

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

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## 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 bootstrapped sets were generated, on which partial least squares regression was applied with subvolume as the outcome and cortical thickness as the predictor, using 5-fold cross validation. The optimal number of components was calculated and the beta coefficients were averaged across all 100 datasets. The following heat map summarizes the significant associations.

