

Tables S1a and S1b: Phenotypic and Genetic data for binary graphs. Computed without (Table S1a) and with (Table S1b) global signal regression.

| Phenotype k | | Twin Correlations (95% CI) | | | Model fit (AIC) | | | Variance estimates (%) from best fitting model (95% CI) | | | |
|----------------|-------------------------|----------------------------|--------------------|-------------------|-----------------|---------------|---------------|--|-----------|-----------|--------------|
| | | Mean(SD) | MZ (N= 84 pairs) | DZ (N= 89 pairs) | ACE | AE | CE | E | A | C | E |
| 5 | Y | 3.10(1.62) | 0.46 (0.32,0.59) | 0.13 (-0.01,0.26) | 387.62 | 385.62 | 398.58 | 422.56 | 59(44,70) | - | 41(30,56) |
| | Q | 0.46(0.10) | 0.40 (0.25,0.53) | 0.17 (0.03,0.30) | 387.83 | 385.84 | 390.67 | 419.08 | 54(39,65) | - | 46(35,61) |
| | φ_{form} | 1.61(0.27) | -0.12 (-0.28,0.05) | 0.02 (-0.12,0.16) | 345.21 | 343.21 | 343.21 | 341.21 | - | - | 100(100,100) |
| | λ | 0.67(0.08) | 0.45 (0.30,0.57) | 0.16 (0.02,0.29) | 393.43 | 391.43 | 399.91 | 431.18 | 59(44,69) | - | 41(31,56) |
| | σ | 2.19(1.29) | 0.47 (0.33,0.59) | 0.11 (-0.03,0.25) | 389.35 | 387.35 | 401.41 | 424.29 | 59(44,70) | - | 41(30,56) |
| 10 | Y | 2.00(0.79) | 0.40 (0.25,0.54) | 0.14 (-0.00,0.27) | 381.90 | 379.90 | 386.37 | 409.02 | 52(36,64) | - | 48(36,64) |
| | Q | 0.38(0.09) | 0.33 (0.17,0.47) | 0.13 (-0.01,0.26) | 388.57 | 386.75 | 388.00 | 407.12 | 43(26,56) | - | 57(44,74) |
| | φ_{form} | 1.43(0.22) | 0.01 (-0.16,0.18) | 0.09 (-0.05,0.23) | 370.79 | 369.18 | 368.79 | 367.42 | - | - | 100(100,100) |
| | λ | 0.78(0.07) | 0.40 (0.25,0.53) | 0.18 (0.05,0.32) | 385.09 | 383.17 | 389.37 | 422.90 | 61(47,71) | - | 39(29,53) |
| | σ | 1.61(0.71) | 0.43 (0.28,0.55) | 0.14 (-0.00,0.27) | 381.03 | 379.03 | 387.24 | 411.99 | 55(40,67) | - | 45(33,60) |
| 15 | Y | 1.65(0.51) | 0.36 (0.21,0.50) | 0.14 (0.00,0.28) | 384.95 | 383.01 | 385.77 | 408.34 | 47(32,60) | - | 53(40,68) |
| | Q | 0.32(0.08) | 0.27 (0.11,0.42) | 0.12 (-0.02,0.26) | 379.47 | 377.91 | 377.96 | 392.52 | 38(20,52) | - | 62(48,80) |
| | φ_{form} | 1.32(0.16) | 0.06 (-0.11,0.23) | 0.14 (-0.00,0.27) | 337.41 | 336.62 | 335.41 | 336.56 | - | 12(0,25) | 88(75,100) |
| | λ | 0.84(0.06) | 0.42 (0.28,0.55) | 0.20 (0.06,0.33) | 375.08 | 373.37 | 379.28 | 418.46 | 64(50,73) | - | 36(27,50) |
| | σ | 1.41(0.49) | 0.40 (0.24,0.53) | 0.16 (0.02,0.29) | 381.26 | 379.31 | 383.15 | 410.21 | 52(37,64) | - | 48(36,63) |
| 20 | Y | 1.46(0.36) | 0.33 (0.17,0.47) | 0.14 (0.00,0.28) | 385.12 | 383.42 | 384.46 | 404.52 | 43(27,56) | - | 57(44,73) |
| | Q | 0.28(0.07) | 0.21 (0.04,0.36) | 0.14 (-0.00,0.27) | 384.67 | 384.59 | 382.67 | 393.51 | - | 28(13,41) | 72(59,87) |
| | φ_{form} | 1.27(0.12) | 0.17 (0.00,0.33) | 0.09 (-0.05,0.22) | 367.94 | 366.69 | 365.94 | 370.50 | - | 18(4,31) | 82(69,96) |
| | λ | 0.88(0.05) | 0.40 (0.25,0.54) | 0.22 (0.08,0.35) | 372.05 | 370.73 | 374.11 | 412.19 | 60(47,71) | - | 40(29,53) |
| | σ | 1.31(0.37) | 0.36 (0.21,0.50) | 0.16 (0.03,0.30) | 381.04 | 379.39 | 380.95 | 405.90 | 48(32,60) | - | 52(40,68) |
| 25 | Y | 1.34(0.27) | 0.29 (0.13,0.44) | 0.15 (0.01,0.28) | 386.19 | 385.06 | 384.51 | 402.02 | - | 33(19,45) | 67(55,81) |
| | Q | 0.25(0.07) | 0.19 (0.02,0.35) | 0.12 (-0.02,0.26) | 389.56 | 388.92 | 387.56 | 395.77 | - | 25(10,38) | 75(62,90) |
| | φ_{form} | 1.22(0.09) | 0.10 (-0.07,0.27) | 0.15 (0.01,0.28) | 377.89 | 377.71 | 375.89 | 379.61 | - | 17(3,30) | 83(70,97) |
| | λ | 0.91(0.04) | 0.41 (0.26,0.54) | 0.25 (0.12,0.38) | 358.16 | 357.31 | 360.18 | 403.41 | 62(49,72) | - | 38(28,51) |
| | σ | 1.24(0.29) | 0.33 (0.17,0.47) | 0.18 (0.04,0.31) | 381.21 | 380.35 | 379.76 | 403.22 | - | 37(24,49) | 63(51,76) |

Table S1a: Binary graphs, no global signal regression

| Phenotype k | | Twin Correlations (95% CI) | | | Model fit (AIC) | | | Variance estimates (%) from best fitting model (95% CI) | | | |
|----------------|-------------------------|----------------------------|--------------------|--------------------|-----------------|---------------|---------------|--|-----------|-----------|--------------|
| | | Mean(SD) | MZ (N= 84 pairs) | DZ (N= 89 pairs) | ACE | AE | CE | E | A | C | E |
| 5 | Y | 6.30(1.40) | 0.19 (0.02,0.35) | 0.20 (0.06,0.33) | 413.46 | 413.04 | 411.46 | 421.53 | - | 25(11,37) | 75(63,89) |
| | Q | 0.64(0.05) | 0.10 (-0.07,0.26) | 0.15 (0.01,0.29) | 414.31 | 413.94 | 412.31 | 415.27 | - | 16(2,30) | 84(70,98) |
| | φ_{form} | 1.84(0.48) | -0.03 (-0.19,0.14) | 0.02 (-0.12,0.16) | 392.66 | 390.66 | 390.66 | 388.66 | - | - | 100(100,100) |
| | λ | 0.67(0.06) | 0.31 (0.15,0.46) | 0.03 (-0.11,0.16) | 421.73 | 419.73 | 423.67 | 427.79 | 30(12,46) | - | 70(54,88) |
| | σ | 4.25(1.13) | 0.20 (0.03,0.36) | 0.13 (-0.01,0.27) | 427.71 | 425.80 | 426.16 | 431.80 | 26(8,42) | - | 74(58,92) |
| 10 | Y | 3.90(0.51) | 0.20 (0.03,0.35) | 0.10 (-0.04,0.24) | 388.08 | 386.13 | 386.62 | 391.76 | 26(8,42) | - | 74(58,92) |
| | Q | 0.55(0.04) | 0.15 (-0.02,0.31) | -0.02 (-0.16,0.12) | 432.94 | 430.94 | 432.18 | 430.81 | - | - | 100(100,100) |
| | φ_{form} | 1.67(0.47) | -0.01 (-0.17,0.16) | 0.01 (-0.13,0.15) | 393.79 | 391.79 | 391.79 | 389.79 | - | - | 100(100,100) |
| | λ | 0.82(0.04) | 0.24 (0.08,0.39) | 0.01 (-0.13,0.15) | 416.18 | 414.18 | 416.49 | 418.58 | 23(5,40) | - | 77(60,95) |
| | σ | 3.19(0.48) | 0.21 (0.05,0.37) | 0.12 (-0.02,0.26) | 398.61 | 396.79 | 396.96 | 403.70 | 27(10,43) | - | 73(57,90) |
| 15 | Y | 2.93(0.26) | 0.09 (-0.08,0.25) | 0.01 (-0.13,0.15) | 392.27 | 390.27 | 390.51 | 389.41 | - | - | 100(100,100) |
| | Q | 0.48(0.04) | 0.20 (0.04,0.36) | 0.01 (-0.13,0.15) | 416.15 | 414.15 | 416.12 | 416.62 | 22(2,41) | - | 78(59,98) |
| | φ_{form} | 1.57(0.36) | 0.03 (-0.14,0.19) | 0.08 (-0.06,0.22) | 388.97 | 387.39 | 386.97 | 386.22 | - | - | 100(100,100) |
| | λ | 0.88(0.03) | 0.27 (0.11,0.42) | 0.02 (-0.12,0.16) | 373.70 | 371.70 | 374.06 | 379.03 | 27(10,42) | - | 73(58,90) |
| | σ | 2.57(0.24) | 0.12 (-0.04,0.29) | 0.06 (-0.08,0.20) | 390.93 | 389.05 | 388.96 | 390.13 | - | 13(0,27) | 87(73,100) |
| 20 | Y | 2.40(0.16) | 0.12 (-0.05,0.28) | -0.06 (-0.20,0.08) | 399.79 | 397.79 | 398.49 | 396.62 | - | - | 100(100,100) |
| | Q | 0.42(0.04) | 0.18 (0.01,0.34) | -0.01 (-0.15,0.13) | 420.38 | 418.38 | 419.95 | 419.30 | 18(0,37) | - | 82(63,100) |
| | φ_{form} | 1.57(0.35) | 0.01 (-0.16,0.18) | -0.08 (-0.21,0.06) | 440.25 | 438.25 | 438.25 | 436.25 | - | - | 100(100,100) |
| | λ | 0.92(0.02) | 0.32 (0.16,0.46) | 0.02 (-0.12,0.16) | 369.38 | 367.38 | 370.49 | 378.53 | 30(14,44) | - | 70(56,86) |
| | σ | 2.21(0.14) | 0.09 (-0.08,0.25) | 0.00 (-0.14,0.14) | 381.78 | 379.78 | 380.14 | 378.86 | - | - | 100(100,100) |
| 25 | Y | 2.05(0.12) | 0.15 (-0.02,0.31) | -0.07 (-0.21,0.07) | 416.65 | 414.65 | 415.83 | 414.11 | - | - | 100(100,100) |
| | Q | 0.37(0.04) | 0.20 (0.04,0.36) | 0.05 (-0.09,0.18) | 407.48 | 405.48 | 406.67 | 409.30 | 23(4,40) | - | 77(60,96) |
| | φ_{form} | 1.67(0.37) | 0.17 (0.00,0.33) | -0.01 (-0.15,0.13) | 160.91 | 158.91 | 159.82 | 159.46 | 22(0,45) | - | 78(55,100) |
| | λ | 0.95(0.02) | 0.30 (0.14,0.44) | 0.03 (-0.11,0.17) | 365.63 | 363.63 | 365.86 | 374.08 | 29(13,43) | - | 71(57,87) |
| | σ | 1.96(0.10) | 0.06 (-0.11,0.22) | -0.05 (-0.18,0.09) | 402.15 | 400.15 | 400.31 | 398.32 | - | - | 100(100,100) |

Table S1b: Binary graphs, global signal regression

Tables S2a – S2d. Multivariate genetic analyses of Mean Clustering (γ), Modularity (Q), and Global Efficiency (λ) across the whole range of connection densities.

| Phenotype | Phenotypic Correlation | | | h^2 | Breakdown of Total Variance (as Cholesky Decomposition), shown as a % with 95% Confidence Intervals | | | | | |
|-----------|------------------------|------------------|------------------|----------------|---|-----------|-----------|--------------------------------|------------|------------|
| | k | | | | Additive Genetic Sources | | | Unshared Environmental Sources | | |
| | | Y | Q | λ | A1 | A2 | A3 | E1 | E2 | E3 |
| 5 | Y | 1.00 | - | 0 ^a | 0 | | | 62 (51,75) | | |
| | Q | 0.89 (0.88,0.91) | 1.00 | 0 | 0 | 0 | | 34 (26,45) | 15 (12,18) | |
| | λ | 0.70 (0.66,0.74) | 0.57 (0.51,0.62) | 0 | 0 | 0 | 0 | 20 (13,30) | 05 (02,09) | 34 (27,42) |
| 10 | Y | 1.00 | - | 52 | 52 (37,64) | | | 48 (36,63) | | |
| | Q | 0.92 (0.90,0.93) | 1.00 | 49 | 45 (31,57) | 3 (0,6) | | 38 (27,52) | 12 (9,16) | |
| | λ | 0.72 (0.68,0.76) | 0.62 (0.57,0.67) | 55 | 49 (33,66) | 0 (0,3) | 7 (0,6) | 10 (4,21) | 1 (0,5) | 34 (26,44) |
| 15 | Y | 1.00 | - | 49 | 49 (34,61) | | | 51 (39,66) | | |
| | Q | 0.94 (0.93,0.95) | 1.00 | 41 | 36 (21,49) | 4 (1,6) | | 48 (36,65) | 9 (7,12) | |
| | λ | 0.68 (0.64,0.72) | 0.59 (0.54,0.64) | 51 | 41 (25,59) | 1 (0,12) | 9 (0,20) | 11 (4,21) | 0 (0,3) | 39 (29,50) |
| 20 | Y | 1.00 | - | 47 | 47 (32,59) | | | 53 (41,68) | | |
| | Q | 0.94 (0.93,0.95) | 1.00 | 33 | 31 (16,44) | 2 (0,4) | | 56 (42,73) | 9 (7,12) | |
| | λ | 0.63 (0.58,0.67) | 0.54 (0.48,0.59) | 46 | 33 (18,51) | 3 (0,24) | 11 (0,22) | 10 (4,21) | 0 (0,3) | 44 (34,56) |
| 25 | Y | 1.00 | - | 41 | 41 (26,54) | | | 59 (46,74) | | |
| | Q | 0.95 (0.94,0.96) | 1.00 | 29 | 28 (14,42) | 1 (0,3) | | 61 (47,78) | 9 (7,11) | |
| | λ | 0.56 (0.50,0.61) | 0.47 (0.41,0.53) | 42 | 29 (14,47) | 14 (0,27) | 0 (0,18) | 7 (2,16) | 0 (0,2) | 51 (40,63) |

Table S2a: Weighted graphs, no global signal regression.

^a best fitting model was CE.

| Phenotype | Phenotypic Correlation | | | h^2 | Breakdown of Total Variance (as Cholesky Decomposition), shown as a % with 95% Confidence Intervals | | | | | |
|-----------|------------------------|---------------------|---------------------|-----------|---|------------|----------|--------------------------|------------|------------|
| | k | | | | Additive Genetic Sources | | | Additive Genetic Sources | | |
| | | Y | Q | λ | A1 | A2 | A3 | E1 | E2 | E3 |
| 5 | Y | 1.00 | | 29 | 29 (11,44) | | | 71 (56,89) | | |
| | Q | 0.66 (0.62,0.71) | 1.00 | 31 | 20 (5,48) | 10 (2,21) | | 23 (13,37) | 46 (36,56) | |
| | λ | 0.39 (0.32,0.46) | -0.17 (-0.24,-0.09) | 31 | 1 (0,11) | 31 (10,49) | 0 (0,13) | 18 (8,32) | 13 (6,25) | 38 (29,49) |
| 10 | Y | 1.00 | | 27 | 27 (9,43) | | | 73 (57,91) | | |
| | Q | 0.64 (0.59,0.69) | 1.00 | 29 | 18 (2,39) | 12 (1,24) | | 25 (13,42) | 47 (35,60) | |
| | λ | 0.26 (0.19,0.34) | -0.36 (-0.43,-0.29) | 25 | 01 (0,12) | 24 (5,43) | 0 (0,9) | 07 (1,18) | 27 (15,44) | 41 (33,49) |
| 15 | Y | 1.00 | | 14 | 14 (0,31) | | | 86 (69,100) | | |
| | Q | 0.64 (0.59,0.69) | 1.00 | 24 | 16 (0,43) | 9 (0,22) | | 29 (16,47) | 48 (36,62) | |
| | λ | 0.02 (-0.06,0.10) | -0.55 (-0.61,-0.49) | 29 | 1 (0,40) | 21 (0,45) | 7 (0,18) | 1 (0,5) | 33 (20,52) | 37 (28,47) |
| 20 | Y | 1.00 | | 13 | 13 (0,30) | | | 87 (70,100) | | |
| | Q | 0.74 (0.70,0.77) | 1.00 | 21 | 22 (0,44) | 1 (0,9) | | 42 (26,61) | 40 (31,48) | |
| | λ | -0.31 (-0.38,-0.24) | -0.66 (-0.70,-0.61) | 29 | 15 (0,47) | 15 (0,35) | 0 (0,17) | 3 (0,12) | 25 (15,40) | 43 (33,53) |
| 25 | Y | 1.00 | | 13 | 13 (1,31) | | | 87 (69,99) | | |
| | Q | 0.82 (0.79,0.84) | 1.00 | 14 | 15 (0,35) | 0 (0,6) | | 55 (38,72) | 32 (25,37) | |
| | λ | -0.58 (-0.63,-0.52) | -0.72 (-0.76,-0.68) | 31 | 29 (5,52) | 3 (0,20) | 0 (0,17) | 17 (7,31) | 17 (9,26) | 37 (28,47) |

Table S2b: Weighted graphs, global signal regression

| Phenotype | Phenotypic Correlation | | | h^2 | Breakdown of Total Variance (as Cholesky Decomposition), shown as a % with 95% Confidence Intervals | | | | | | |
|-----------|------------------------|------------------|------------------|-------|---|-----------|----------|--------------------------|------------|------------|--|
| | k | | | | Additive Genetic Sources | | | Additive Genetic Sources | | | |
| | | Y | Q | | A1 | A2 | A3 | E1 | E2 | E3 | |
| 5 | Y | 1.00 | | 57 | 57 (40,70) | | | | | | |
| | Q | 0.90 (0.89,0.92) | 1.00 | 54 | 54 (36,66) | 0 (0,6) | | | | | |
| | λ | 0.71 (0.67,0.75) | 0.59 (0.53,0.64) | 58 | 44 (28,62) | 15 (0,25) | 0 (0,25) | | | | |
| 10 | Y | 1.00 | | 53 | 53 (39,65) | | | 47 (35,61) | | | |
| | Q | 0.92 (0.90,0.93) | 1.00 | 46 | 43 (29,56) | 3 (0,6) | | 41 (29,56) | 13 (10,16) | | |
| | λ | 0.76 (0.72,0.79) | 0.65 (0.59,0.70) | 61 | 56 (40,72) | 0 (0,11) | 6 (0,15) | 11 (5,20) | 1 (0,3) | 28 (21,37) | |
| 15 | Y | | | 49 | 49 (34,61) | | | 51 (39,66) | | | |
| | Q | 0.93 (0.92,0.94) | | 38 | 34 (19,47) | 3 (0,6) | | 50 (37,67) | 10 (7,13) | | |
| | λ | 0.75 (0.71,0.78) | 0.66 (0.61,0.70) | 63 | 54 (37,72) | 1 (0,14) | 9 (0,18) | 12 (6,21) | 0 (0,1) | 26 (19,35) | |
| 20 | Y | 1.00 | | 46 | 46 (31,58) | | | 54 (42,69) | | | |
| | Q | 0.94 (0.93,0.95) | 1.00 | 31 | 28 (14,41) | 2 (0,5) | | 59 (44,76) | 9 (7,12) | | |
| | λ | 0.75 (0.71,0.78) | 0.64 (0.59,0.69) | 61 | 51 (34,68) | 8 (0,22) | 4 (0,14) | 14 (7,23) | 0 (0,1) | 26 (19,34) | |
| 25 | Y | 1.00 | | 40 | 40 (25,53) | | | 60 (47,75) | | | |
| | Q | 0.94 (0.93,0.95) | 1.00 | 27 | 26 (11,39) | 1 (0,4) | | 62 (47,79) | 10 (8,13) | | |
| | λ | 0.75 (0.71,0.78) | 0.64 (0.59,0.68) | 63 | 51 (34,69) | 12 (0,23) | 0 (0,14) | 14 (8,24) | 0 (0,1) | 23 (17,31) | |

Table S2c: Binary graphs, no global signal regression

| Phenotype | Phenotypic Correlation | | | h^2 | Breakdown of Total Variance (as Cholesky Decomposition), shown as a % with 95% Confidence Intervals | | | | | | |
|-----------|------------------------|---------------------|---------------------|-------|---|------------|-----------|--------------------------|------------|------------|--|
| | k | | | | Additive Genetic Sources | | | Additive Genetic Sources | | | |
| | | Y | Q | | A1 | A2 | A3 | E1 | E2 | E3 | |
| 5 | Y | 1.00 | | 30 | 30 (13,45) | | | 70 (55,87) | | | |
| | Q | 0.70 (0.66,0.74) | 1.00 | 18 | 9 (00,23)* | 8 (0,17)* | | 38 (24,56) | 44 (34,55) | | |
| | λ | 0.40 (0.33,0.47) | 0.02 (-0.06,0.10) | 30 | 3 (01,14) | 14 (0,43)* | 14 (0,30) | 16 (7,29) | 6 (2,15) | 48 (36,62) | |
| 10 | Y | 1.00 | | 26 | 26 (7,42) | | | 74 (58,93) | | | |
| | Q | 0.58 (0.52,0.63) | 1.00 | 17 | 8 (0,28) | 9 (0,23)* | | 28 (14,47) | 57 (44,70) | | |
| | λ | 0.30 (0.22,0.37) | -0.36 (-0.43,-0.29) | 24 | 3 (0,22) | 20 (0,38) | 0 (0,10) | 6 (1,17) | 28 (16,44) | 42 (33,50) | |
| 15 | Y | | | 9 | 9 (0,26) | | | 91 (74,100) | | | |
| | Q | 0.55 (0.49,0.61) | | 22 | 9 (0,35) | 14 (0,27) | | 25 (13,41) | 54 (42,69) | | |
| | λ | 0.08 (0.00,0.16) | -0.56 (-0.61,-0.50) | 26 | 1 (0,33) | 23 (0,40) | 0 (0,13) | 0 (0,3) | 34 (0,50) | 37 (29,46) | |
| 20 | Y | 1.00 | | 11 | 11 (0,31) | | | 89 (69,100) | | | |
| | Q | 0.69 (0.64,0.73) | 1.00 | 18 | 12 (0,37) | 6 (0,17) | | 39 (23,57) | 45 (35,55) | | |
| | λ | -0.19 (-0.27,-0.11) | -0.63 (-0.68,-0.58) | 31 | 7 (0,44) | 20 (0,37) | 1 (0,13) | 2 (0,7) | 27 (17,40) | 39 (31,47) | |
| 25 | Y | 1.00 | | 15 | 15 (1,33) | | | 85 (67,99) | | | |
| | Q | 0.82 (0.79,0.84) | 1.00 | 23 | 23 (3,40) | 0 (0, 6) | | 47 (32,65) | 29 (23,35) | | |
| | λ | -0.45 (-0.51,-0.38) | -0.67 (-0.71,-0.63) | 30 | 19 (2, 41) | 8 (0,23) | 0 (0,15) | 10 (3, 19) | 17 (10,26) | 42 (33,51) | |

Table S2d: Binary graphs, global signal regression

| | mean degree | Left Hemisphere | | | mean degree | Right Hemisphere | | |
|-----------------------|-------------|-----------------|-----------|--------------|-------------|------------------|-----------|--------------|
| | | A | C | E | | A | C | E |
| Frontal Lobe | | | | | | | | |
| Frontal Sup | 7.40 | 31(14,46) | - | 69(54,86) | 10.18 | 32(15,48) | - | 68(52,85) |
| Frontal Sup Orb | 4.58 | - | 20(7,33) | 80(67,93) | 5.24 | 33(16,48) | - | 67(52,84) |
| Frontal Mid | 6.33 | - | 28(15,39) | 72(61,85) | 8.61 | 26(9,41) | - | 74(59,91) |
| Frontal Mid Orb | 3.42 | - | - | 100(100,100) | 3.92 | - | 16(2,29) | 84(71,98) |
| Frontal Inf Oper | 7.05 | - | 17(4,31) | 83(69,96) | 7.63 | 33(15,47) | - | 67(53,85) |
| Frontal Inf Tri | 6.39 | - | 25(13,37) | 75(63,87) | 5.04 | - | 20(5,33) | 80(67,95) |
| Frontal Inf Orb | 8.75 | 23(4,39) | - | 77(61,96) | 6.42 | - | - | 100(100,100) |
| Supp Motor Area | 13.22 | 42(25,56) | - | 58(44,75) | 14.14 | - | 18(4,30) | 82(70,96) |
| Olfactory | 4.30 | - | 16(0,32) | 84(68,100) | 5.66 | 25(1,45) | - | 75(55,99) |
| Frontal Sup Medial | 7.29 | 29(11,44) | - | 71(56,89) | 5.54 | 21(4,36) | - | 79(64,96) |
| Frontal Med Orb | 5.48 | 40(23,54) | - | 60(46,77) | 5.71 | 42(26,56) | - | 58(44,74) |
| Rectus | 4.78 | - | 20(7,32) | 80(68,93) | 4.88 | - | 24(10,37) | 76(63,90) |
| Insula | 18.44 | - | 52(40,61) | 48(39,60) | 17.97 | - | 54(43,63) | 46(37,57) |
| Central Region | | | | | | | | |
| Rolandic Oper | 14.19 | 47(27,62) | - | 53(38,73) | 14.08 | - | 23(8,37) | 77(63,92) |
| Precentral | 14.04 | 31(12,46) | - | 69(54,88) | 13.08 | - | - | 100(100,100) |
| Postcentral | 12.57 | - | 14(0,28) | 86(72,100) | 11.01 | 19(1,36) | - | 81(64,99) |
| Limbic Lobe | | | | | | | | |
| Cingulum Ant | 7.12 | 24(5,41) | - | 76(59,95) | 9.82 | 34(14,50) | - | 66(50,86) |
| Cingulum Mid | 21.01 | 42(25,56) | - | 58(44,75) | 24.32 | - | 38(25,49) | 62(51,75) |
| Cingulum Post | 7.48 | 20(0,39) | - | 80(61,100) | 9.70 | 48(30,61) | - | 52(39,70) |
| Hippocampus | 14.52 | - | 60(50,68) | 40(32,50) | 15.21 | - | 57(47,66) | 43(34,53) |
| ParaHippocampal | 13.61 | - | 60(50,68) | 40(32,50) | 15.61 | - | 63(54,71) | 37(29,46) |
| Occipital Lobe | | | | | | | | |
| Calcarine | 11.68 | - | 29(15,41) | 71(59,85) | 9.90 | 34(18,49) | - | 66(51,82) |
| Cuneus | 11.60 | - | 23(9,36) | 77(64,91) | 10.36 | 33(16,48) | - | 67(52,84) |
| Lingual | 18.05 | 30(10,47) | - | 70(53,90) | 15.57 | 37(19,52) | - | 63(48,81) |
| Occipital Sup | 11.48 | - | 22(8,34) | 78(66,92) | 9.88 | 43(27,56) | - | 57(44,73) |
| Occipital Mid | 13.25 | 36(18,51) | - | 64(49,82) | 9.42 | - | 35(23,46) | 65(54,77) |
| Occipital Inf | 10.47 | - | 40(28,51) | 60(49,72) | 7.60 | 36(21,49) | - | 64(51,79) |
| Fusiform | 21.85 | 27(7,45) | - | 73(55,93) | 18.27 | 35(15,51) | - | 65(49,85) |
| Parietal Lobe | | | | | | | | |
| Parietal Sup | 7.54 | 27(10,42) | - | 73(58,90) | 6.36 | 24(7,39) | - | 76(61,93) |
| Parietal Inf | 5.67 | - | 13(0,29) | 87(71,100) | 4.83 | - | 22(9,34) | 78(66,91) |
| SupraMarginal | 8.07 | - | - | 100(100,100) | 5.55 | - | - | 100(100,100) |
| Angular | 3.84 | - | - | 100(100,100) | 3.96 | 22(5,38) | - | 78(62,95) |
| Precuneus | 10.56 | - | 29(16,40) | 71(60,84) | 10.28 | - | 20(7,32) | 80(68,93) |
| Paracentral lobule | 11.29 | 28(9,44) | - | 72(56,91) | 12.12 | - | 30(17,42) | 70(58,83) |
| Temporal Lobe | | | | | | | | |
| Heschl | 14.78 | 42(22,57) | - | 58(43,78) | 13.00 | - | 26(9,40) | 74(60,91) |
| Temporal Sup | 16.21 | 37(19,52) | - | 63(48,81) | 13.99 | 42(24,57) | - | 58(43,76) |
| Temporal Pole Sup | 10.08 | - | - | 100(100,100) | 8.56 | 22(1,40) | - | 78(60,99) |
| Temporal Mid | 12.97 | 33(15,49) | - | 67(51,85) | 9.86 | 27(8,44) | - | 73(56,92) |
| Temporal Pole Mid | 6.45 | 62(46,73) | - | 38(27,54) | 6.38 | - | 39(24,52) | 61(48,76) |
| Temporal Inf | 12.68 | - | - | 100(100,100) | 7.61 | - | - | 100(100,100) |
| Subcortical | | | | | | | | |
| Caudate | 11.55 | - | 64(55,72) | 36(28,45) | 12.55 | 31(3,63) | 43(13,65) | 26(19,37) |
| Putamen | 14.62 | - | 56(45,65) | 44(35,55) | 15.54 | - | 59(48,67) | 41(33,52) |
| Pallidum | 14.70 | - | 54(43,64) | 46(36,57) | 13.05 | - | 61(51,69) | 39(31,49) |
| Thalamus | 14.38 | - | 54(42,63) | 46(37,58) | 14.69 | - | 51(39,61) | 49(39,61) |
| Amygdala | 10.84 | - | 71(63,77) | 29(23,37) | 13.81 | 30(4,59) | 46(18,67) | 24(18,33) |
| Cerebellum | | | | | | | | |
| Cerebellum Crus1 | 8.15 | - | 35(22,46) | 65(54,78) | 7.47 | - | 46(34,57) | 54(43,66) |
| Cerebellum Crus2 | 5.09 | - | 32(19,43) | 68(57,81) | 4.37 | - | 17(3,30) | 83(70,97) |
| Cerebellum 3 | 10.91 | - | 72(64,78) | 28(22,36) | 11.00 | 31(0,70) | 36(0,63) | 33(24,45) |
| Cerebellum 4/5 | 19.64 | - | 46(34,56) | 54(44,66) | 20.24 | 38(21,53) | - | 62(47,79) |
| Cerebellum 6 | 17.46 | - | - | 100(100,100) | 11.92 | - | 46(34,56) | 54(44,66) |
| Cerebellum 7b | 5.34 | - | 19(4,33) | 81(67,96) | 3.39 | - | 12(0,25) | 88(75,100) |
| Cerebellum 8 | 7.96 | - | - | 100(100,100) | 4.77 | - | 19(5,32) | 81(68,95) |
| Cerebellum 9 | 6.06 | 32(15,47) | - | 68(53,85) | 5.01 | 16(0,33) | - | 84(67,100) |
| Cerebellum 10 | 3.19 | - | - | 100(100,100) | 2.53 | - | - | 100(100,100) |
| Vermis 1/2 | 6.47 | - | 69(61,76) | 31(24,39) | - | - | - | - |
| Vermis 3 | 12.12 | - | 58(47,66) | 42(34,53) | - | - | - | - |

| | | | | |
|------------|-------|-----------|-----------|------------|
| Vermis 4/5 | 19.09 | 37(18,52) | - | 63(48,82) |
| Vermis 6 | 12.02 | 31(12,48) | - | 69(52,88) |
| Vermis 7 | 6.92 | 38(22,52) | - | 62(48,78) |
| Vermis 8 | 6.85 | 16(0,35) | - | 84(65,100) |
| Vermis 9 | 6.16 | - | 14(0,30) | 86(70,100) |
| Vermis 10 | 2.30 | 63(46,74) | - | 37(26,54) |

Table S3: Mean across population and variance components for the weighted degree of all 116 nodes.
k=10%, no global signal regression. Inf: Inferior, Mid; Middle, Sup: Superior, Med: Medial, Ant:
Anterior Post: Posterior, Orb: Orbital, Oper: Opercular, Tri: Triangular.