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

Melissa Nunez

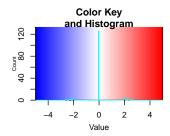*10/15/2018*

Descriptive Statistics: Gender and Education

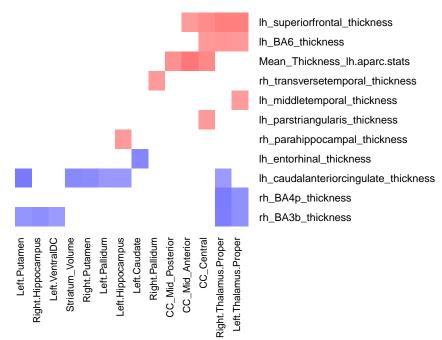| Gender	Count
Female	99
Male	74
Total	173

	Years of Education
Min.	12
1st Qu.	14
Median	16
Mean	16
3rd Qu.	18
Max.	22

Age Summary

	Baseline Age
Min.	20.00
1st Qu.	51.00
Median	64.00
Mean	55.55
3rd Qu.	67.00
Max.	71.00

RANN data was used to explore associations between cortical thickness and subvolume measures. One hundred boostraped 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).