

# SUPPLEMENTAL FIGURES 1-9

**Supplementary Figures 1 through 9** - These figures provide information regarding missing data and dropouts for each of the nine datasets with missing data. Each of these 9 Figures contain six subfigures that provide an overview of the characteristics of missing data for that specific dataset.

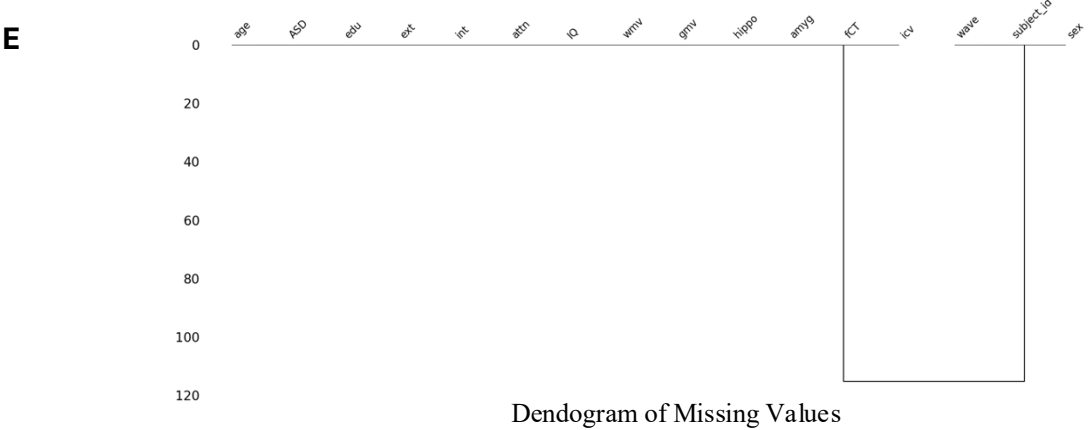
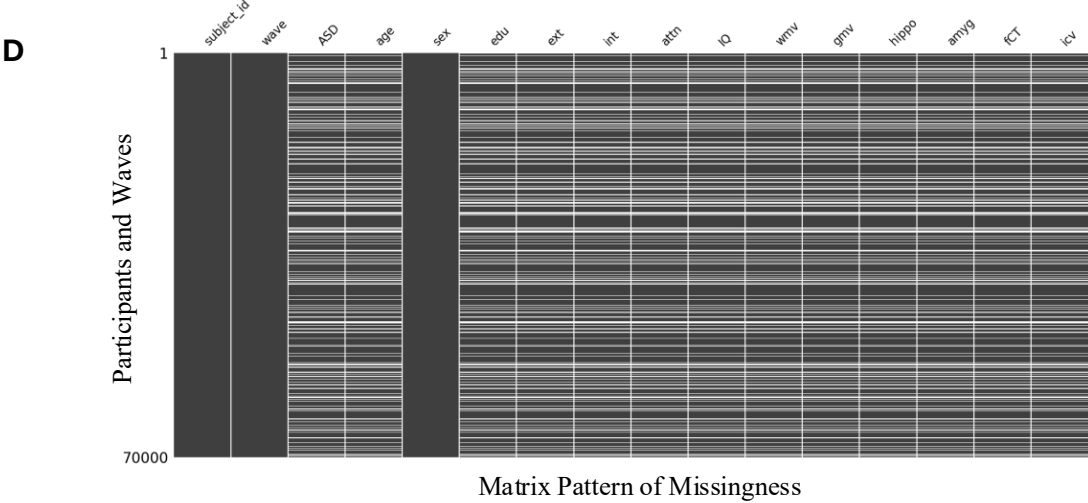
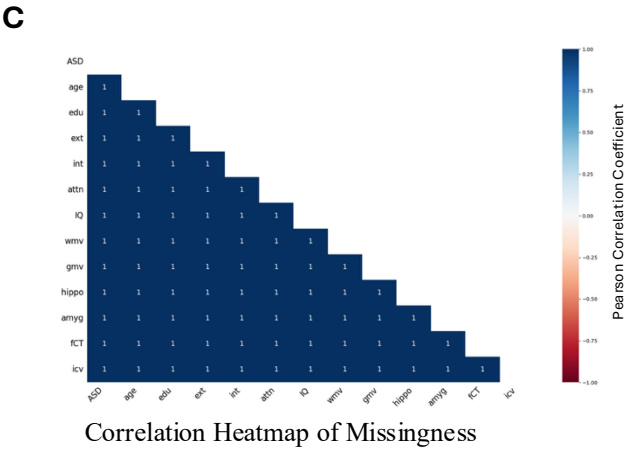
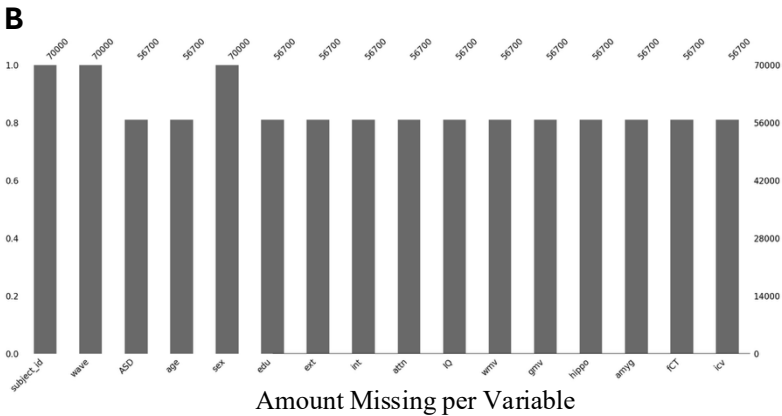
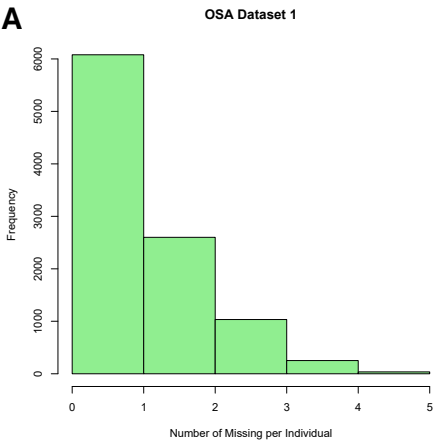
**(A)** A histogram providing the number of missing data per individual.

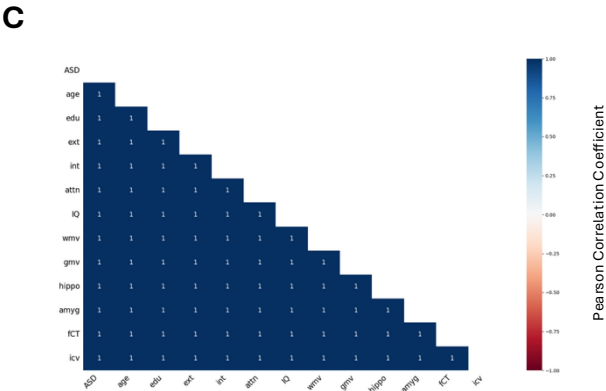
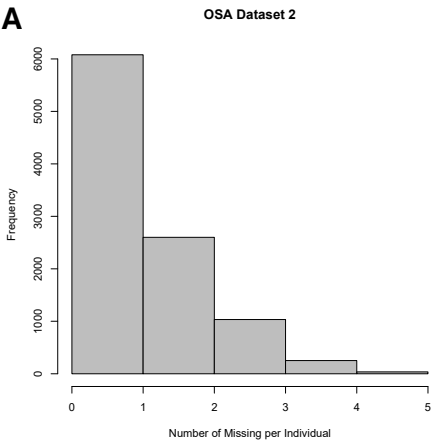
**(B)** The number of missing data per variable.

**(C)** A correlation heatmap indicating the relationship between missing variables. It would be expected that neuroimaging variables would show high correlation with one another, given that they are extracted from the same sequence. Similarly, since the behavioral measures of internalizing, externalizing, and attention problems scores also are derived from the same CBCL questionnaire, it would be expected that these variables are also highly correlated. The correlation between brain and behavior variables would be high if participants miss an entire wave of data collection.

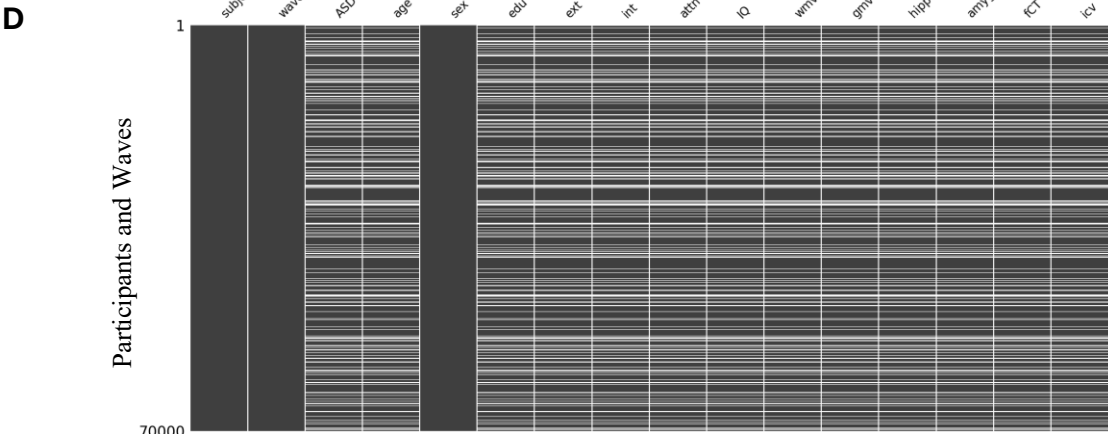
**(D)** A matrix demonstrating the pattern of missingness. The participant and waves on shown on the y-axis and the variables are presented on the x-axis. When a whole wave for an individual is missing, there will be a long horizontal line over all the data points. However, when specific variables are missing (i.e., neuroimaging measures), it will result in a horizontal line only through those variables.

**(E)** A dendrogram demonstrating the hierarchy of the missing values for each dataset, which demonstrates how the missingness between the different variables cluster together.

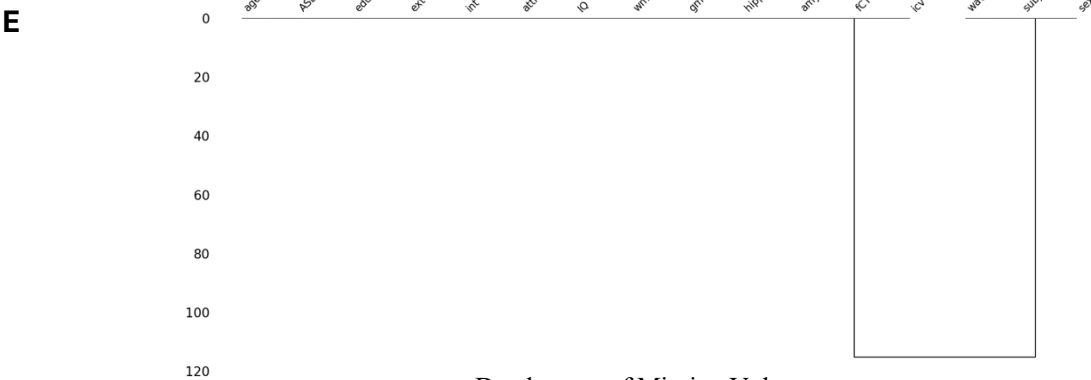




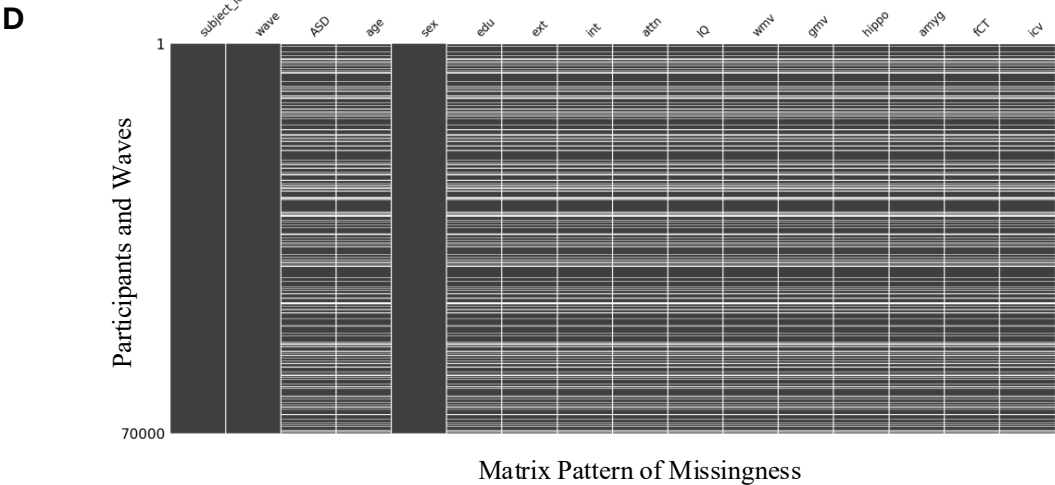
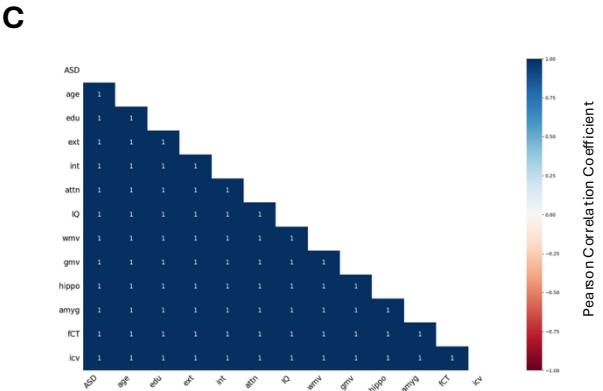
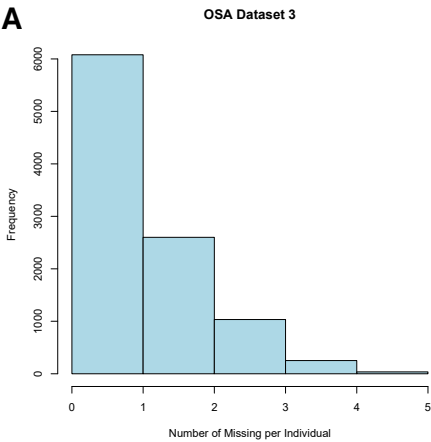
Correlation Heatmap of Missingness

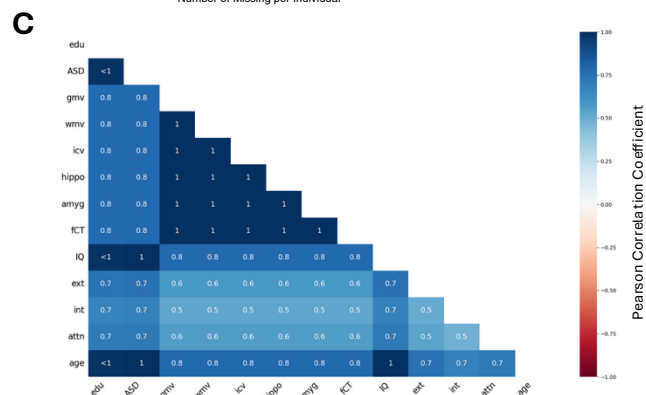
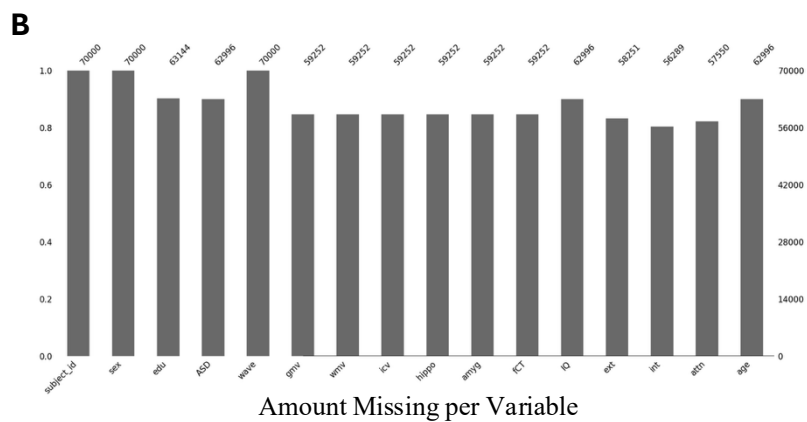
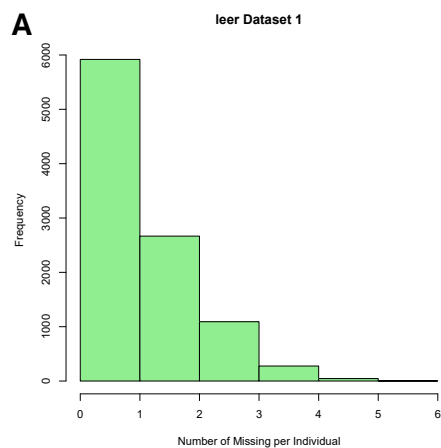


Matrix Pattern of Missingness

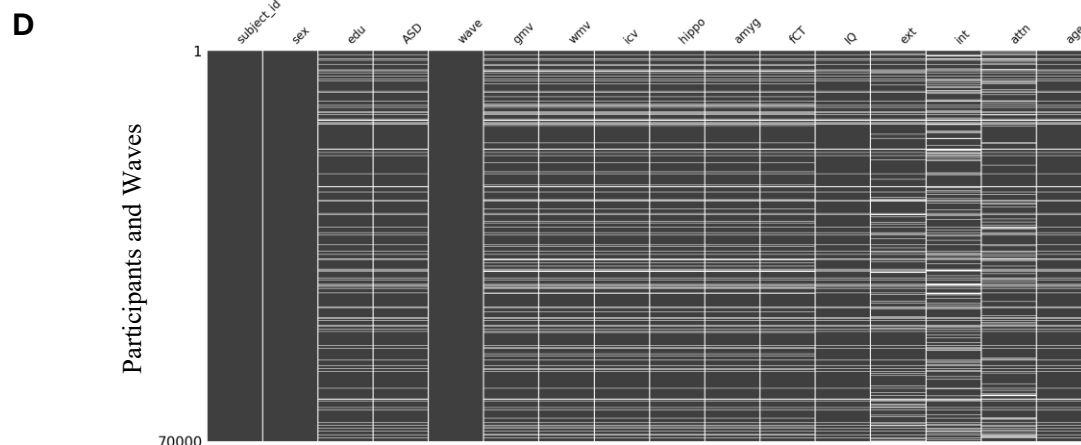


Dendrogram of Missing Values

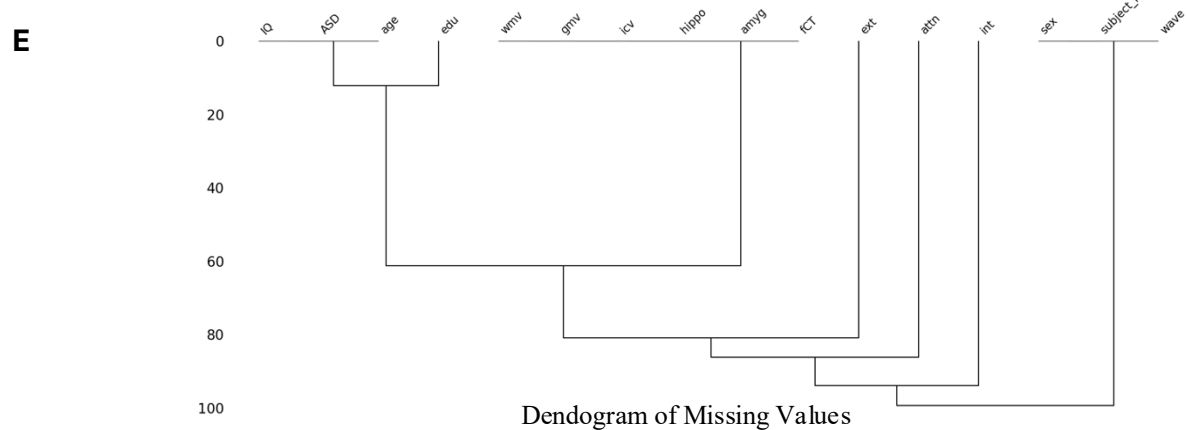


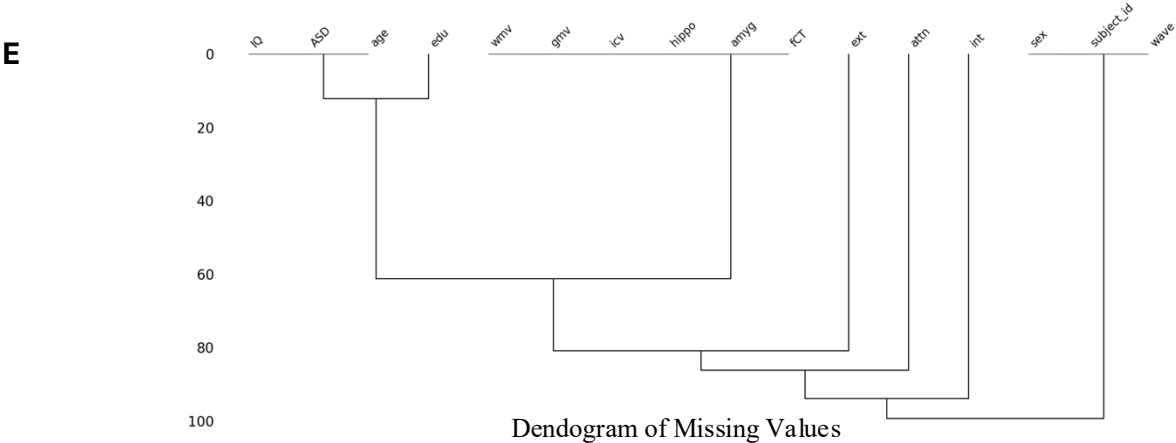
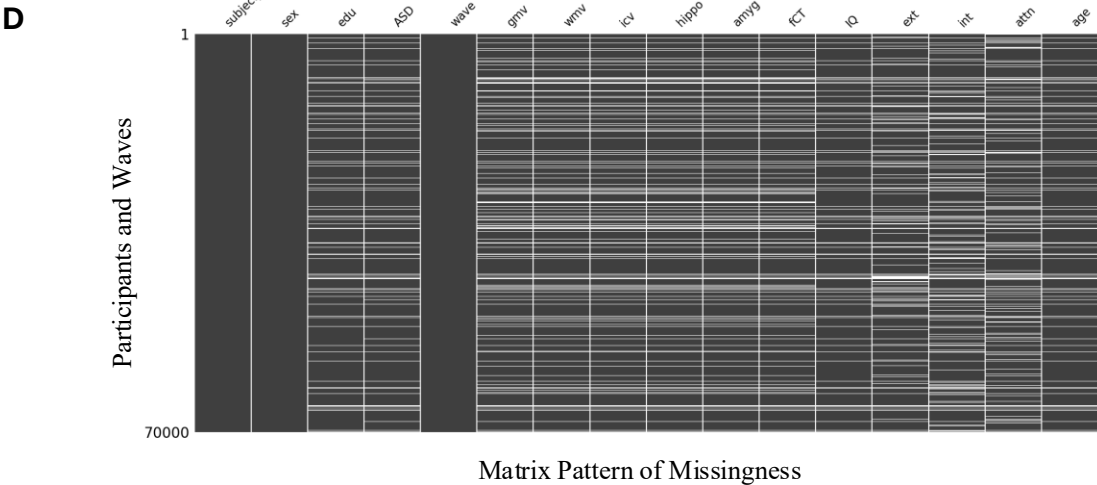
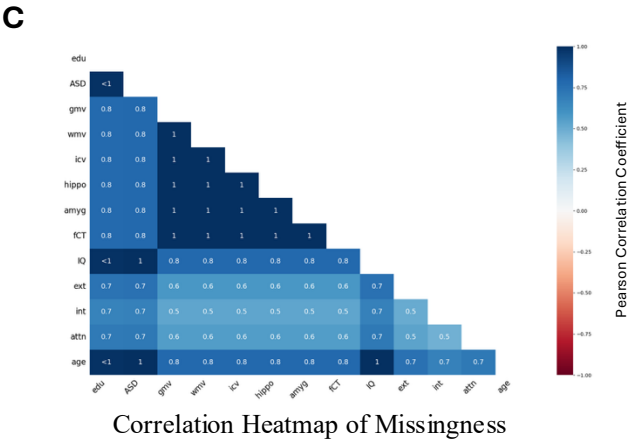
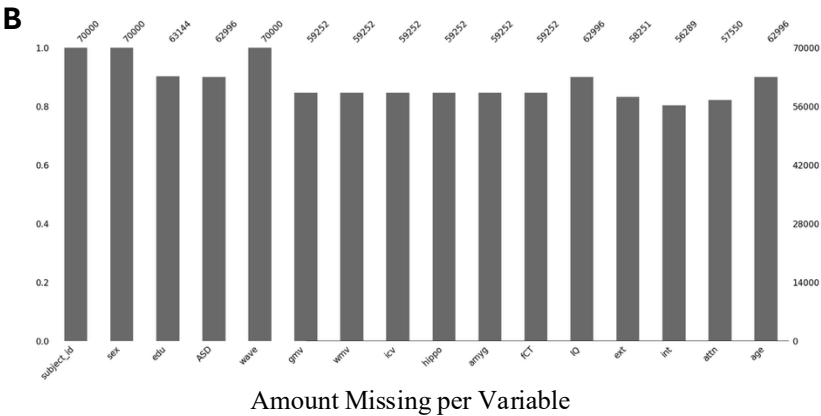
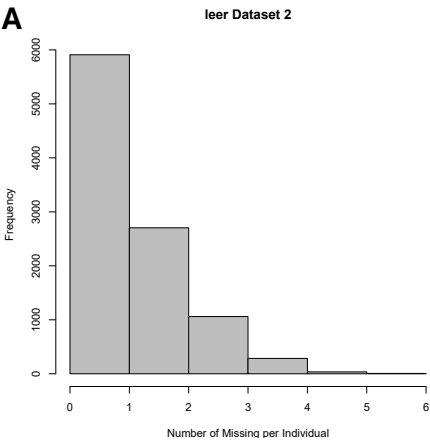


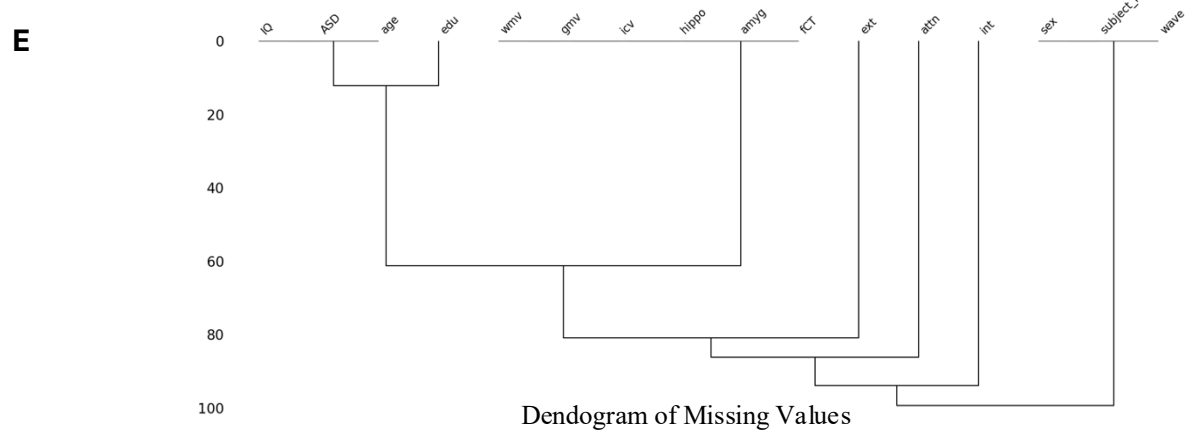
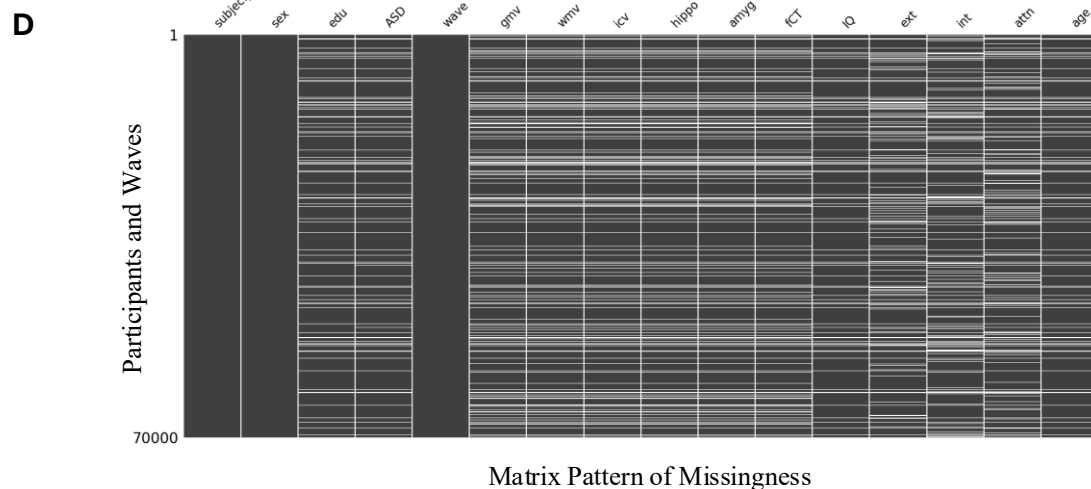
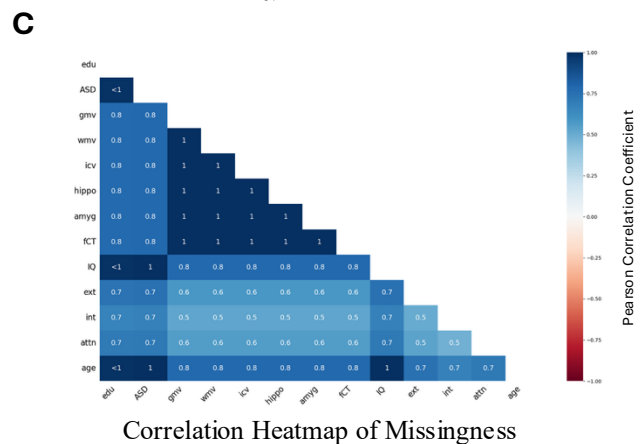
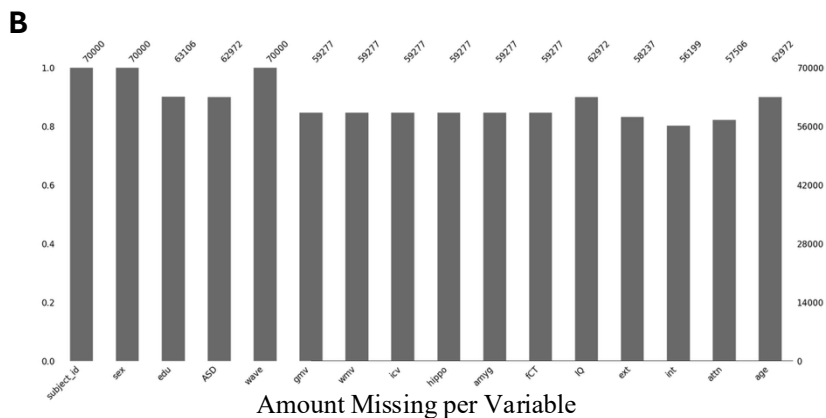
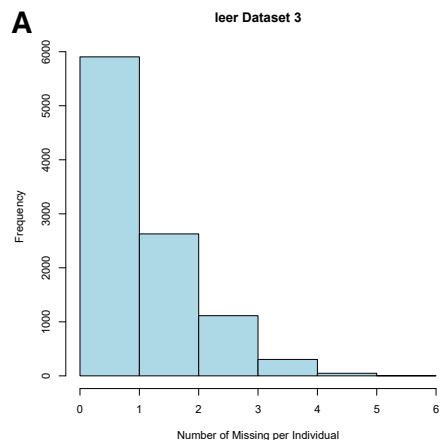
Correlation Heatmap of Missingness

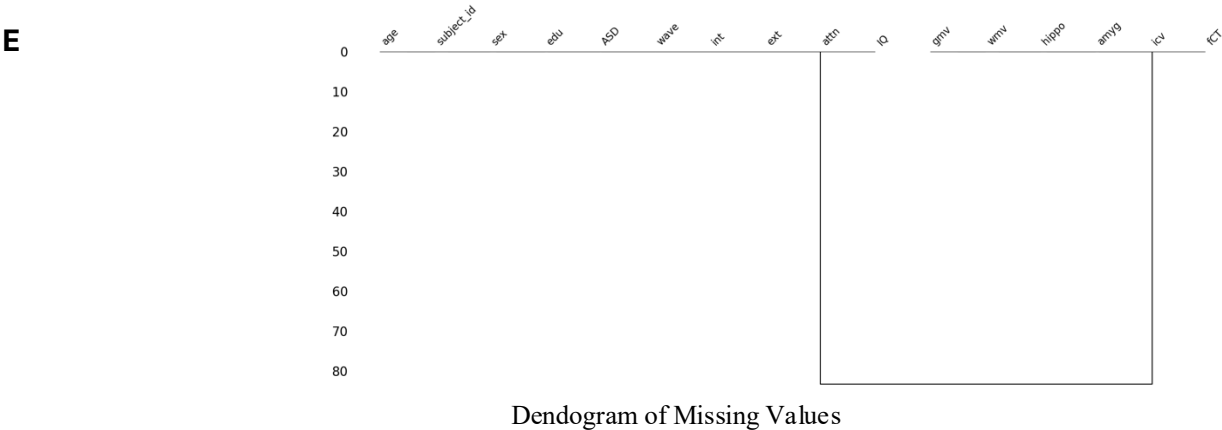
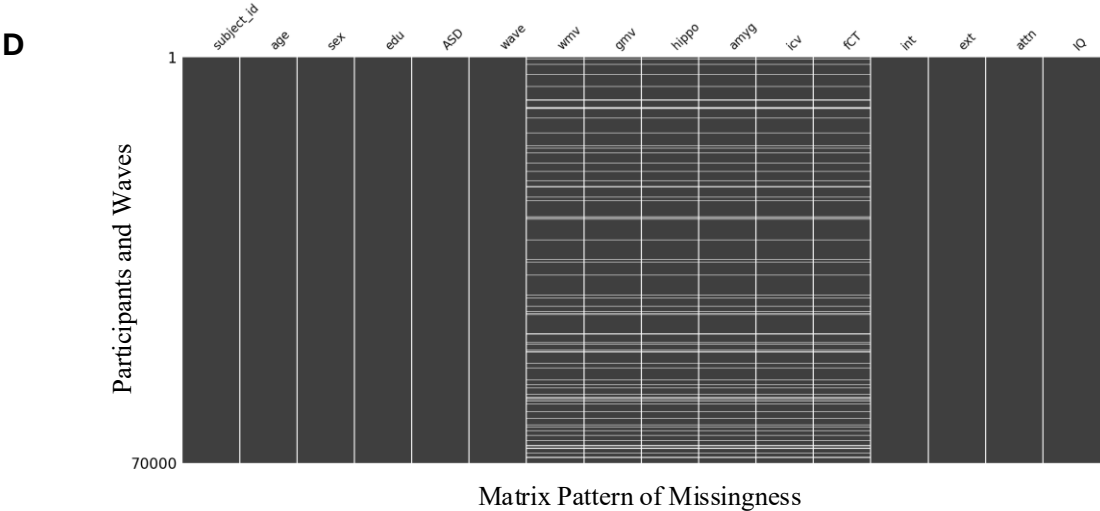
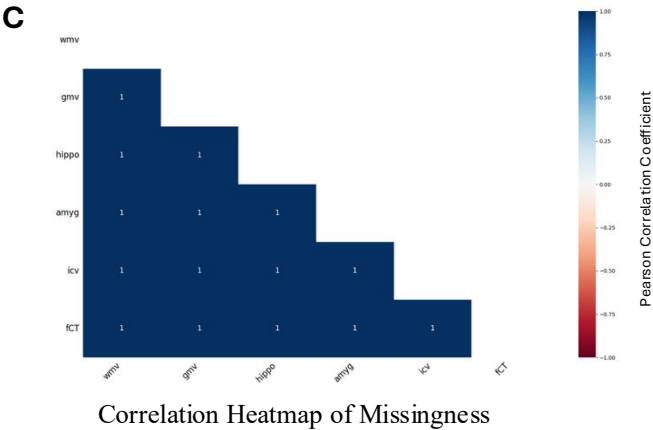
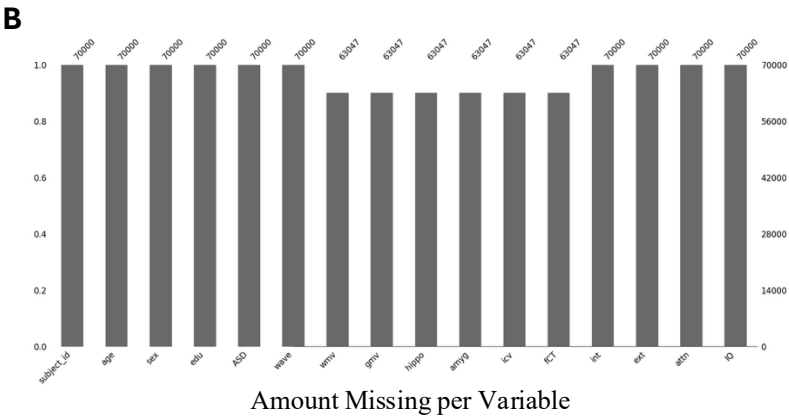
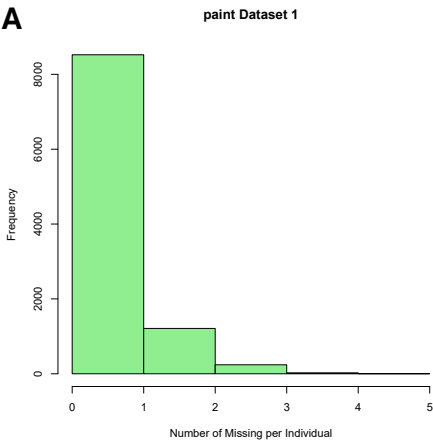


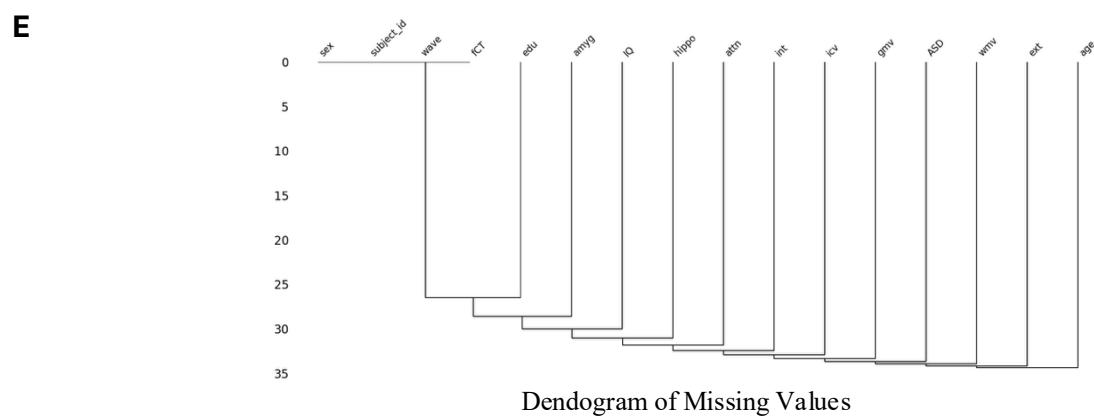
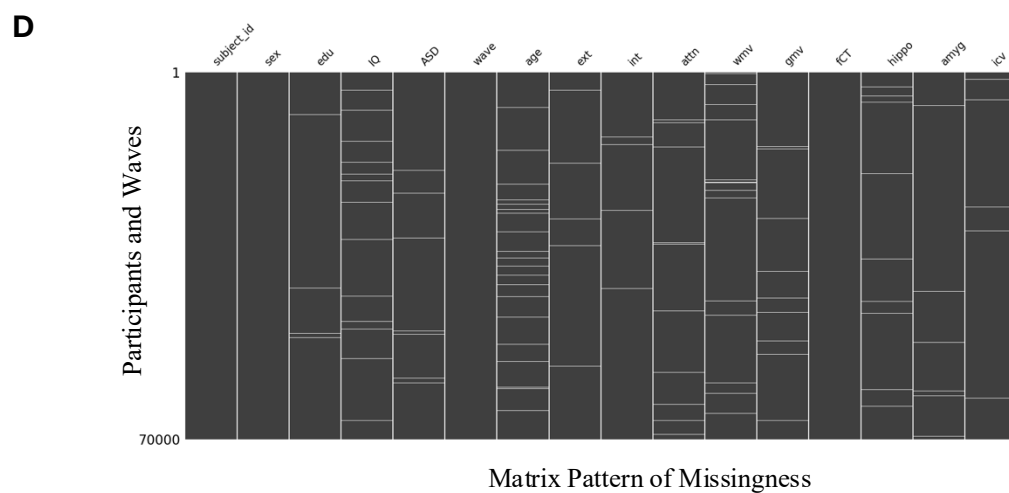
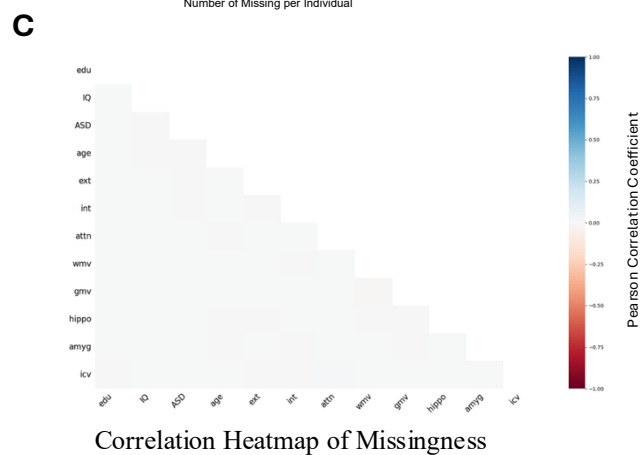
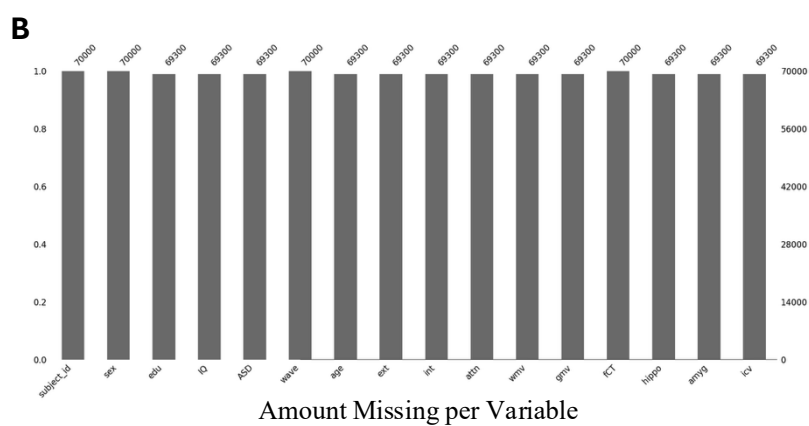
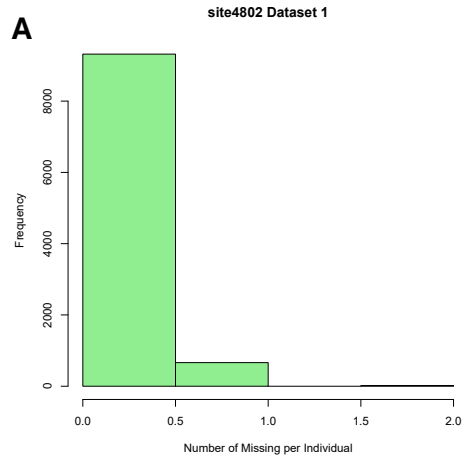
Matrix Pattern of Missingness

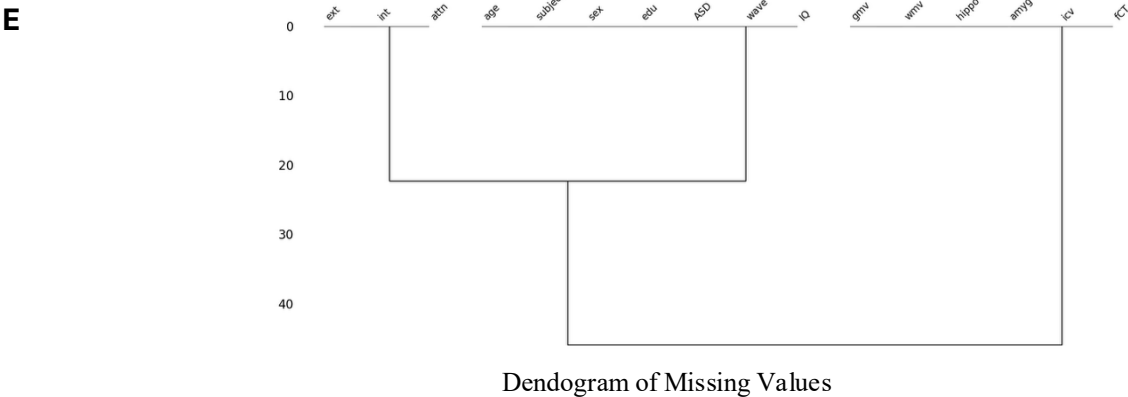
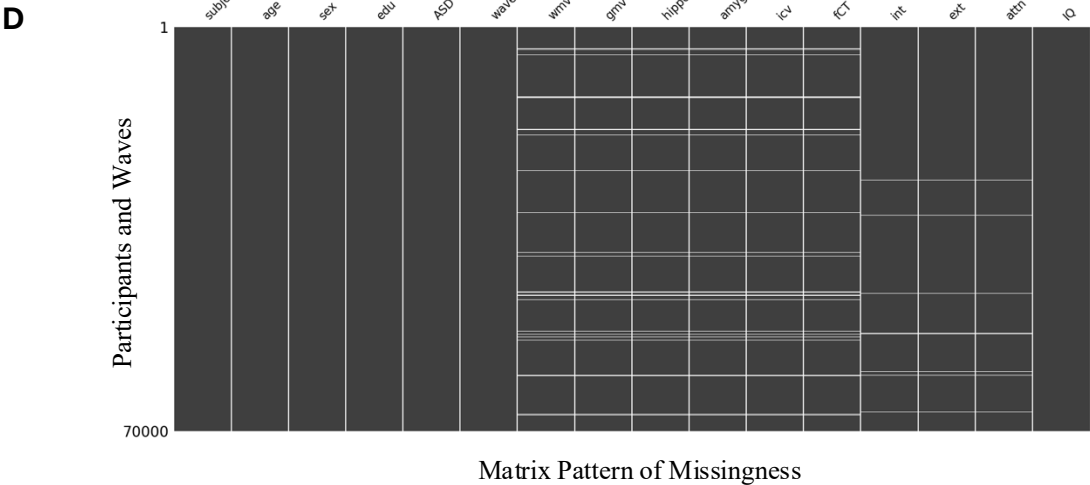
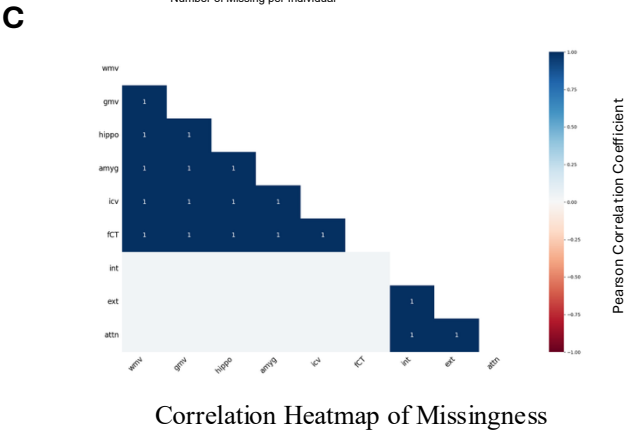
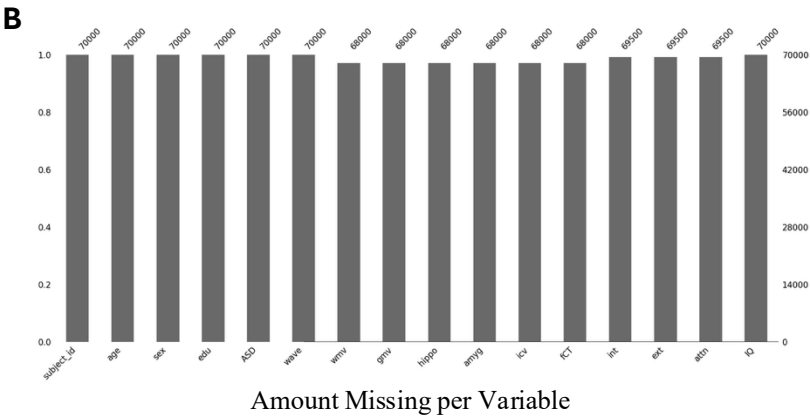
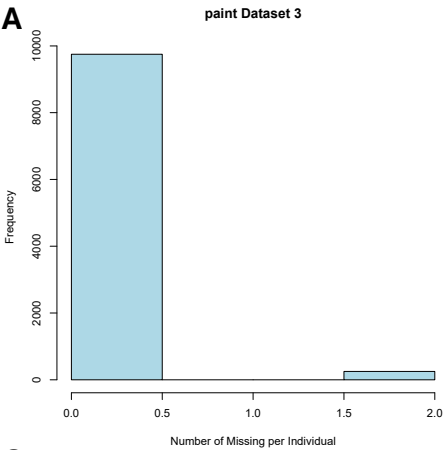












# SUPPLEMENTAL

# FIGURES 10-14

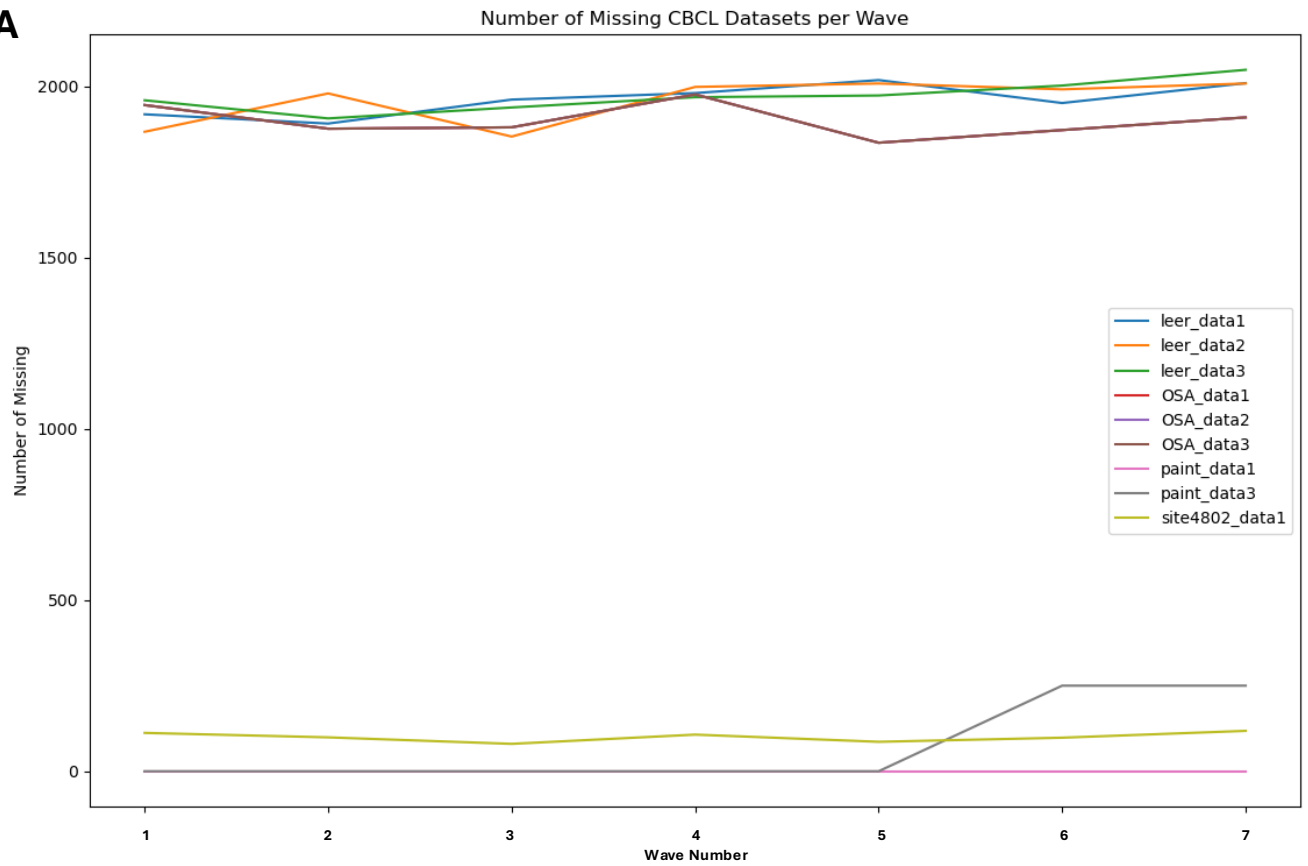
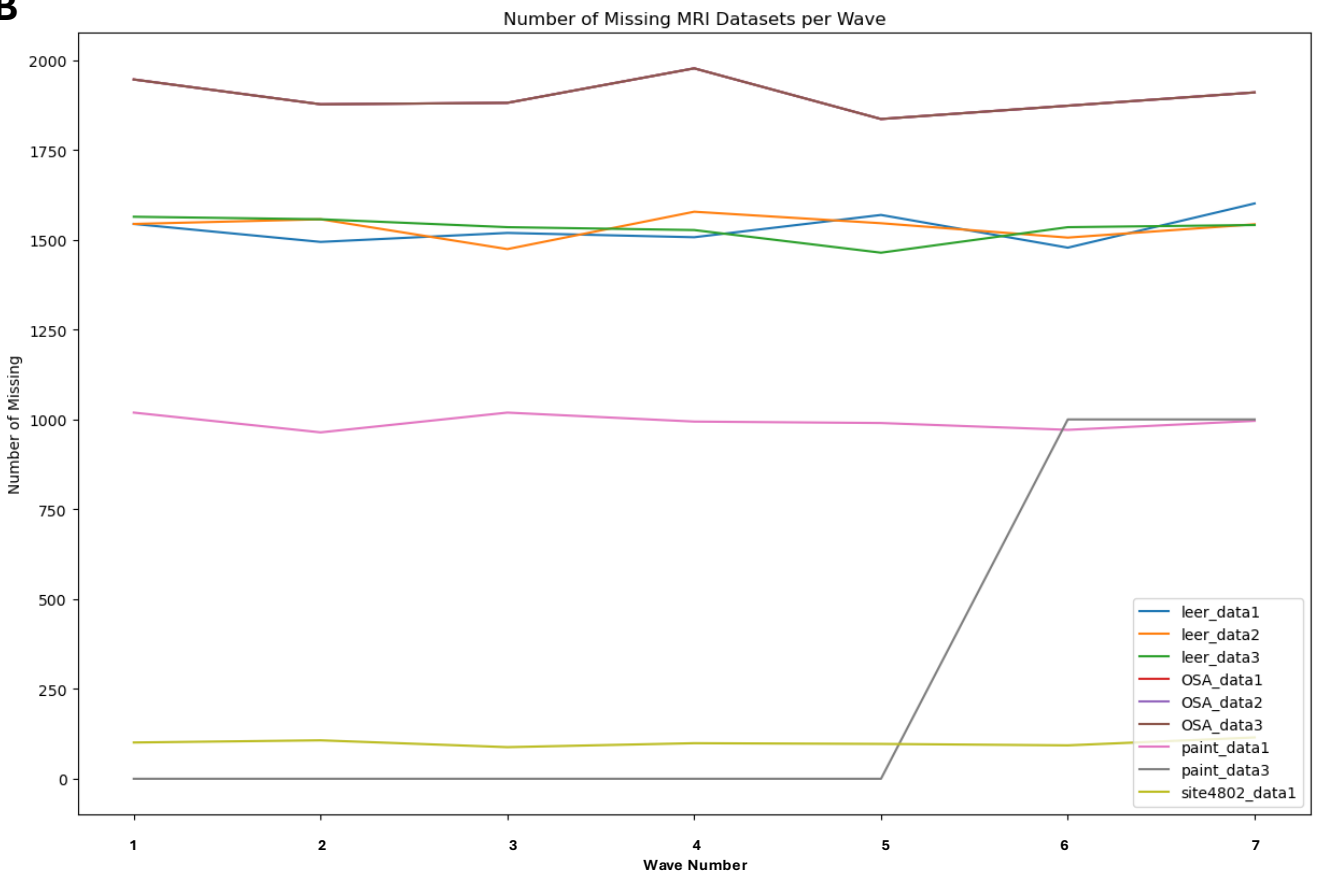
**Supplementary Figure 10** – The number of missing data per wave, with (A) reflecting missing CBCL data and (B) reflecting missing MRI datasets.

**Supplementary Figure 11** – Developmental trajectories of the median CBCL raw scores for (A) internalizing symptoms and (B) externalizing symptoms, and (C) attention problems score. While Figure A and B are also presented in Figure 1, providing the internalizing, externalizing, and attention problems scores together allows for easier comparisons. Males have a colored median line with light-colored ribbons and dotted colored lines reflecting the 90<sup>th</sup> percentile. Females have the median shown with a black line and gray ribbons and dotted lines reflecting the 90<sup>th</sup> percentile.

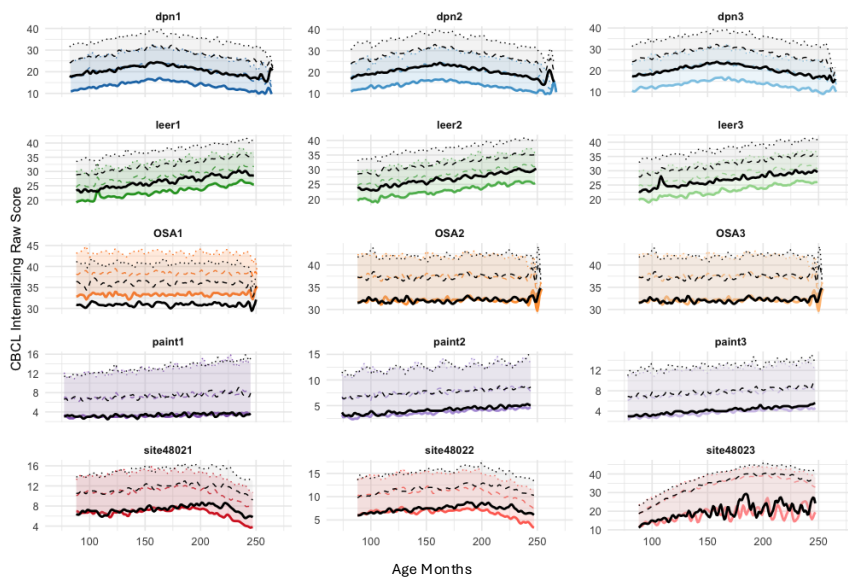
**Supplementary Figure 12** – Distribution of CBCL raw scores for each of the 15 datasets including (A) internalizing scores, (B) externalizing scores and (C) attention problem scores

**Supplementary Figure 13** – Developmental trajectories of (A) total gray matter volume, (B) total white matter volume, (C) hippocampus, (D) Amygdala, and (E) intracranial volume for each of the 15 datasets. Males have colored line with light-colored ribbons reflecting standard deviations. Females have black lines with gray ribbons.

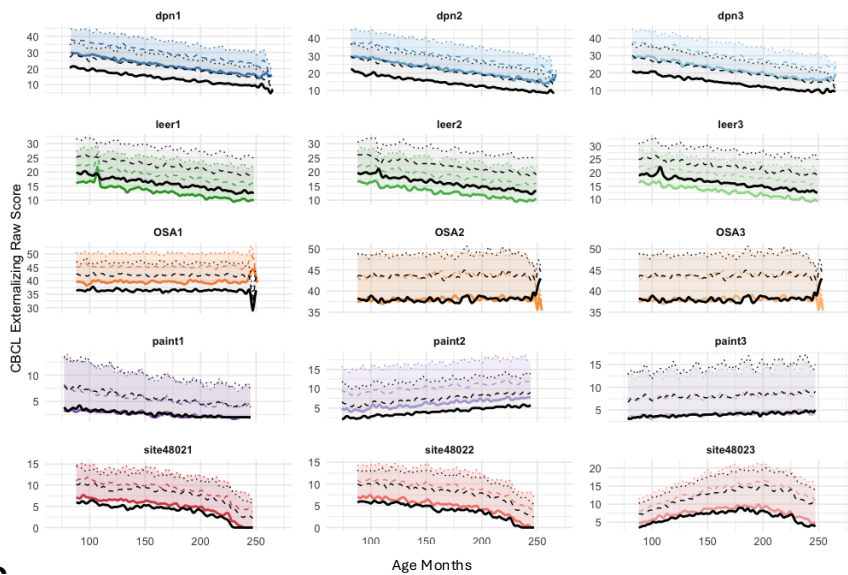
**Supplementary Figure 14** – Longitudinal trajectories of male/female differences as reflected in effect sizes (positive values reflect males > females) for (A) total gray matter volume (B) total white matter volume; (C) hippocampal volume; (D) Amygdala volume; (E) intracranial volume, and (F) cortical thickness.

**A****B**

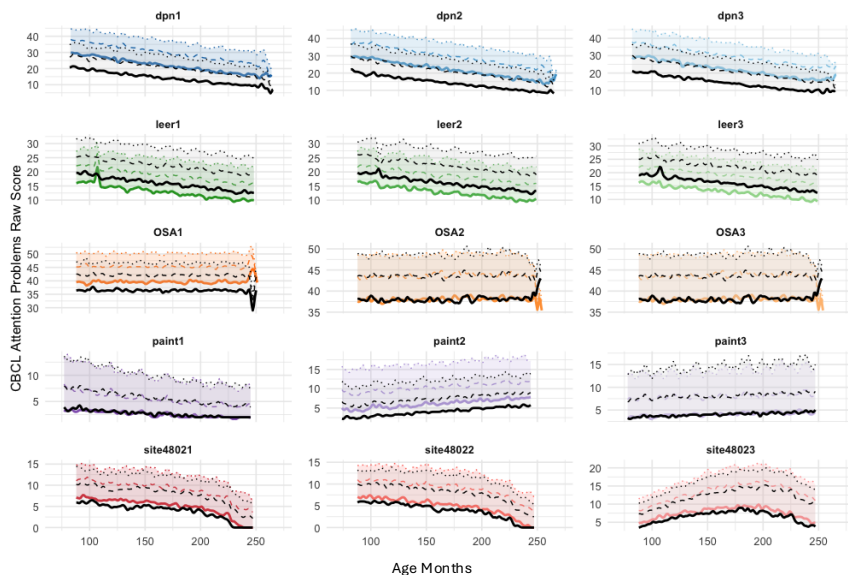
**A** CBCL Internalizing Raw Score by Age



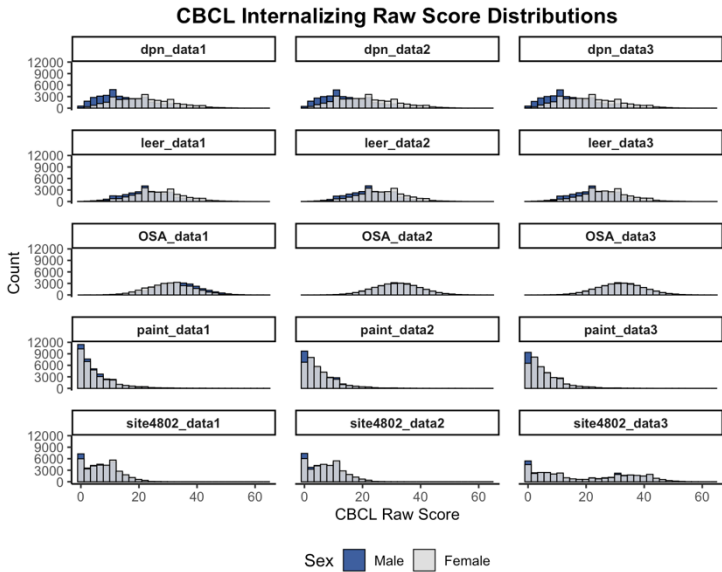
**B** CBCL Externalizing Raw Score by Age



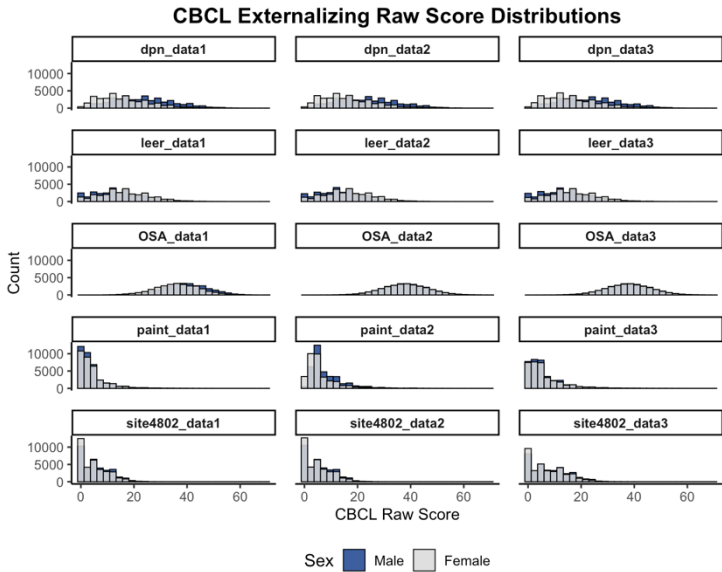
**C** CBCL Attention Problems Raw Score by Age



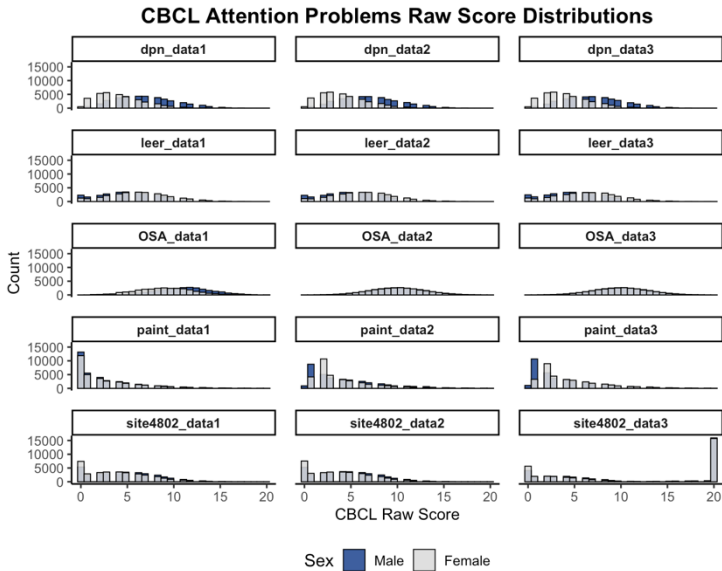
**A**



**B**



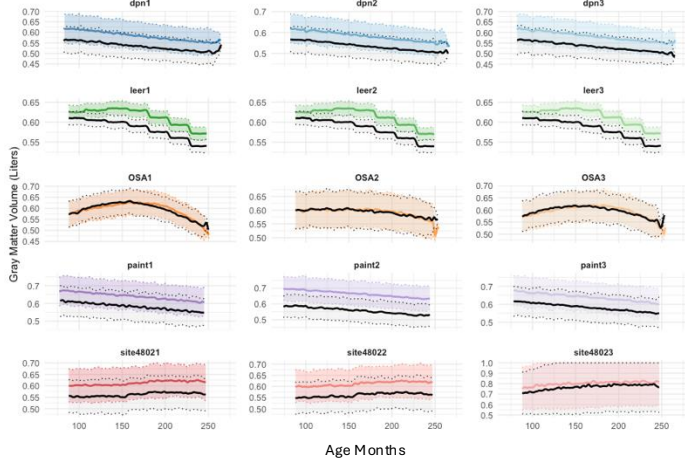
**C**



**A**

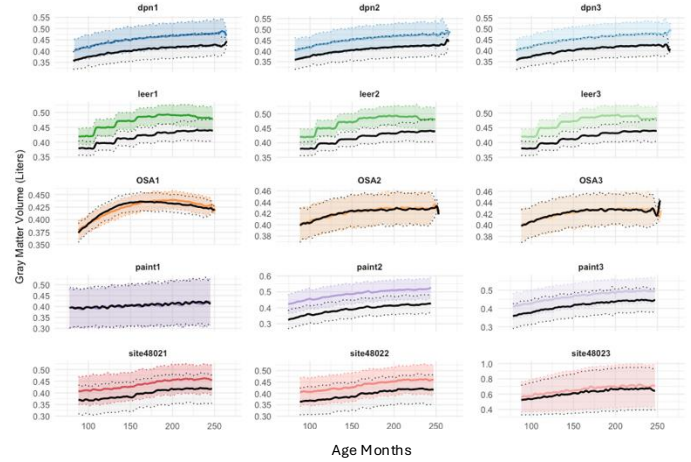
## Gray Matter Volume by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (liters, FWHM = 3 yrs)

**B**

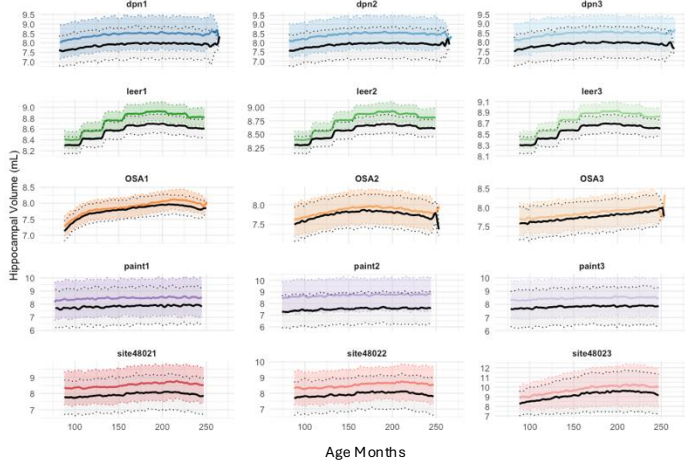
## White Matter Volume by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (liters, FWHM = 3 yrs)

**C**

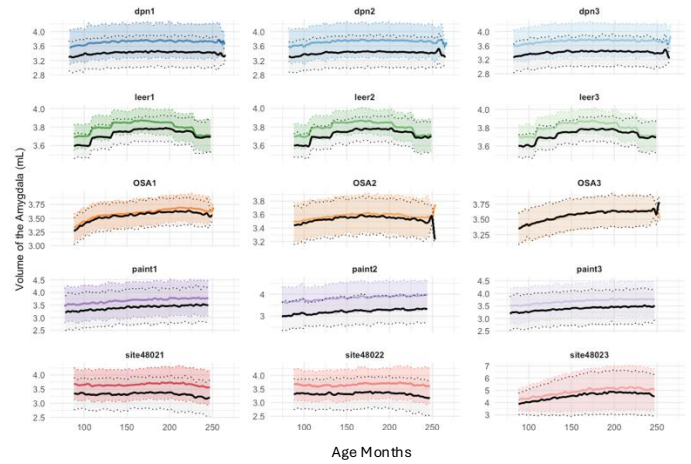
## Hippocampal Volume (bilateral) by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (mL, FWHM = 3 yrs)

**D**

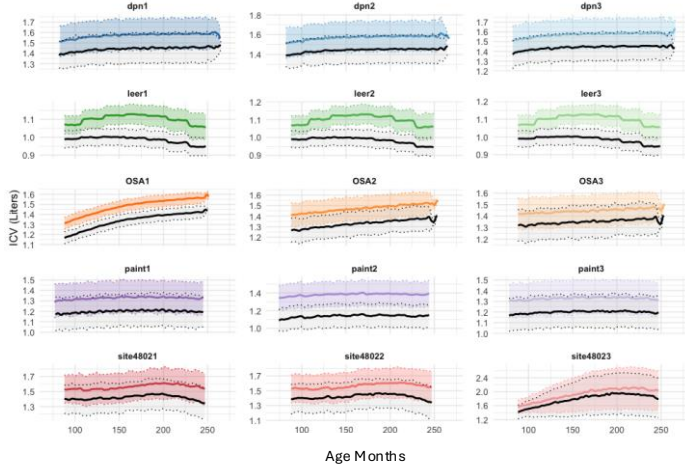
## Amygdala Volume (bilateral) by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (mL, FWHM = 3 yrs)

**E**

## Intracranial Volume (ICV) by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (liters, FWHM = 3 yrs)

**F**

## Frontal Lobe Gray Matter Cortical Thickness by Age

Males colored per dataset; Females black with light gray ribbon; Smoothed mean with dotted 10–90% bands (mm, FWHM = 3 yrs)

