

1 Additional Figures

2 Functional brain network development during childhood

3 Figure S1. Replication in an alternate parcellation

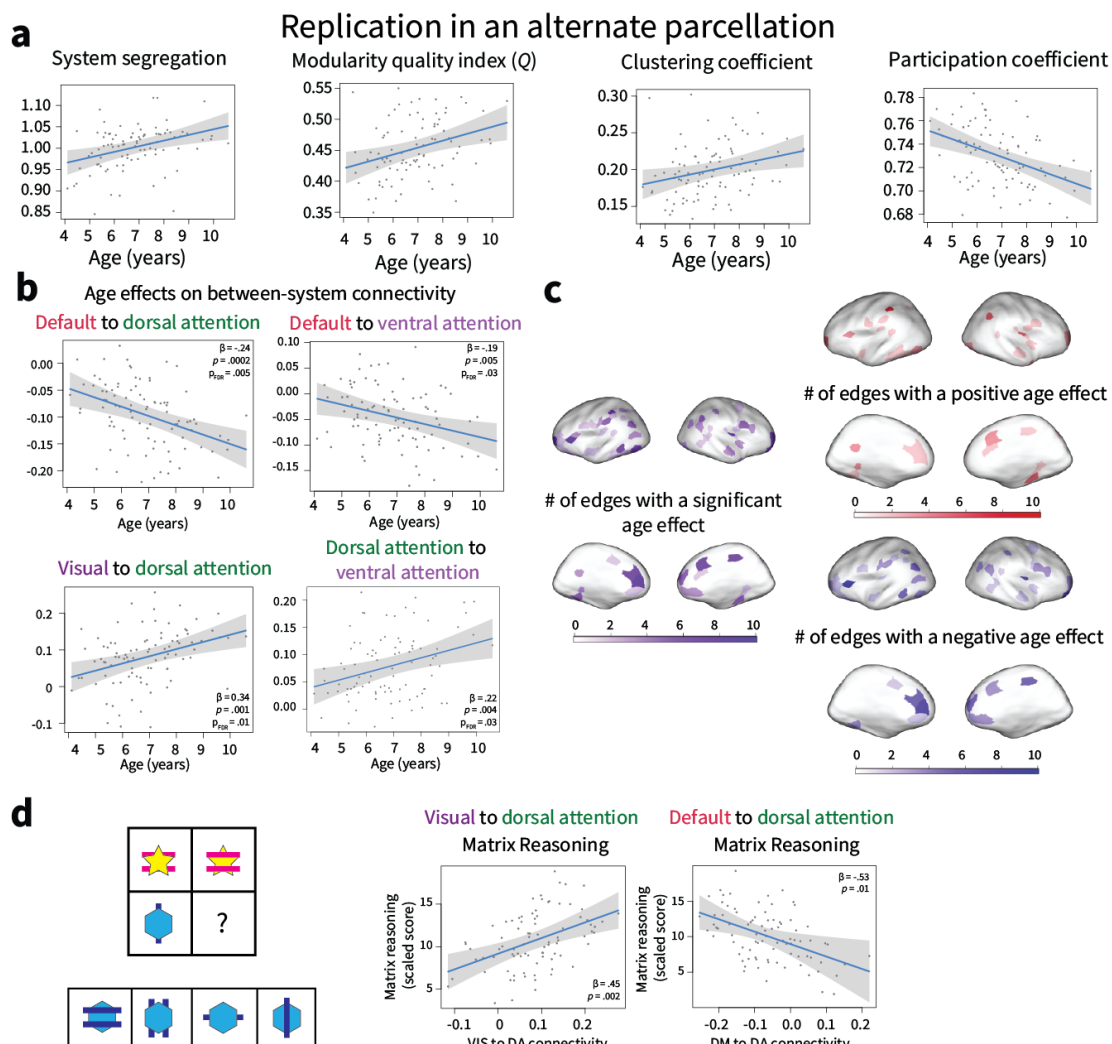
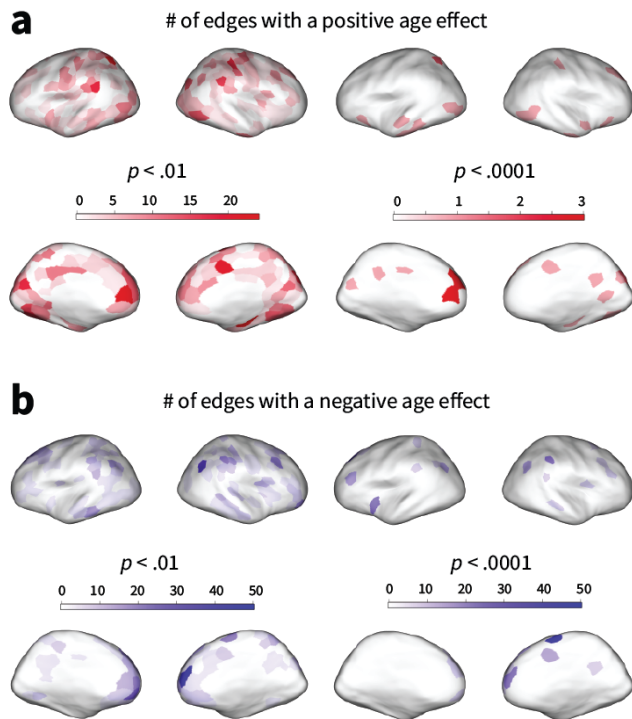


Figure S1. Replication in an alternate parcellation a. Whole-brain measures of functional network segregation (system segregation, modularity, and the clustering coefficient) are positively associated with age. The participation coefficient is a measure of functional network integration and is negatively associated with age. b. Age effects on between-system connectivity. c. Number of edges from each parcel showing a significant positive age association, thresholded at $p_{unc} < 0.001$. d. Number of edges from each parcel showing a significant negative age association,

1 thresholded at $p_{unc} < 0.001$. d. System-level associations with reasoning. Reasoning is associated with visual to dorsal
 2 attention system connectivity and default to dorsal attention system connectivity.

3 **Fig S2. Parcel level age effects: Multiple significance thresholds**

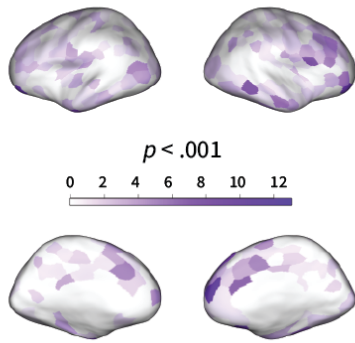


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5 **Fig S2. Parcel-level age effects: Multiple significance thresholds.** a. Number of edges from each parcel showing a
 6 significant positive age association, thresholded at $p < 0.01$ and $p < 0.0001$. b. Number of edges from each parcel
 7 showing a significant negative age association, thresholded at $p < 0.01$ and $p < 0.0001$. c. We did not observe
 8 significant nonlinear relationships between age and whole-brain or system-level measures of network structure. 7.9%
 9 of edges showed significant non-linear effects of age, as compared to 12.5% of edges that showed only linear effects.
 10 Number of edges from each parcel showing a significant non-linear effect of age association, thresholded at $p < 0.001$.

1 **Fig S3. Parcel level age effects: Non-linear effects**

2 **a** Edges with a non-linear age effect



2

3 **Fig S3. Parcel-level age effects: Non-linear effects.** a. We did not observe significant nonlinear relationships
4 between age and whole-brain or system-level measures of network structure. 7.9% of edges showed significant non-
5 linear effects of age, as compared to 12.5% of edges that showed only linear effects. Number of edges from each parcel
6 showing a significant non-linear effect of age association, thresholded at $p_{unc} < 0.001$.