**S8 Table. Results of the Bayesian multiple regressions in DTI and CSD examining the relations of LIabs and LIraw to volumes and FA in DTI, and to volumes and HMOA in CSD within handedness groups.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Model on the DTI data** | | |  | **Model on the CSD data** | | |
| ***P(M)*** | ***P(M|data)*** | ***BF10*** | ***P(M)*** | ***P(M|data)*** | ***BF10*** |
| **LIabs** | | | | | | | |
| **CC-I** |  |  |  | **CC-I** |  |  |  |
| AH | 0.25 | 0.24 | 0.96 | AH | 0.25 | 0.24 | 0.92 |
| TH | 0.25 | 0.24 | 0.93 | TH | 0.25 | 0.25 | 0.96 |
| **CC-II** |  |  |  | **CC-II** |  |  |  |
| AH | 0.25 | 0.25 | 1.0 | AH | 0.25 | 0.28 | 1.62 |
| TH | 0.25 | 0.24 | 0.95 | TH | 0.25 | 0.24 | 0.91 |
| **CC-III** |  |  |  | **CC-III** |  |  |  |
| AH | 0.25 | 0.25 | 1.0 | AH | 0.25 | 0.24 | 0.90 |
| TH | 0.25 | 0.25 | 1.0 | TH | 0.25 | 0.24 | 0.94 |
| **CC-IV** |  |  |  | **CC-IV** |  |  |  |
| AH | 0.25 | 0.24 | 0.94 | AH | 0.25 | 0.24 | 0.90 |
| TH | 0.25 | 0.25 | 0.99 | TH | 0.25 | 0.24 | 0.91 |
| **CC-V** |  |  |  | **CC-V** |  |  |  |
| AH | 0.25 | 0.24 | 0.95 | AH | 0.25 | 0.26 | 1.13 |
| TH | 0.25 | 0.25 | 1.03 | TH | 0.25 | 0.25 | 1.03 |
| **LIraw** | | | | | | | |
| **CC-I** |  |  |  | **CC-I** |  |  |  |
| AH | 0.25 | 0.24 | 0.90 | AH | 0.25 | 0.54 | 4.11a |
| TH | 0.25 | 0.24 | 0.93 | TH | 0.25 | 0.26 | 1.04 |
| **CC-II** |  |  |  | **CC-II** |  |  |  |
| AH | 0.25 | 0.25 | 0.98 | AH | 0.25 | 0.34 | 1.73 |
| TH | 0.25 | 0.24 | 0.93 | TH | 0.25 | 0.25 | 0.98 |
| **CC-III** |  |  |  | **CC-III** |  |  |  |
| AH | 0.25 | 0.24 | 0.91 | AH | 0.25 | 0.25 | 0.98 |
| TH | 0.25 | 0.25 | 0.99 | TH | 0.25 | 0.26 | 1.06 |
| **CC-IV** |  |  |  | **CC-IV** |  |  |  |
| AH | 0.25 | 0.24 | 0.91 | AH | 0.25 | 0.24 | 0.89 |
| TH | 0.25 | 0.24 | 0.94 | TH | 0.25 | 0.24 | 0.91 |
| **CC-V** |  |  |  | **CC-V** |  |  |  |
| AH | 0.25 | 0.24 | 0.90 | AH | 0.25 | 0.25 | 1.03 |
| TH | 0.25 | 0.25 | 1.02 | TH | 0.25 | 0.25 | 1.0 |

Model on the DTI data: a model with both volume and FA nested by the groups of handedness.

Model on the CSD data: a model with both volume and HMOA nested by the groups of handedness. *P(M)* = a prior probability of models; *P(M|data)* = posterior probability of models; BF10 = Bayes factor; AH = atypical handedness; TH = typical handedness; CC = corpus callosum; DTI = diffusion-tensor imaging; HMOA = hindrance modulated orientational anisotropy; CSD = constrained spherical deconvolution.

a Models with evidence for a relationat *BF10* > 3; scale value, *σ* = 0.018.