



**SUPPLEMENTARY FIG. S2.** Connectivity matrix for Study 1 after censoring with  $FD > 0.5$  mm, and using 6 min of data for each subject (70 ASD, 70 TD).  $t$ -Statistics for iFC in lower triangle in (A) ( $p < 0.05$ , uncorrected, denoted by cyan asterisks), and for SD-iFC in upper triangle in (A) ( $p < 0.05$ , uncorrected, denoted by yellow asterisks). Black asterisks indicate ROI pairs that exhibited significant differences in both iFC and SD-iFC. (B) Scatterplot showing relation between the computed  $t$ -statistics (for iFC and SD-iFC) across all ROI pairs in the matrices above. The  $x$ -axis corresponds to the  $t$ -statistics for iFC shown in the lower triangle, while the  $y$ -axis corresponds to the  $t$ -statistics for SD-iFC shown in the upper triangle. Green vertical line and blue horizontal lines show the thresholds for significance. Cyan circled points show ROI pairs with a significant difference only in iFC, yellow circled points indicate those with a significant difference only in SD-iFC (indicated by asterisks), and black circled points are ROI pairs that exhibited significant differences in both iFC and SD-iFC [indicated by black asterisks in (A)]. (C) Relation between static iFC and SD-iFC for the PCC-mPFC ROI pair across subjects; a significant mediated effect was found for PCC-mPFC ( $n_{ab} = -2.48$ ,  $p = 0.01$ ), which remained significant after adding the covariates to the analysis ( $n_{ab} = -2.45$ ,  $p = 0.015$ ). (D) Relation between static iFC and SD-iFC for the left/right Thal ROI pair across subjects; there was a significant mediated effect for the left/right Thal pair ( $n_{ab} = -2.4$ ,  $p = 0.017$ ), which remained significant after adding the covariates ( $n_{ab} = -2.3$ ,  $p = 0.02$ ). The red and blue horizontal lines show the iFC group means for ASD and TD, respectively, and the vertical lines indicate the SD-iFC group means. Participants were from the ABIDE database (70 ASD, 70 TD). ASD, autism spectrum disorder; FD, frame-wise displacement; mPFC, medial prefrontal cortex; TD, typically developing.