**Supplementary Materials**

Here we report fronto-temporoparietal connections that significantly different from zero in the whole sample in the 44-channel configuration, for both HbO2 and HHb. Significant functional connections within the rest of the channels were also plotted to assess consistency between HbO2 and HHb not only limited to the fronto-temporoparietal areas but also between the rest of the channels.



**Supplementary Figure 1** Graphical representation of the one sample t-tests in the whole sample within the fronto-temporoparietal regions and within the rest of the channels. HbO2 is plotted in red, HHb is plotted in blue. A, fronto-temporoparietal connections, HbO2 signal; B, fronto-temporoparietal connections, HHb signal; C, Rest of the channels, HbO2 signal; D, Rest of the channels, HHb signal. Connections that are significantly different from zero both in the HbO2 and the HHb signal are plotted in black.

1 out of 2 connections that are stronger in the Recognisers than in the Non-Recognisers in the HHb signal overlap with those in the HbO2 signal within the fronto-temporoparietal regions, and 58 out of 78 connections in the HHb signal overlap with those in the HbO2 signal within the rest of the channels.

To test our hypothesis that there should be greater functional connectivity between the fronto-temporoparietal regions in toddlers who exhibited self-recognition compared to those who did not, we compared the Fisher-transformed correlation coefficients of Recognisers and Non-Recognisers using independent sample t-tests. We report here connections that were significantly different between the two groups within both the HbO2 and the HHb signals (p<0.05, uncorrected). Supplementary Figure 2 shows connections that were significantly different between the two groups within both the HbO2 and the HHb signals (p<0.05, uncorrected).

****

****

 D

 C

**Supplementary Figure 2** Graphical representation of the differences in connectivity within the rest of the channels between Recognisers and Non-Recognisers. A, HbO2 signal; B, HHb signal. A, fronto-temporoparietal connections, HbO2 signal; B, fronto-temporoparietal connections, HHb signal; C, Rest of the channels, HbO2 signal; D, Rest of the channels, HHb signal.

Within the fronto-temporoparietal region, 13 connections were stronger in the Recognisers than in Non-Recognisers in the HbO2 signal, and 7 in the HHb signal. 5 out 7 connections in the HHb signal overlap with those in the HbO2 signal. Only 1 connection was stronger in the Non-Recognisers than in Recognisers in the HbO2 signal, and 1 in the HHb signal, but they did not overlap. (See Supplementary Table 1 and 2 for the degrees of freedom of the t-test between the two groups in each connection). Within the rest of the channels, 35 connections were stronger in the Recognisers than in Non-Recognisers in the HbO2 signal, and 9 in the HHb signal. 4 out 9 connections that are stronger in the Recognisers than in the Non-Recognisers in the HHb signal overlap with those in the HbO2 signal. Only 7 connection was stronger in the Non-Recognisers than in Recognisers in the HbO2 signal, and 9 in the HHb signal. 1 of which overlap with the one in the HbO2 signal.

Here we report the degrees of freedom of the t-tests between the Recognisers and the Non-Recognisers for each connection (right side of the table). Degrees of freedom of the connections that showed a significant difference between Recognisers and Non-Recognisers are marked in black. We report also p-values of the pairs of channels that showed a significant difference between Recognisers and Non-Recognisers (right side of the table).

Supplementary Table 1 reports degrees of freedom and p-values related to the t-tests performed on the HbO2 signal, and Supplementary Table 2 reports degrees of freedom and p-values related to the t-tests performed on the HHb signal.

**Degrees of freedom**

channels

**p-values**

channels

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** |
| **1** |  | 36 | 36 | 35 | 35 | 35 | 34 | 36 | 35 | 35 | 33 | 30 | 29 | 36 | 36 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 36 | 35 | 34 | 32 | 33 | 33 | 35 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **2** |  |  | 38 | 35 | 35 | 36 | 35 | 38 | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **3** |  |  |  | 35 | 35 | 36 | 35 | 38 | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **4** |  |  |  |  | 35 | 34 | 34 | 35 | 34 | 34 | 33 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 33 | 34 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **5** |  |  |  |  |  | 34 | 34 | 35 | 34 | 34 | 33 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 33 | 34 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **6** |  |  |  |  |  |  | 35 | 36 | 35 | 34 | 33 | 31 | 30 | 36 | 36 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 36 | 35 | 35 | 33 | 33 | 33 | 35 | 33 | 19 | 18 | 19 | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **7** |  |  |  |  |  |  |  | 35 | 34 | 33 | 33 | 30 | 30 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 35 | 33 | 32 | 33 | 34 | 33 | 19 | 18 | 19 | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **8** |  |  |  |  |  |  |  |  | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **9** |  |  |  |  |  |  |  |  |  | 34 | 32 | 30 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 33 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 32 | 34 | 32 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **10** |  |  |  |  |  |  |  |  |  |  | 32 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 33 | 34 | 33 | 35 | 34 | 33 | 31 | 32 | 32 | 34 | 32 | 17 | 16 | 17 | 16 | 16 | 14 | 15 | 17 | 16 | 16 | 14 | 14 | 14 | 16 |
| **11** |  |  |  |  |  |  |  |  |  |  |  | 30 | 30 | 35 | 35 | 35 | 35 | 35 | 34 | 35 | 35 | 34 | 35 | 34 | 34 | 32 | 32 | 33 | 33 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **12** |  |  |  |  |  |  |  |  |  |  |  |  | 30 | 32 | 32 | 32 | 32 | 32 | 31 | 31 | 32 | 31 | 32 | 31 | 31 | 29 | 29 | 29 | 30 | 29 | 18 | 17 | 17 | 17 | 18 | 16 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **13** |  |  |  |  |  |  |  |  |  |  |  |  |  | 31 | 31 | 31 | 31 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 29 | 28 | 29 | 29 | 29 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **14** |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **15** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **16** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **17** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 36 | 36 | 37 | 36 | 37 | 36 | 35 | 33 | 34 | 34 | 35 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **18** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **19** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 35 | 36 | 35 | 36 | 35 | 34 | 32 | 33 | 33 | 35 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 17 | 18 | 16 | 18 | 16 | 16 | 14 | 17 |
| **20** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 35 | 36 | 35 | 35 | 33 | 33 | 34 | 34 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **21** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 37 | 36 | 35 | 33 | 34 | 34 | 35 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **22** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 35 | 34 | 32 | 33 | 33 | 34 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **23** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **24** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 35 | 34 | 35 | 34 | 35 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **25** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 34 | 33 | 34 | 34 | 34 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **26** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 32 | 32 | 32 | 33 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **27** |  |  |  |  | .029 |  |  |  |  |  |  |  |  |  |  |  |  | .026 |  |  | .042 |  |  | .005 |  |  |  | 32 | 34 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 16 | 18 | 15 | 17 | 14 | 14 | 14 | 17 |
| **28** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .015 | .014 |  | .015 | .017 |  |  | 33 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 17 | 19 | 16 | 18 | 15 | 15 | 14 | 18 |
| **29** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .026 |  |  |  |  |  |  |  |  |  |  | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 16 | 17 | 15 | 15 | 14 | 17 |
| **30** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **31** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **32** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 19 | 18 | 16 | 17 | 19 | 17 | 18 | 15 | 15 | 14 | 18 |
| **33** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **34** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .048 |  | .016 |  |  |  |  | 18 | 16 | 17 | 19 | 17 | 18 | 15 | 15 | 14 | 18 |
| **35** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 | 17 | 19 | 16 | 18 | 15 | 15 | 14 | 18 |
| **36** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16 | 17 | 14 | 16 | 14 | 14 | 14 | 16 |
| **37** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 15 | 18 | 16 | 16 | 15 | 17 |
| **38** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 | 19 | 16 | 16 | 15 | 19 |
| **39** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16 | 14 | 14 | 14 | 16 |
| **40** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .022 | .031 |  |  |  |  |  |  |  |  |  |  |  | 16 | 16 | 15 | 18 |
| **41** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16 | 14 | 16 |
| **42** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 14 | 16 |
| **43** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .031 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 15 |
| **44** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Supplementary Table 1** Degrees of freedom related to the difference between Recognisers and Non-Recognisers in each connection in the HbO2 signal. The additional channels of the 44-channel configuration are highlighted in grey. Pairs of channels that showed significant functional connectivity are marked in black and p-values are reported on the left side of the table.

**Degrees of freedom**

channels

channels

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** |
| **1** |  | 36 | 36 | 35 | 35 | 35 | 34 | 36 | 35 | 35 | 33 | 30 | 29 | 36 | 36 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 36 | 35 | 34 | 32 | 33 | 33 | 35 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **2** |  |  | 38 | 35 | 35 | 36 | 35 | 38 | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **3** |  |  |  | 35 | 35 | 36 | 35 | 38 | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **4** |  |  |  |  | 35 | 34 | 34 | 35 | 34 | 34 | 33 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 33 | 34 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **5** |  |  |  |  |  | 34 | 34 | 35 | 34 | 34 | 33 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 33 | 34 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **6** |  |  |  |  |  |  | 35 | 36 | 35 | 34 | 33 | 31 | 30 | 36 | 36 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 36 | 35 | 35 | 33 | 33 | 33 | 35 | 33 | 19 | 18 | 19 | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **7** |  |  |  |  |  |  |  | 35 | 34 | 33 | 33 | 30 | 30 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 33 | 35 | 34 | 35 | 33 | 32 | 33 | 34 | 33 | 19 | 18 | 19 | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **8** |  |  |  |  |  |  |  |  | 35 | 35 | 35 | 32 | 31 | 38 | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **9** |  |  |  |  |  |  |  |  |  | 34 | 32 | 30 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 33 | 34 | 33 | 35 | 34 | 34 | 32 | 32 | 32 | 34 | 32 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 17 | 17 | 15 | 15 | 14 | 17 |
| **10** |  |  |  |  |  |  |  |  |  |  | 32 | 29 | 29 | 35 | 35 | 35 | 34 | 35 | 34 | 33 | 34 | 33 | 35 | 34 | 33 | 31 | 32 | 32 | 34 | 32 | 17 | 16 | 17 | 16 | 16 | 14 | 15 | 17 | 16 | 16 | 14 | 14 | 14 | 16 |
| **11** |  |  |  |  |  |  |  |  |  |  |  | 30 | 30 | 35 | 35 | 35 | 35 | 35 | 34 | 35 | 35 | 34 | 35 | 34 | 34 | 32 | 32 | 33 | 33 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **12** |  |  |  |  |  |  |  |  |  |  |  |  | 30 | 32 | 32 | 32 | 32 | 32 | 31 | 31 | 32 | 31 | 32 | 31 | 31 | 29 | 29 | 29 | 30 | 29 | 18 | 17 | 17 | 17 | 18 | 16 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **13** |  |  |  |  |  |  |  |  |  |  |  |  |  | 31 | 31 | 31 | 31 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 29 | 28 | 29 | 29 | 29 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **14** |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 38 | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **15** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 38 | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **16** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 38 | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **17** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 36 | 36 | 37 | 36 | 37 | 36 | 35 | 33 | 34 | 34 | 35 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **18** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 36 | 37 | 36 | 38 | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **19** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 35 | 36 | 35 | 36 | 35 | 34 | 32 | 33 | 33 | 35 | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 17 | 18 | 16 | 18 | 16 | 16 | 14 | 17 |
| **20** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 35 | 36 | 35 | 35 | 33 | 33 | 34 | 34 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **21** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 37 | 36 | 35 | 33 | 34 | 34 | 35 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 18 | 19 | 16 | 19 | 16 | 16 | 15 | 18 |
| **22** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 36 | 35 | 34 | 32 | 33 | 33 | 34 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 17 | 18 | 15 | 18 | 15 | 15 | 14 | 17 |
| **23** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 37 | 36 | 34 | 35 | 35 | 36 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **24** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 35 | 34 | 35 | 34 | 35 | 35 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **25** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 34 | 33 | 34 | 34 | 34 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **26** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 32 | 32 | 32 | 33 | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **27** |  |  |  |  |  |  |  | .009 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .037 |  |  |  | 32 | 34 | 33 | 18 | 17 | 17 | 17 | 17 | 15 | 16 | 18 | 15 | 17 | 14 | 14 | 14 | 17 |
| **28** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .023 |  |  |  |  |  |  | 33 | 34 | 19 | 18 | 18 | 18 | 18 | 16 | 17 | 19 | 16 | 18 | 15 | 15 | 14 | 18 |
| **29** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .008 |  |  |  |  |  |  |  |  |  |  | 33 | 18 | 17 | 18 | 17 | 17 | 15 | 16 | 18 | 16 | 17 | 15 | 15 | 14 | 17 |
| **30** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .020 |  |  |  |  |  |  | 20 | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **31** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 19 | 19 | 19 | 19 | 17 | 18 | 20 | 17 | 19 | 16 | 16 | 15 | 19 |
| **32** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 19 | 18 | 16 | 17 | 19 | 17 | 18 | 15 | 15 | 14 | 18 |
| **33** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 18 | 16 | 17 | 19 | 17 | 18 | 16 | 16 | 14 | 18 |
| **34** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .048 |  |  |  |  |  |  |  | 18 | 16 | 17 | 19 | 17 | 18 | 15 | 15 | 14 | 18 |
| **35** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 | 17 | 19 | 16 | 18 | 15 | 15 | 14 | 18 |
| **36** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .030 |  |  |  |  |  |  |  | 16 | 17 | 14 | 16 | 14 | 14 | 14 | 16 |
| **37** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 18 | 15 | 18 | 16 | 16 | 15 | 17 |
| **38** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 | 19 | 16 | 16 | 15 | 19 |
| **39** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16 | 14 | 14 | 14 | 16 |
| **40** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | .019 |  |  |  |  |  |  |  |  |  |  |  | 16 | 16 | 15 | 18 |
| **41** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 16 | 14 | 16 |
| **42** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 14 | 16 |
| **43** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 15 |
| **44** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**p-values**

**Supplementary Table 2** Degrees of freedom related to the difference between Recognisers and Non-Recognisers in each connection in the HHb signal. The additional channels of the 44-channel configuration are highlighted in grey. Pairs of channels that showed significant functional connectivity are marked in black and p-values are reported on the left side of the table.