Distribution of choices in pipelines for signal processing and statistical analysis based on their (dis-)agreement with expected hypotheses outcomes In Agreement In Disagreement Study 1 Hypotheses 1,2,5 & 7 Study 1 Hypotheses 3,4 & 6 Study 2 all Hypotheses (high confidence) (low confidence) Single Metric Single Metric Single Metric LowPass Manual Pruning Manual Pruning Manual Pruning Preprocessing 40 BandPass BandPass No Pruning No Pruning 30 20 20 HighPass Filtering No Filter No Filter ed Methods No Filter Combined Methods Trial Rejection/ Single Method Trial Rejection/ Trial Rejection/ Single Method Single Method **Motion Artifacts** No Removal No Removal Block Averaging AR-IRLS AR-IRLS AR-IRLS **HRF** Extraction PCA of the Short Channels PCA of the Short Channels PCA of the Short Channe Short Channels 10 15 20 25 30 10 20 15 30 20 25 Multiple Regressors Multiple Regressors Multiple Regressors Other Regressors Gamma Estimation SPM Glover Glove SPM HRF Regressors HbO only HbO only HbO only Signals for Statistical HbO and HbR Other Metric 10 20 30 40 50 10 15 20 25 30 20 30 GLM Beta Value Metric Signal Type Other/Multiple Other/Multiple Other/Multiple Signal Spaces ROI ROI ROI Signal Space Signal Spaces Signal Spaces Multiple Methods Multiple Methods Multiple Methods Other/Unknown Stat. Method 0.05 0.05 alpha = 0.05Statistical Tests alpha 60 40 20 alpha < 0.05 alpha T-Tests alpha Tests Significance Level Statistica| No Correction No Correction No Correction Mixed Effects Models Mixed Effects Models Mixed Effects Models Method

Correction

Mult. Comparisons Correction