**Online data supplement**

**Methods:**

*Label maps Generation and Registration*

87 regions of interest

1. Left-Cerebellum-Cortex
2. Left-Thalamus-Proper
3. Left-Caudate
4. Left-Putamen
5. Left-Pallidum
6. Brain\_Stem
7. Left-Hippocampus
8. Left-Amygdala
9. Left-Accumbens-area
10. Left-VentralDC
11. Right-Cerebellum-Cortex
12. Right-Thalamus-Proper
13. Right-Caudate
14. Right-Putamen
15. Right-Pallidum
16. Right-Hippocampus
17. Right-Amygdala
18. Right-Accumbens-area
19. Right-VentralDC
20. lh-bankssts
21. lh-caudalanteriorcingulate
22. lh-caudalmiddlefrontal
23. lh-cuneus
24. lh-entorhinal
25. lh-fusiform
26. lh-inferiorparietal
27. lh-inferiortemporal
28. lh-isthmuscingulate
29. lh-lateraloccipital
30. lh-lateralorbitofrontal
31. lh-lingual
32. lh-medialorbitofrontal
33. lh-middletemporal
34. lh-parahippocampal
35. lh-paracentral
36. lh-parsopercularis
37. lh-parsorbitalis
38. lh-parstriangularis
39. lh-pericalcarine
40. lh-postcentral
41. lh-posteriorcingulate
42. lh-precentral
43. lh-precuneus
44. lh-rostralanteriorcingulate
45. lh-rostralmiddlefrontal
46. lh-superiorfrontal
47. lh-superiorparietal
48. lh-superiortemporal
49. lh-supramarginal
50. lh-frontalpole
51. lh-temporalpole
52. lh-transversetemporal
53. lh-insula
54. rh-bankssts
55. rh-caudalanteriorcingulate
56. rh-caudalmiddlefrontal
57. rh-cuneus
58. rh-entorhinal
59. rh-fusiform
60. rh-inferiorparietal
61. rh-inferiortemporal
62. rh-isthmuscingulate
63. rh-lateraloccipital
64. rh-lateralorbitofrontal
65. rh-lingual
66. rh-medialorbitofrontal
67. rh-middletemporal
68. rh-parahippocampal
69. rh-paracentral
70. rh-parsopercularis
71. rh-parsorbitalis
72. rh-parstriangularis
73. rh-pericalcarine
74. rh-postcentral
75. rh-posteriorcingulate
76. rh-precentral
77. rh-precuneus
78. rh-rostralanteriorcingulate
79. rh-rostralmiddlefrontal
80. rh-superiorfrontal
81. rh-superiorparietal
82. rh-superiortemporal
83. rh-supramarginal
84. rh-frontalpole
85. rh-temporalpole
86. rh-transversetemporal
87. rh-insula

*Fiber Tracts Generation:*

All diffusion weighted images (64 gradient directions) were first coregistered onto the b0 images using the automatic image registration (AIR) algorithm (http://bishopw.loni.ucla.edu/air5/), with affine transformation to minimize eddy currents and remove any potential small bulk motions that occurred during the scans. Participants’ data with a displacement of 2 mm or above in either x, y, or z direction were discarded. The diffusion directions in the diffusion gradient table were transformed by the rotation matrix calculated by AIR, to correct changes in section angulation due to coregistration. Diffusion tensor calculation and fiber tracking were then carried out using the DTIStudio software (www.mristudio.org). Fiber tracking was performed with the fiber assignment by continuous tractography (FACT) method. Fiber tracking was stopped for FA (fractional anisotropy) values below 0.15 or turning angles ≥ 60°.

**Results:**

*Modularity results:*

Although there were no significant differences in age among groups, given the relatively wide range we additionally analyzed the data controlling for age. Similar results were found for the same module when not controlling for age that was different between AN and HC (p=.00080, uncorrected; p<0.01, corrected). This community in HC consisted of the right caudate, right pallidum, right accumbens, right caudal anterior cingulate cortex (ACC), right posterior cingulate cortex (PCC), and right rostral ACC. In AN, while this community shared with the HC counterpart inclusion of the right caudate, right accumbens, and right rostral ACC, it excluded the right pallidum, right caudal ACC, and right PCC. Instead, in AN the right lateral orbitofrontal, right medial orbitofrontal, and right frontal pole were included.

*Other Network Metric Results:*

Controlling for MADRS, the normalized mean path length remained significant (p=.006, longer in AN than BDD).