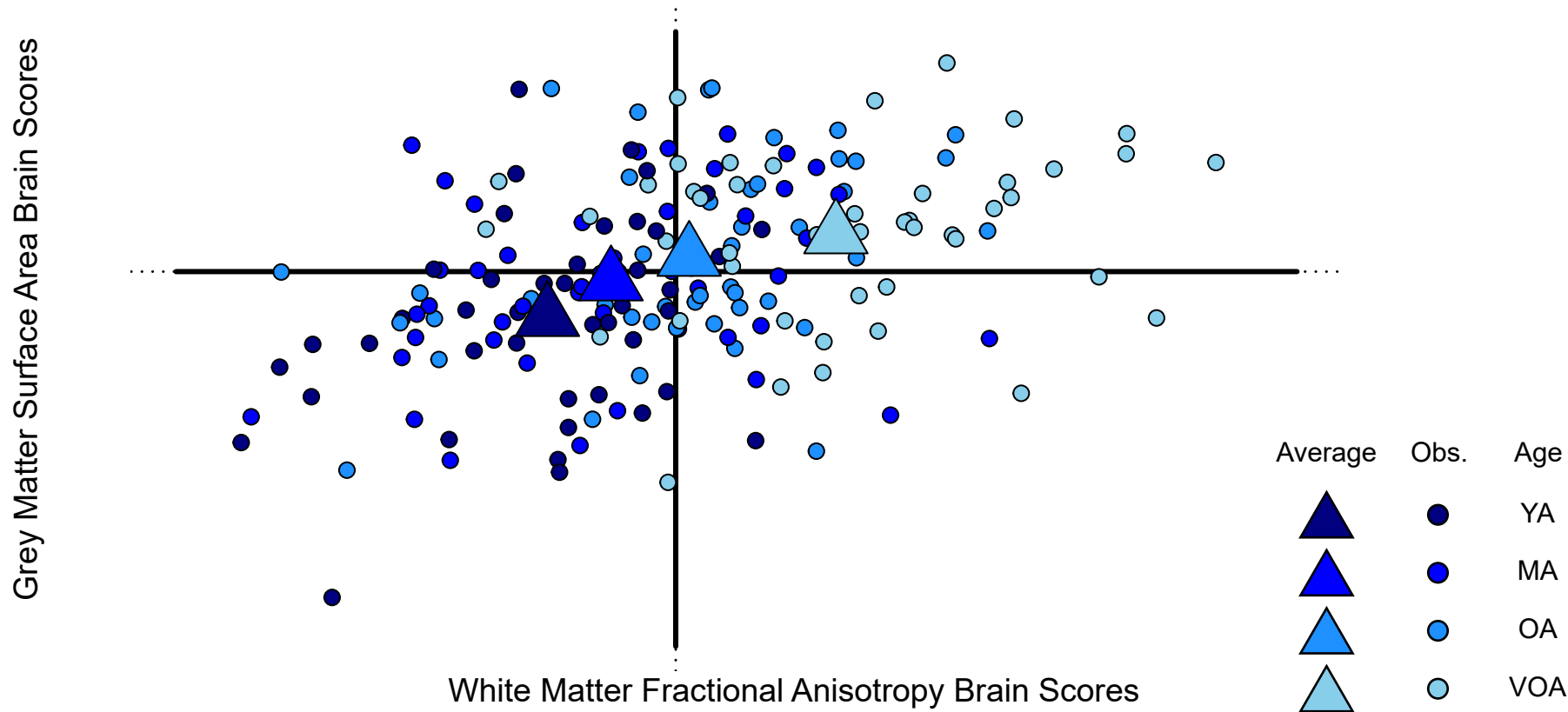
with increased age demonstrating that data from younger adults drive the negative side of component 1, while data from older adults drive the positive side of component 1 (shown for FA in panel B and for MD in panel E). A similar pattern is observed for white matter brain scores in a nonlinear fashion (i.e., accelerates with age) (shown for FA in panel C and for MD in panel F). Scatter dots represent individual participants, triangles represent the mean of an age “group”, and blue color fade from dark to light blue represents younger to older adults, respectively to illustrate the age effect. Both linear and nonlinear regression lines are illustrated on the scatterplots, with the more significant fit denoted with bold solid lines, and the lower fitting line denoted by faded dashed lines. Note. YA= Younger Adults; MA = Middle-Aged Adults; OA = Older Adults; VOA = Very Old Adults.



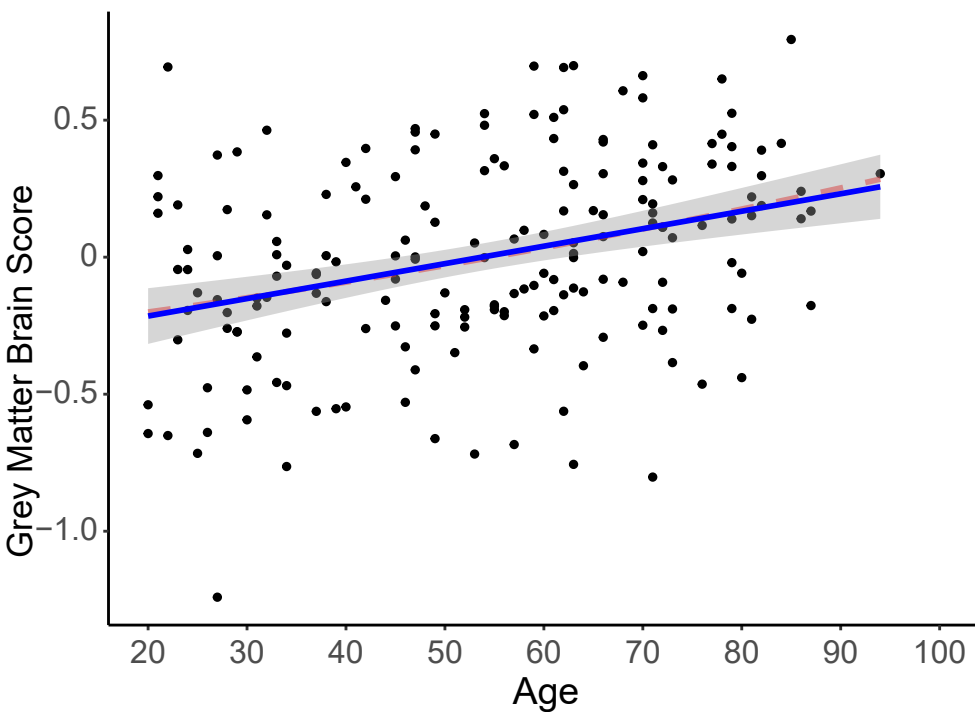


A.

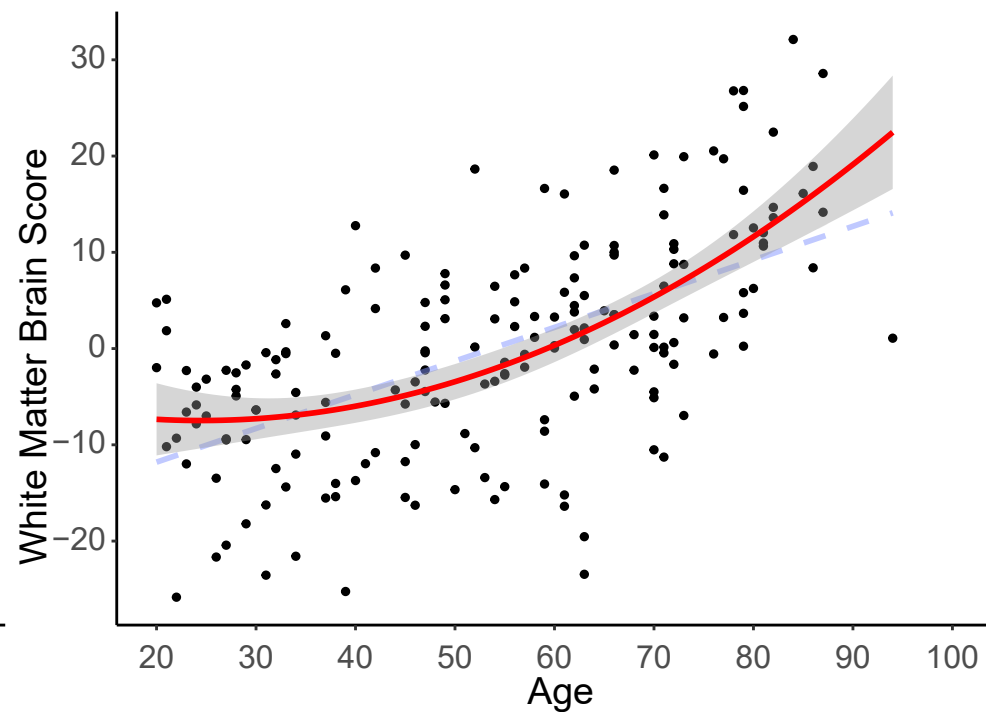
## Latent Variables Surface Area and Fractional Anisotropy



B.

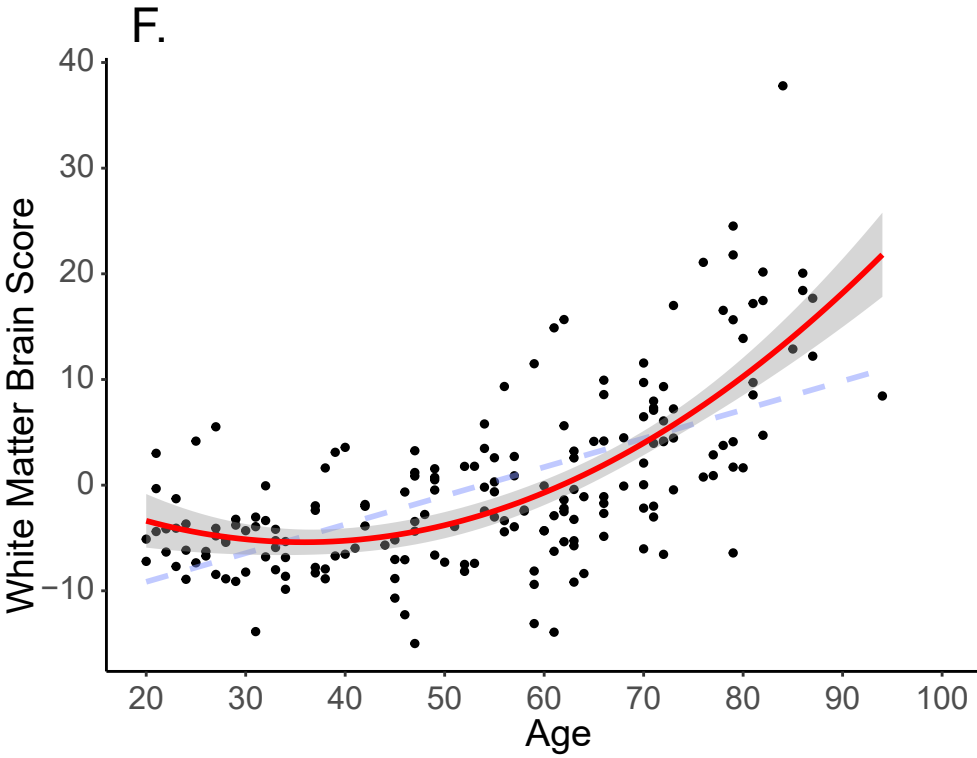
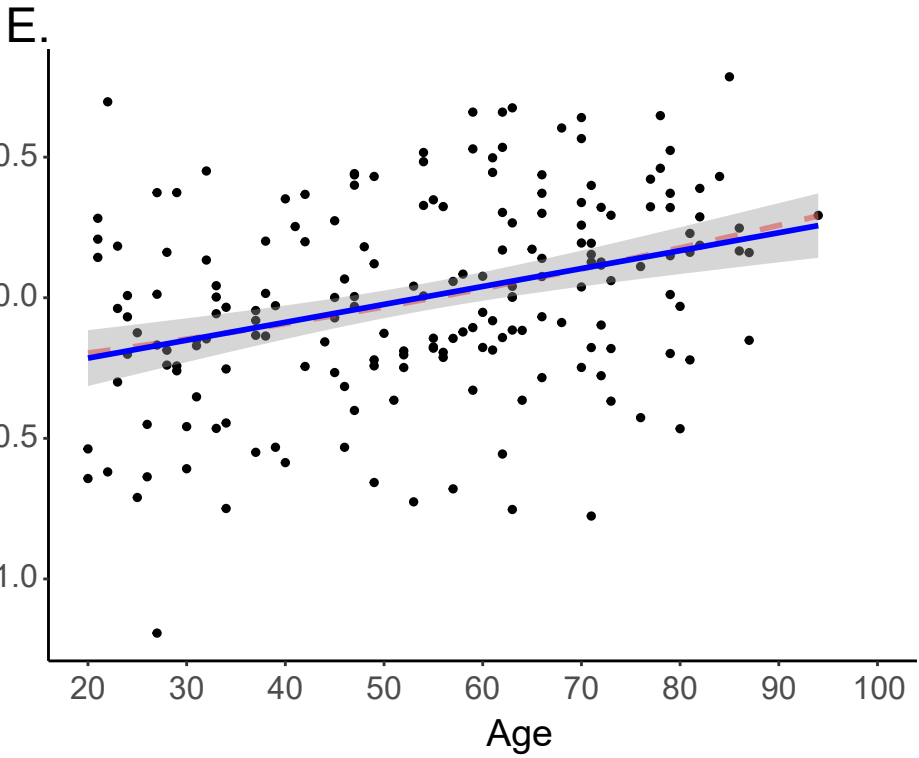
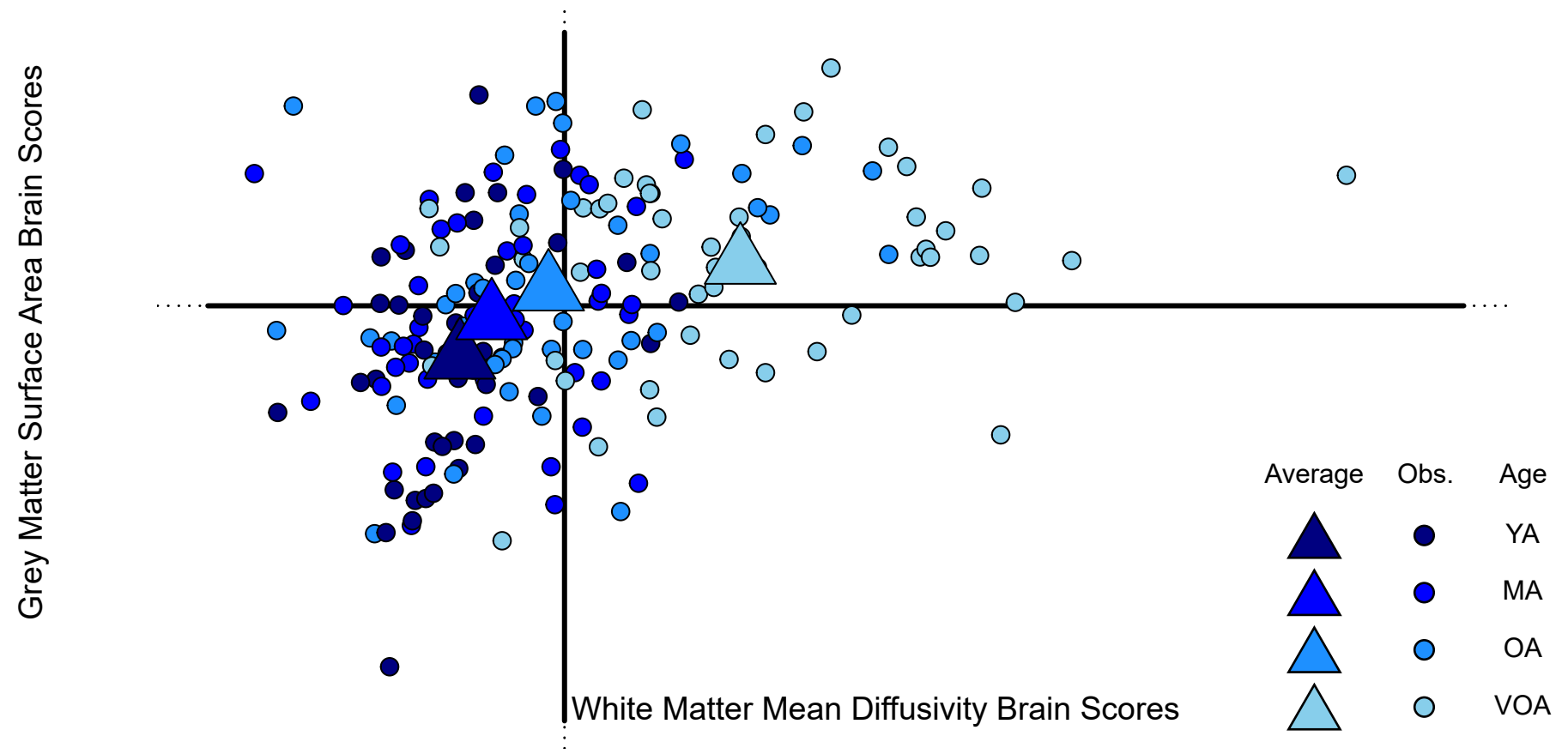


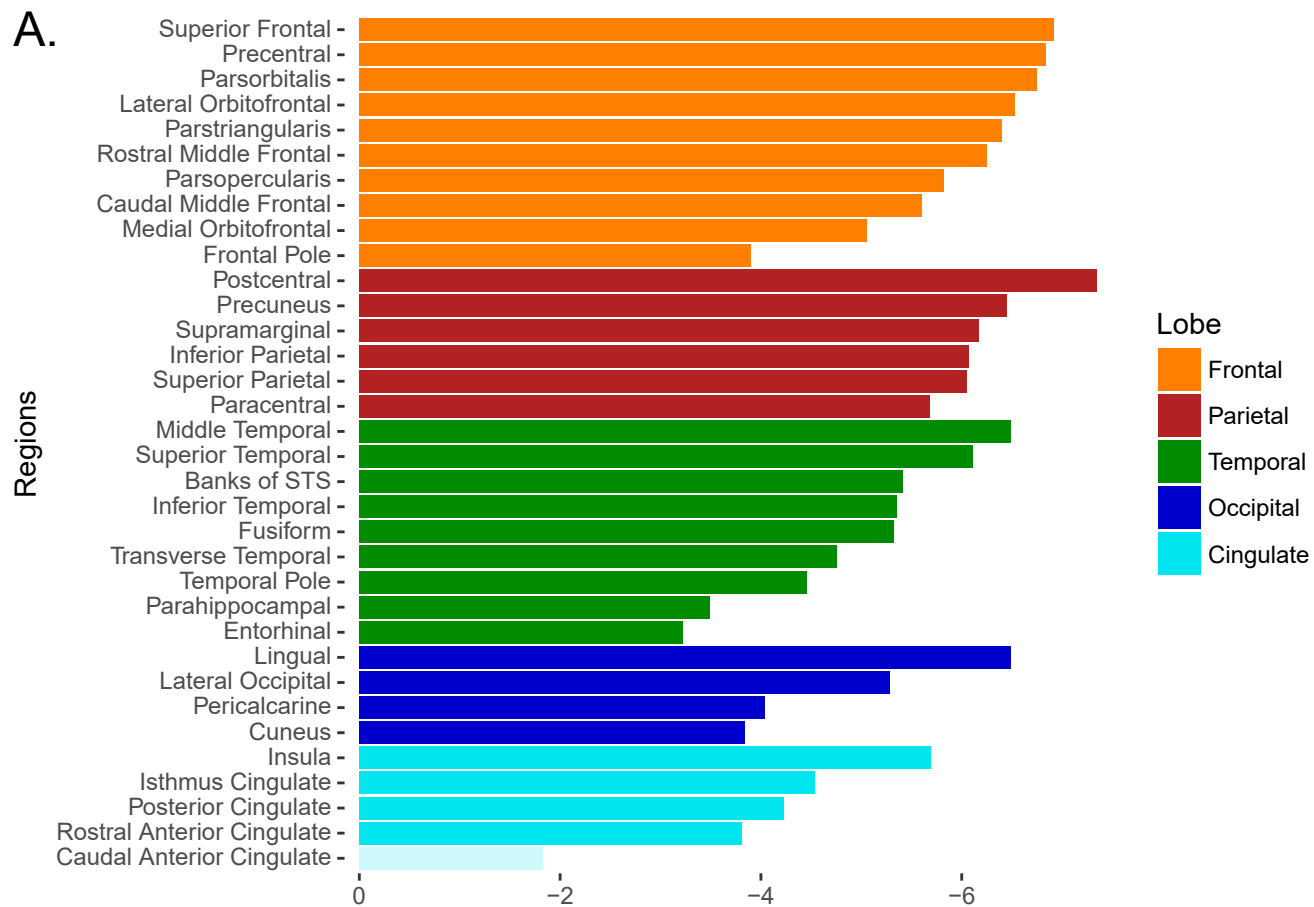
C.



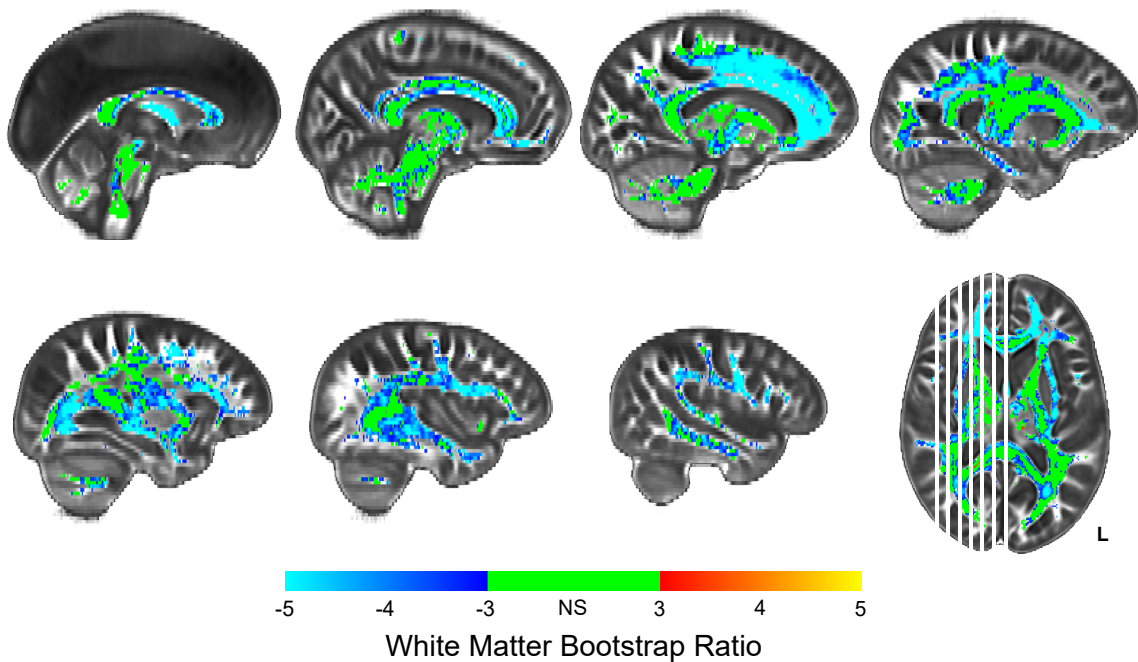
D.

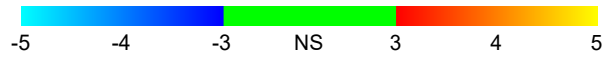
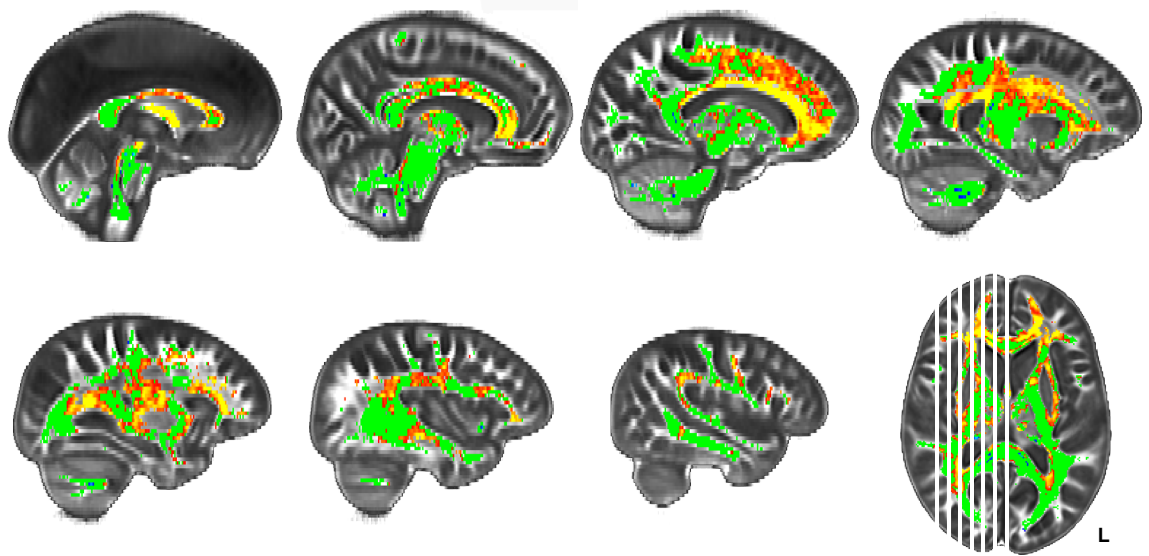
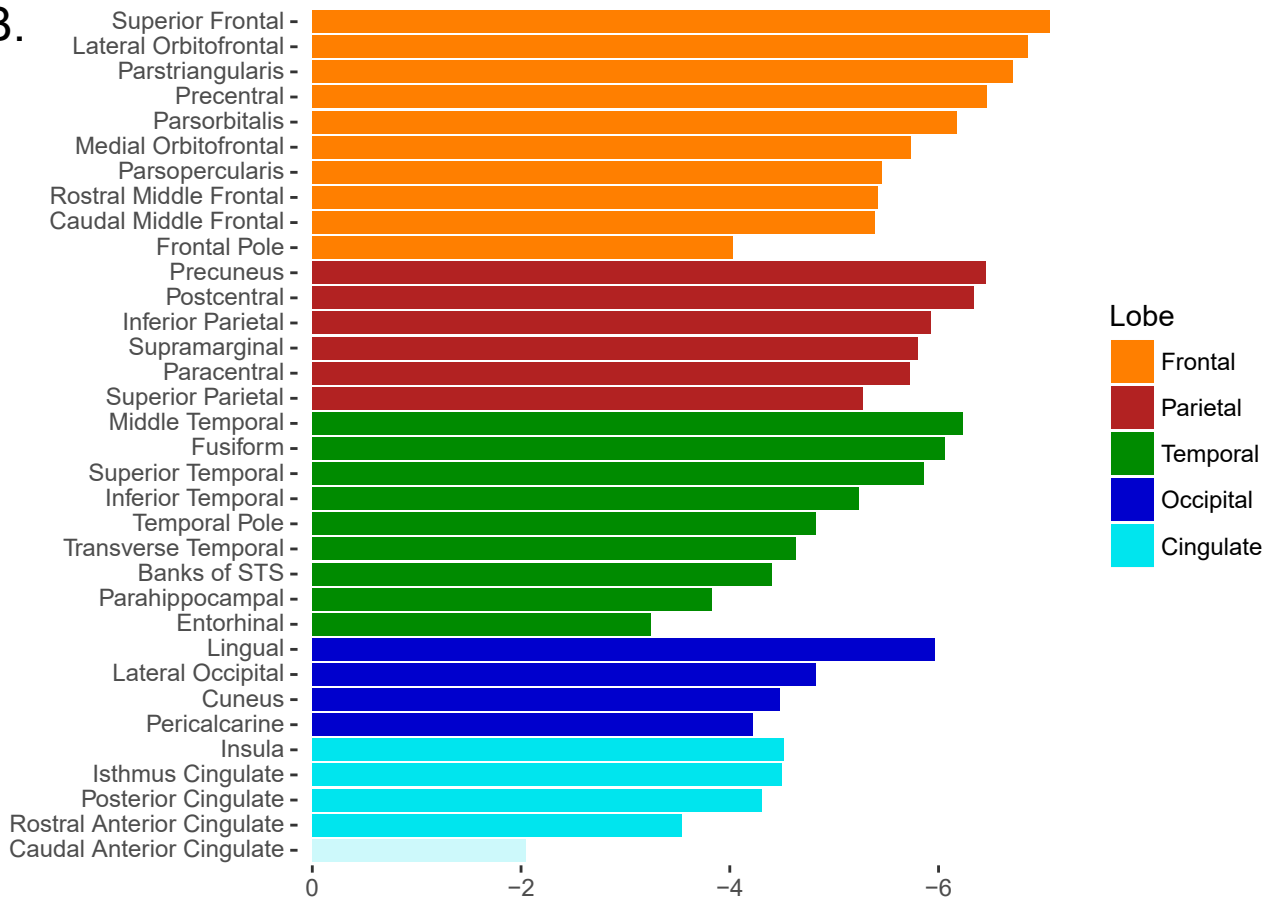
### Latent Variables Surface Area and Mean Diffusivity





Grey Matter Bootstrap Ratio



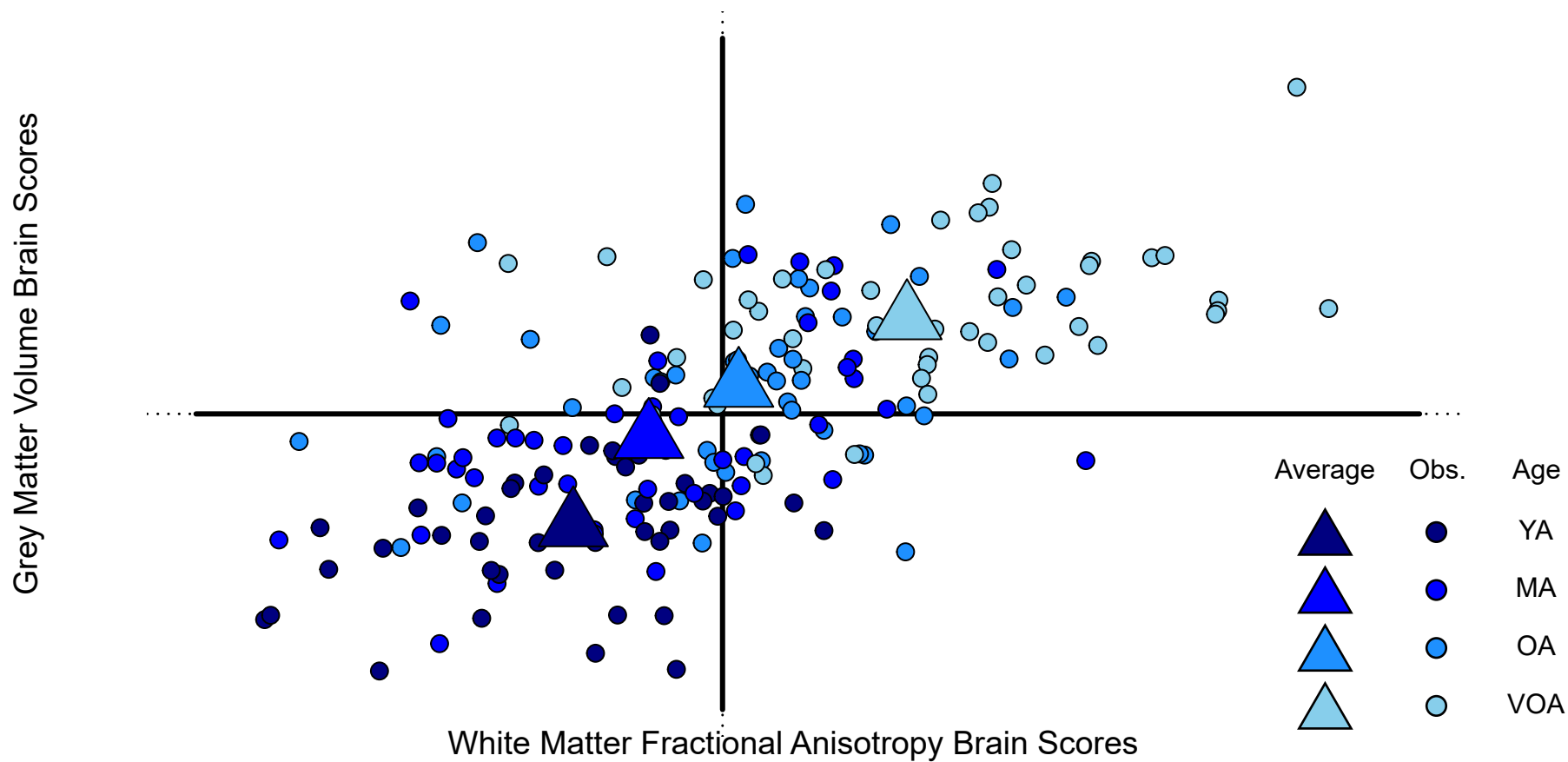
**B.**

White Matter Bootstrap Ratio

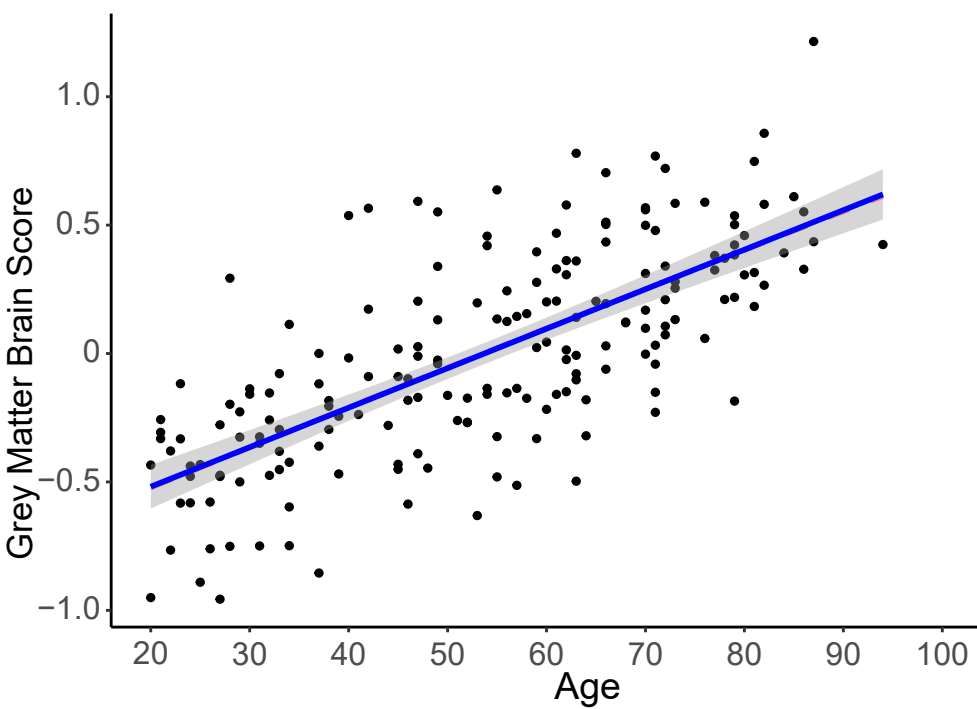


A.

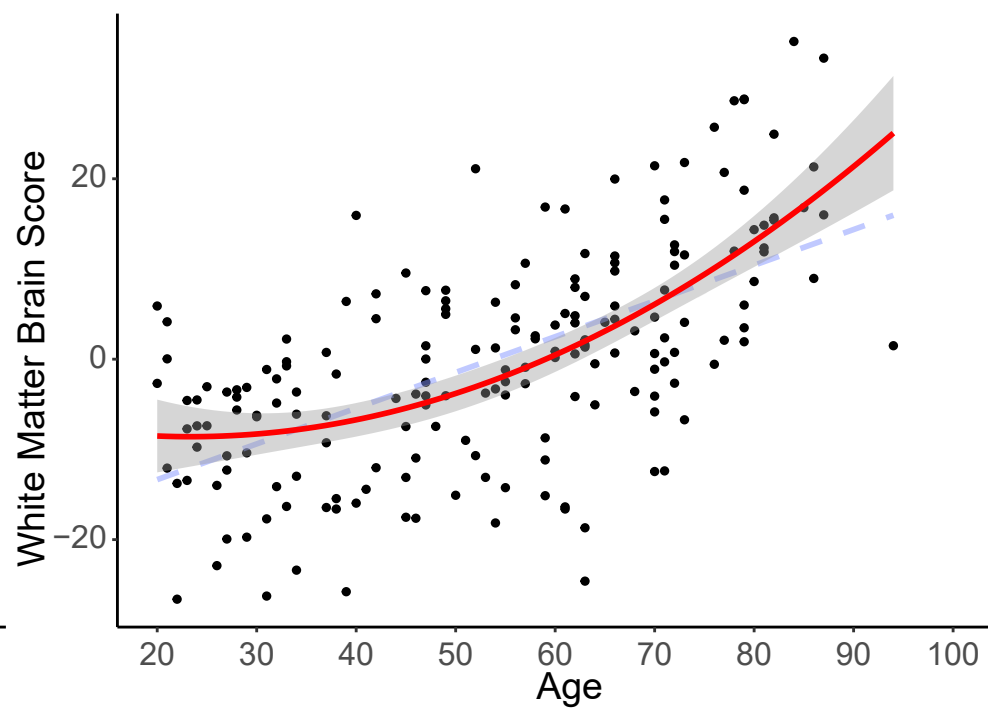
## Latent Variables Volume and Fractional Anisotropy



B.

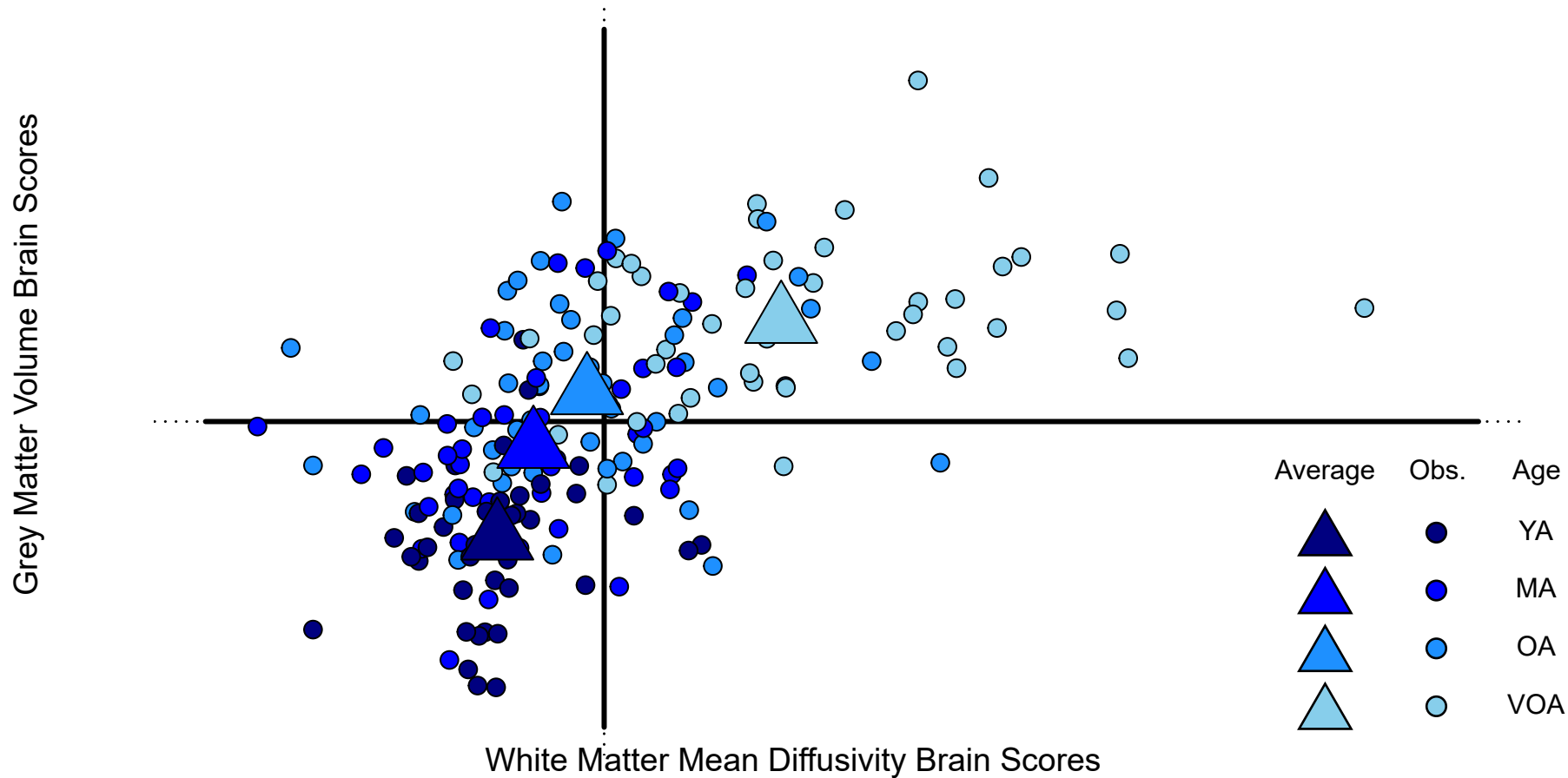


C.

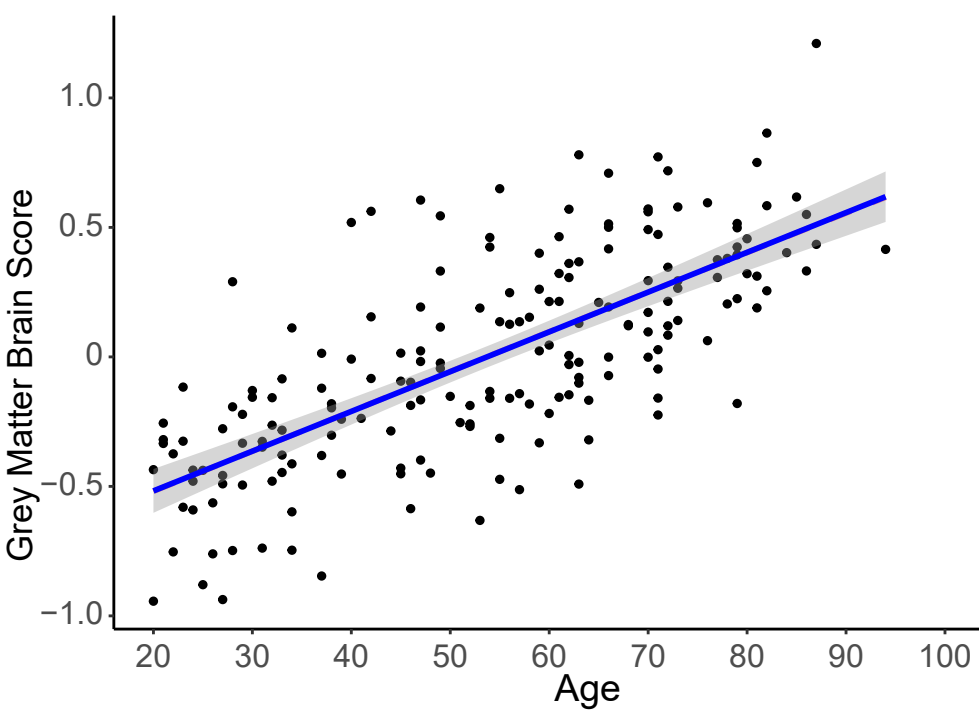


D.

### Latent Variables Volume and Mean Diffusivity



E.



F.

