

Applying Partial Least Squares Regression (PLSR) To Explore Associations Between Cortical Thickness and Subvolume Using ADNI Data

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Descriptive Statistics: Gender and Education

Gender	Count
1	754
2	616
Total	1370

Education	Count
High	1168
Low	202
Total	1370

Age Summary

	Baseline Age
Min.	54.75702
1st Qu.	69.15332
Median	73.75359
Mean	73.64944
3rd Qu.	78.52019
Max.	91.56194

ADNI data was used to explore associations between cortical thickness and subvolume measures. One hundred bootstrapped sets were generated. On each dataset, partial least squares regression was applied with subvolume measures as the outcomes and cortical thickness measures as the predictors. 5-fold cross validation was used to determine the optimal number of components that should be used for each set of outcomes. Beta coefficients were averaged across all 100 datasets and standardized. The following heat map summarizes the significant associations ($\alpha = 0.05$).

