Supplement

Association of Habenula Activity and Volume with Pediatric Irritability: Inconsistent Parenting as a Moderator

Results S1. Dice Similarity Coefficient Results

Results S2. Behavioral Results

Results S1. Dice Similarity Coefficient Results

The segmentations generated by the MAGeTbrain algorithm exhibited excellent agreement with the manually created ones by the first author (Mean DSC; left=0.812, right=0.836).

Scan	Left	Right
Sample 1	0.84	0.77
Sample 2	0.92	0.82
Sample 3	0.75	0.92
Sample 4	0.83	0.82
Sample 5	0.72	0.85
Mean (*SD*)	0.812 (0.792)	0.836 (0.055)

To assess the Dice Similarity Coefficient (DSC), five scans (10% of the total 50) were randomly selected. This sampling proportion aligns with previous studies[1, 2], where 10–14% of segmentations produced by the MAGeTbrain algorithm were evaluated for DSC.

Results S2. Behavioral Results

Correlation between parent- and child-reported ARI

Pearson correlation was calculated to examine the magnitude of agreement between the parent-reported and youth-reported ARI; significance level was set at p = 0.05. Result showed a significant moderate to strong positive correlation; $r(43) = 0.61$, $p < .001$.

Correlation between parent-reported ARI and child-reported frustration ratings

Pearson correlation was calculated to examine the magnitude of agreement between the parent-reported ARI and youth-reported frustration ratings; significance level was set at p=0.05. Result showed a non-significant correlation; $r(40) = 0.27$, $p = .083$.

Correlation between child-reported ARI and child-reported frustration ratings

Pearson correlation was calculated to examine the magnitude of agreement between the youth-reported ARI and frustration ratings; significance level was set at p=0.05. Result showed a non-significant correlation; $r(40) = 0.23$, $p = .151$.

References

1. Germann J, Gouveia FV, Martinez RCR, Zanetti MV, de Souza Duran FL, Chaim-Avancini TM, et al. Fully Automated Habenula Segmentation Provides Robust and Reliable Volume Estimation Across Large Magnetic Resonance Imaging Datasets, Suggesting Intriguing Developmental Trajectories in Psychiatric Disease. Biol Psychiatry Cogn Neurosci Neuroimaging 2020;5:923–9. https://doi.org/10.1016/j.bpsc.2020.01.004.

2. Germann J, Gouveia FV, Brentani H, Bedford SA, Tullo S, Chakravarty MM, et al. Involvement of the habenula in the pathophysiology of autism spectrum disorder. Sci Rep 2021;11:21168. https://doi.org/10.1038/s41598-021-00603-0.