

Figure S1: Five eigenanatomy regions used in a sparse regression model of category fluency. The prediction error of this model under cross-validation is only slightly higher than that shown in figure 4. Gray matter predictors are pink, white matter predictors are blue.

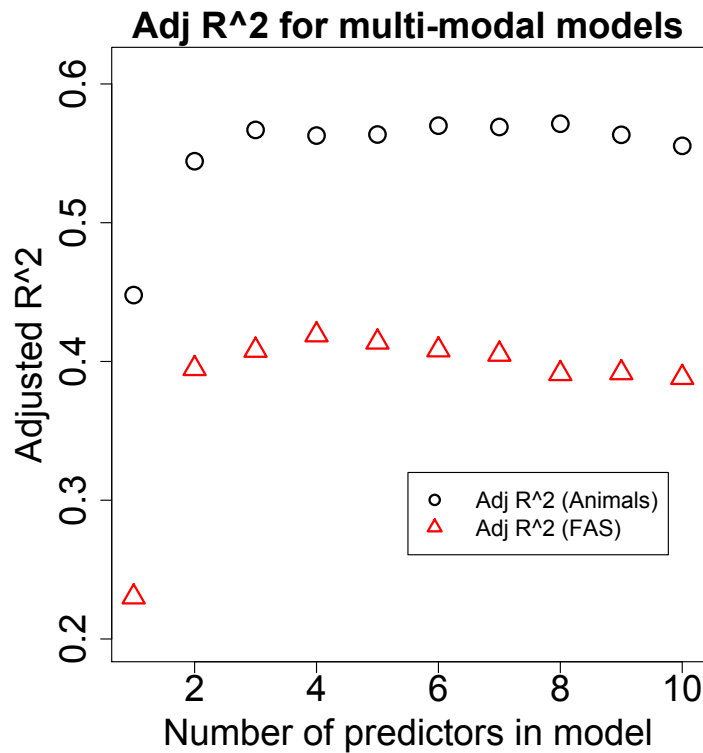


Figure S2: Performance metrics of sparse regression models with between 1 and 10 predictors according to the adjusted R<sup>2</sup>. The R<sup>2</sup> or coefficient of determination is a measure of the variance in the data explained by the model and naturally varies between 0 and 1. It is adjusted to control for the number of predictors (J J Faraway, *Linear Models with R*, Chapman and Hall/CRC 2004, p. 127). The adjusted R<sup>2</sup> is higher for category fluency than for letter fluency, suggesting a better fit to the data. For category fluency, the adjusted R<sup>2</sup> is maximized with 8 predictors. For letter fluency, the model with 4 predictors maximizes adjusted R<sup>2</sup>.

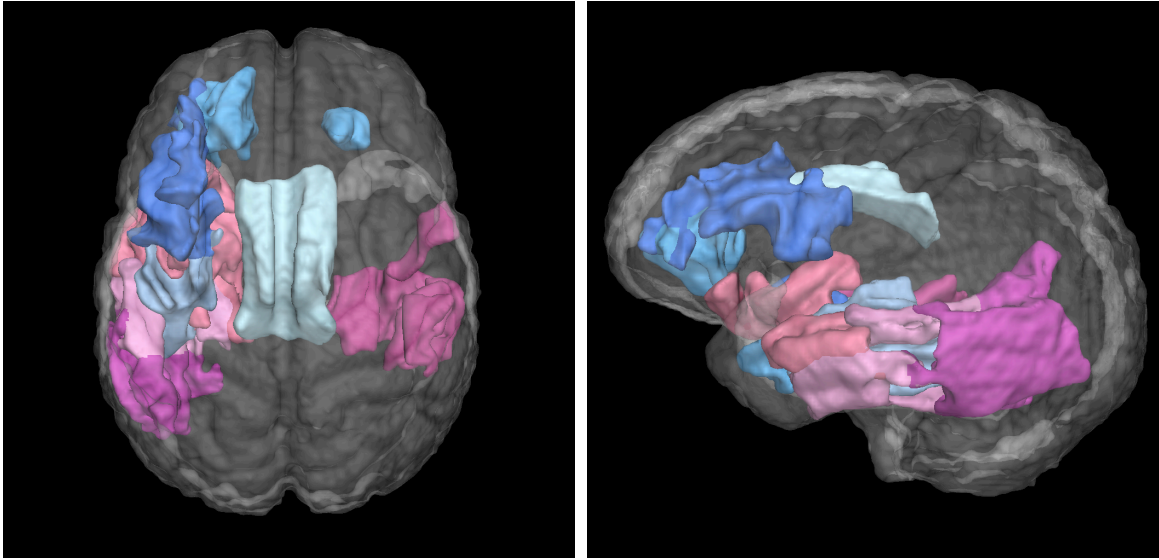


Figure S3: Eight eigenanatomy regions used in the sparse regression model of category fluency with maximum adjusted  $R^2$ . Gray matter predictors are pink, white matter predictors are blue.

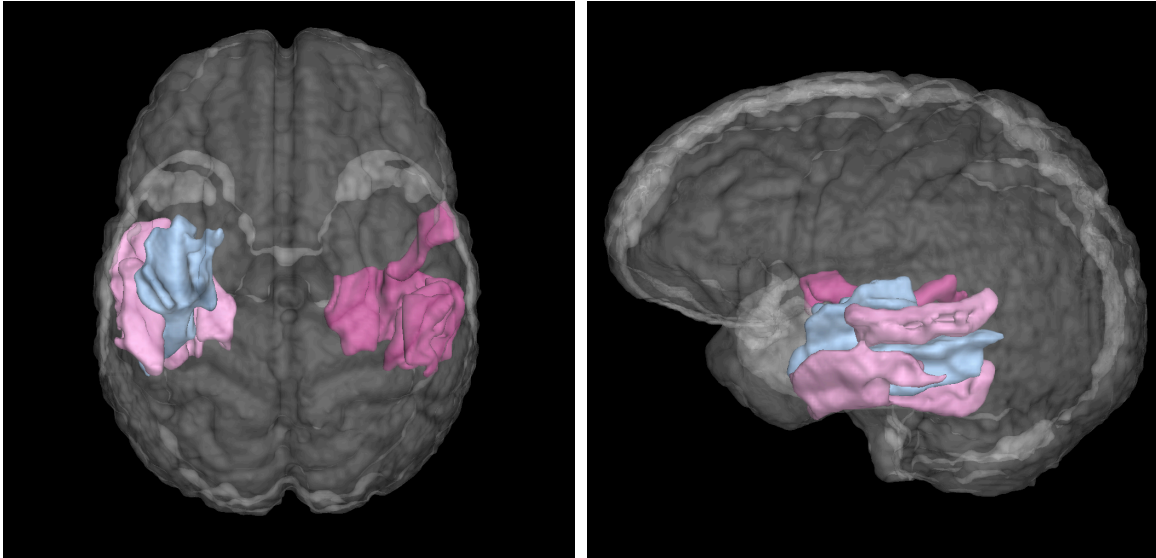


Figure S4: Three eigenanatomy regions used in the sparse regression model of category fluency with minimum AICc. Gray matter predictors are pink, white matter predictors are blue.

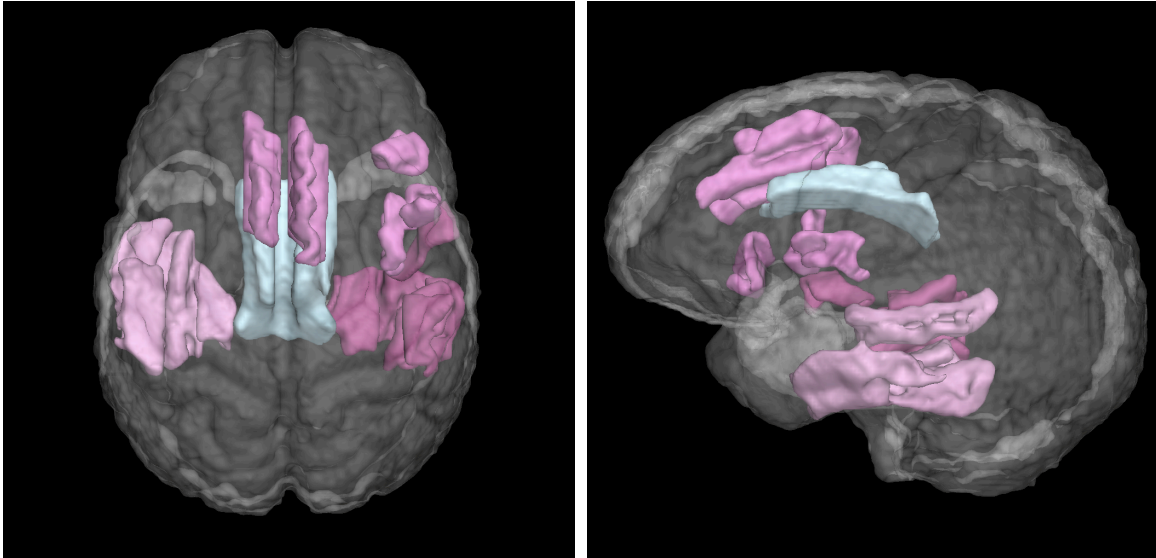


Figure S5: Four eigenanatomy regions used in the sparse regression model of letter fluency with minimum AICc / maximum adjusted  $R^2$  . Gray matter predictors are pink, white matter predictors are blue.

#### Reference

Faraway, J.J.J., 2004. Linear Models with R, vol. 63. Chapman and Hall/CRC.