Supplementary Figures

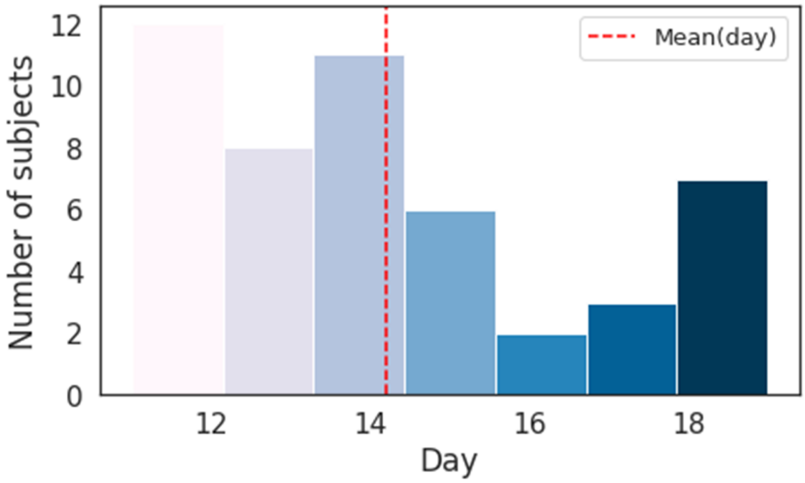

Figure S1. Interval between the first day of the ambulatory training and the MRI session day. This interval is identical to the time interval between the two sets of MAAS acquisition data.

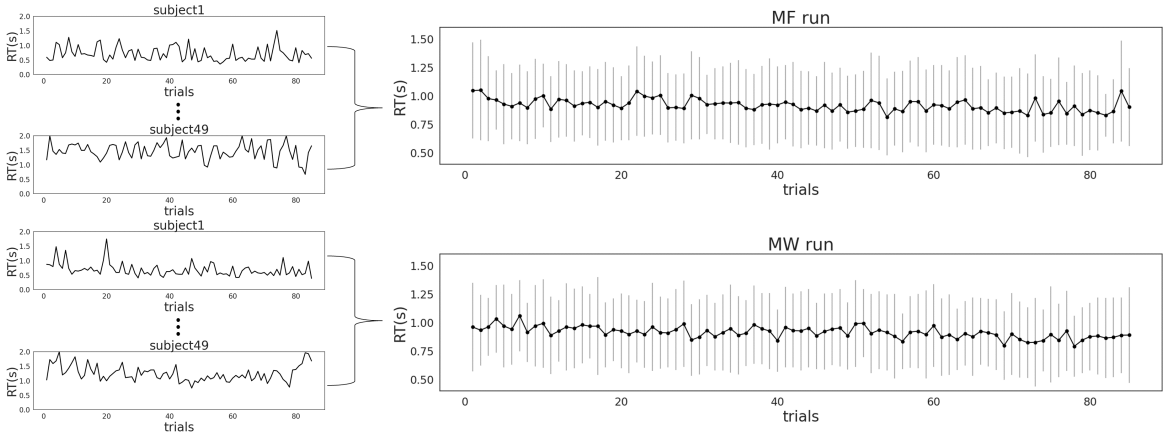

Figure S2. Response times (RTs) across a total of 85 trials of the N-back task (NBT). Left: Exemplar MW and MF RTs from Subject 1 and Subject 49. Right: Average RT (black dots/line) and standard deviation (gray vertical bars) for each trial in the MF/MW run. MF, mindfulness; MW, mind-wandering

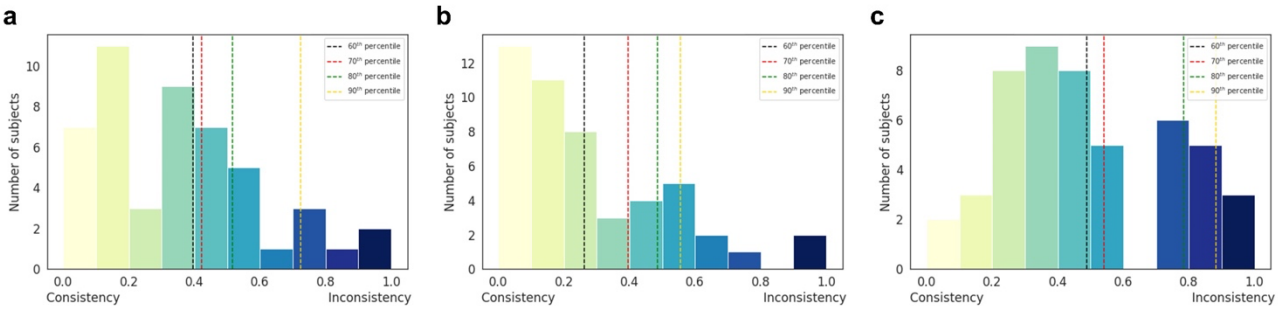

Figure S3. Identification of the consistent and the inconsistent group using two sets of MAAS ratings. Three distance measures, (a) correlation distance, (b) Cosine distance, and (c) Euclidean distance, were calculated between the two sets of 15-item MAAS data. For each distance measure, several thresholds (i.e., the 60th, 70th, 80th, and 90th percentiles) were employed to define consistent and inconsistent ratings. The 70th percentile threshold provided the most balanced number of subjects in both groups (i.e., N = 26 for the consistent group vs. N = 23 for the inconsistent group); cf. 18 subjects in the consistent group vs. 31 subjects in the inconsistent group for the 60th percentile threshold; 31 subjects in the consistent group vs. 18 subjects in the inconsistent group for the 80th percentile threshold; 39 subjects in the consistent group vs. 10 subjects in the inconsistent group for the 90th percentile threshold. The Correlation distance is "1 - Pearson's correlation coefficient" and the Cosine distance "1 - Cosine similarity".

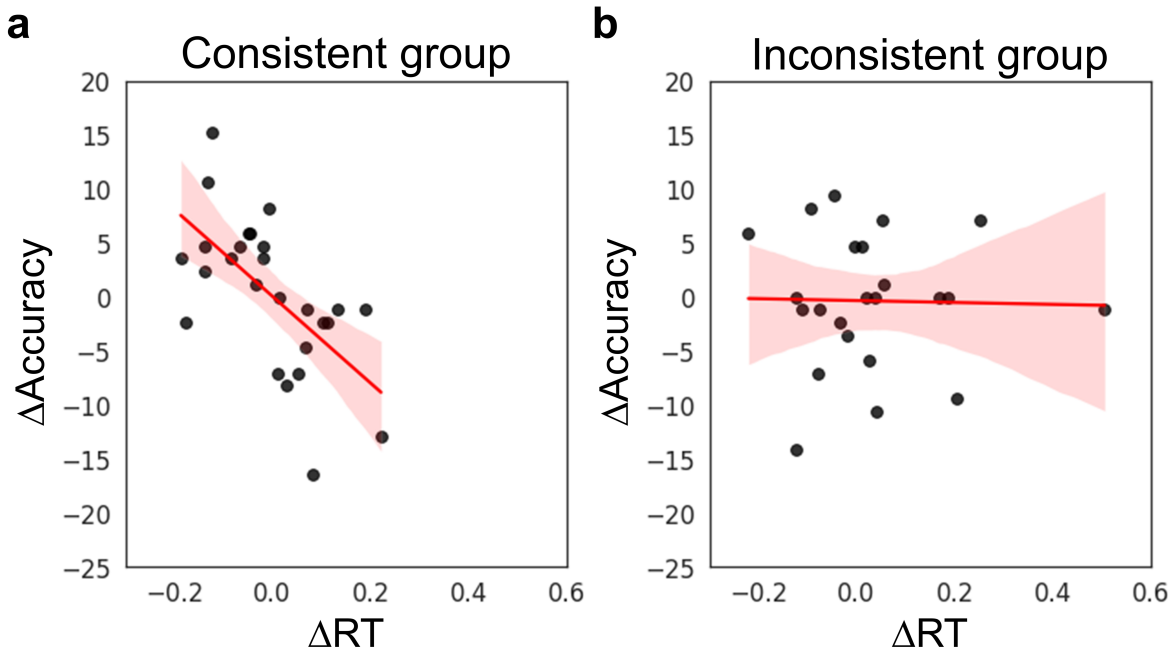

Figure S4. Linear regression analysis on the differences in RT (ΔRT; i.e., "RT of NBT on the MF run" – "RT of NBT on the MW run") and accuracy (ΔAccuracy). (a) Consistent group (slope = –40.19, *CI* = [–61.33, –19.06], corrected $p < 0.001$) and (b) inconsistent group (slope = –0.88, *CI* = [–18.92, 17.17], corrected $p = 0.92$).

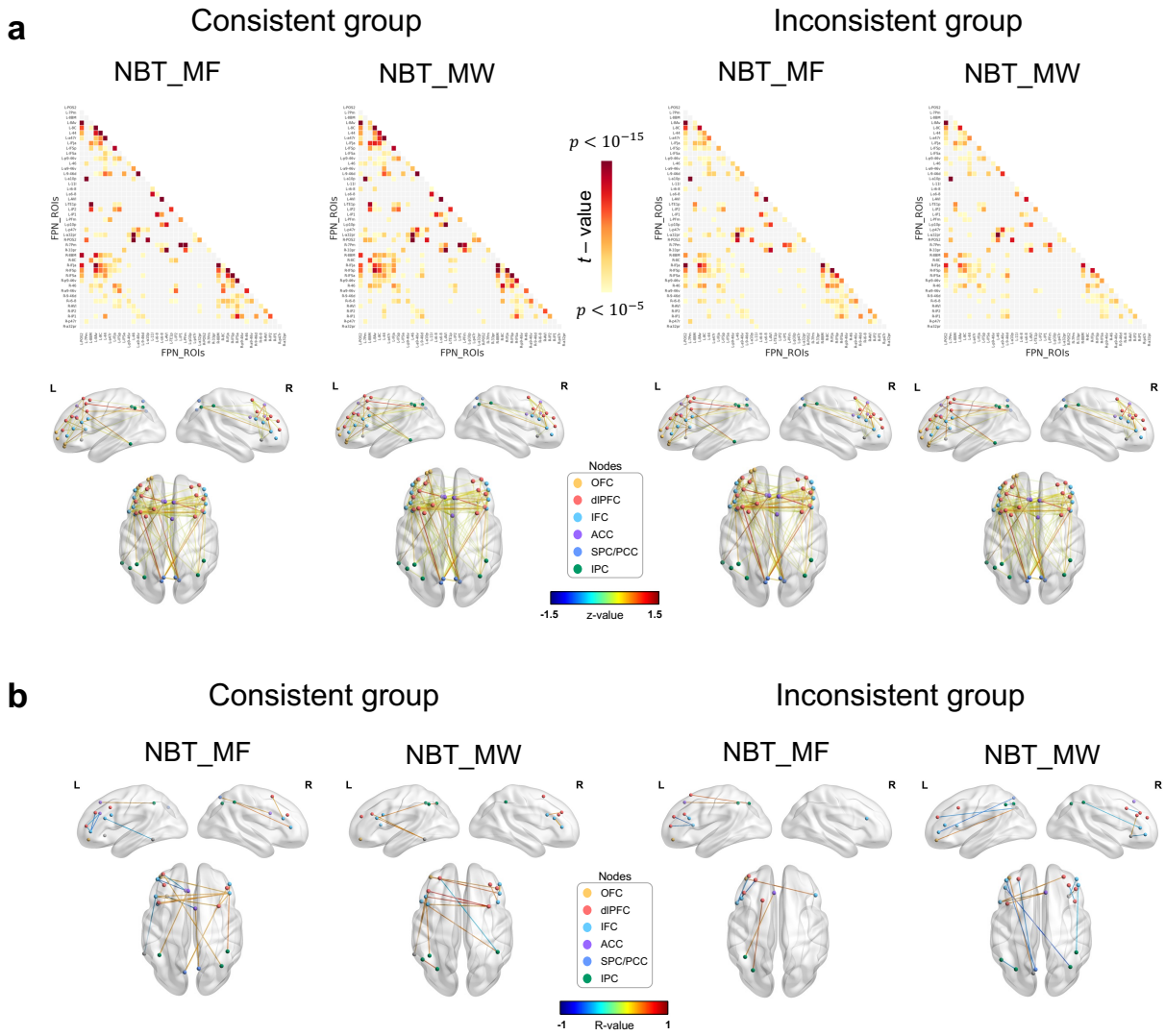

Figure S5. Significant FC edges and their association with the MAAS scores. (a) FC matrix with significant edges that were obtained from a one-sample *t*-test ($p < 10^{-5}$, FDR correction; positive *t*-scores remained) within the FPN (top row) and the corresponding visualization in brain areas (bottom row). (b) FC edges that were significantly associated with MAAS scores ($p < 0.05$, corrected using 5,000 random permutations) among the significant edges in (a).

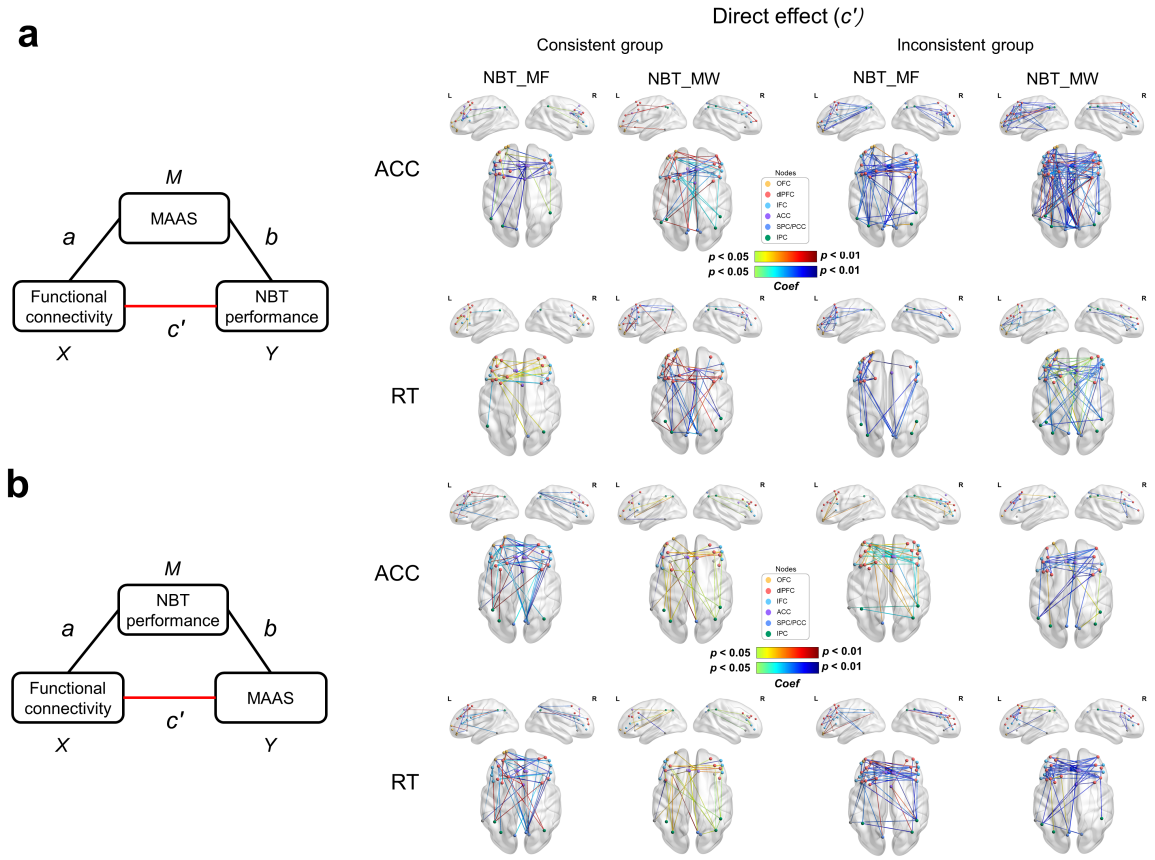

Figure S6. Analysis of functional connectivity (FC) edges and behavioral data using the mediation model framework. (a) The mediation model consisted of FC as an independent variable, NBT performance (accuracy [ACC] or response time [RT]) as a dependent variable, and MAAS as a mediator. (b) The mediation model consisted of FC as an independent variable, MAAS as a dependent variable, and NBT performance (ACC or RT) as a mediator. Only the FC edges for the direct effect were significant; our analysis detected no significant edges for the indirect effect (corrected $p < 0.05$ from 5,000 bootstrapping). Red and blue color represent positive and negative associations, respectively. *X*, independent variable; *Y*, dependent variable; *M*, mediator; *a*, Effect *X* on *M*; *b*, Effect *M* on *Y*; c', direct effect; *ab*, indirect effect between the FC and the behavioral data.