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 3,4 & 6 Study 1 Hypotheses 1,2,5 & 7 Study 2 all Hypotheses (high confidence) (low confidence) Single Metric Single Metric Single Metric Pruning LowPass Manual Pruning Manual Pruning Manual Pruning Motion Artefacts Filtering 30 40 BandPass BandPass BandPass Preprocessing No Pruning No Pruning 30 20 20 10 HighPa Combined Metrics HighPass Combined Metrics Combined Metrics No Filter Combined Methods No Filter Combined Methods No Filter Combined Methods Trial Rejection/ No Removal Trial Rejection/ No Removal Trial Rejection/ No Removal Single Method Single Method Single Method **HRF** Estimation Unknown Regressor ΔR-IRI S Unknown Regressor AR-IRLS Unknown Regressor HRF Regressors Other Regressors
PCA of the Short Channels PCA of the Short Channels PCA of the Short Channel OLS HRF Extraction Short Channels secutive sussian Short Channels cutive 5 10 15 20 25 30 10 10 20 15 30 20 25 Multiple Regressors Multiple Regressors Multiple Regressors Canonical Gamma Gamma Canonical Glover SPM Glover SPM Glover SPM Signal Type Signal Space HbO only HbO only HbO only Metric HbO and HbR Other Metric HbO and HbR Other Metric HbO and HbR Signals for Statistical Signal Amp. (windowed) Signal Amp. (windowed) Signal Amp. (windowed) Other/Multiple Signal Types Other/Multiple Signal Types Other/Multiple Signal Types 10 20 30 40 50 10 15 20 25 30 20 30 GLM Beta Values GLM Beta Values GLM Beta Values Other/Multiple Other/Multiple Other/Multiple ROI ROI ROI Signal Spaces Multiple Methods Multiple Methods Multiple Methods Statistical Method Multiple Comparisons Correction alpha = 0.05 Other/Unknowr Stat. Method Other/Unknown Stat. Method Other/Unknown Stat. Method alpha = 0.05alpha = 0.05p-Value 60 40 30 1020 20 alpha < 0.05 0.05 alpha sts 0.05

No Correction

Mixed Effects Models

No Correction

Mixed Effects Models

Mixed Effects Models

No Correction