



Adolescent Brain Cognitive Development®
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ABCD Science Newsletter

Oct 2019

NEWS

ABCD Fix Release 2.0.1. An amendment to the annual ABCD Data Release 2.0 was published in July. Any researcher using tabulated data or minimally processed data from Data Release 2.0 should update their data to correct several issues. Authorized users can obtain more information and download the updated data from <https://nda.nih.gov/study.html?id=721>. For downloading only updated minimally processed imaging data, add the Minimally Processed "Release 2.0.1" to the Workspace and download as per usual using the NDA Query Tool - <https://nda.nih.gov/general-query.html>.

New Fast Track QC instrument and Release Notes. This newly devised instrument provides Fast Track users with the ability to filter downloads based on series completeness, raw QC and availability of the series. Generally, we recommend Fast Track users download series where `ftq_usable = 1` (series complete, pass raw QC as OK, and has not been recalled and reprocessed). The new Fast Track Release Notes are available from the NDA ABCD Collection page https://nda.nih.gov/edit_collection.html?id=2573. We are working on having NDA predefined query filters based on these criteria available soon.

HIGHLIGHTS

Data Analysis and Exploration Portal (DEAP) Update. On 23 September 2019, the online analysis platform DEAP was updated. New features include Fix Release 2.0.1 data corrections, enhanced hierarchy structure searching, the option to include scanner level random effects, new longitudinal events information, allowing users to create or upload their own variables to DEAP, and more. For full details refer to the "Recent Updates" at <https://deap.nimhda.org>.

TECHNICAL TIPS

Researchers' Guide to the Adolescent Brain Cognitive Development (ABCD) Study. A user's guide to ABCD was presented at the Human Brain Mapping Conference in Rome, June 2019. Over 3.5 hours the following topics were discussed: The ABCD Cohort; Physical, behavioral and environmental phenotypes; Neuroimaging processing pipeline and baseline data; Statistical inferences; Integrating genetics and neuroimaging; Twins and Structural Equation Modeling; and a panel discussion. Videos of the presentation are available at https://www.pathlms.com/ohbm/courses/12238/sections/15846/video_presentations/138326.

RECENT PUBLICATIONS

- ABCD Processing Pipeline manuscript published, a comprehensive guide to the ABCD processing pipeline has been released incorporating details up to ABCD Fix Release 2.0.1. Image processing and analysis methods for the Adolescent Brain Cognitive Development

Study. Hagler DJ Jr et al. *Neuroimage*. 2019 Aug 12;202:116091. doi: 10.1016/j.neuroimage.2019.116091. [Epub ahead of print] <https://doi.org/10.1016/j.neuroimage.2019.116091>

- Demographic, psychological, behavioral, and cognitive correlates of BMI in youth: Findings from the Adolescent Brain Cognitive Development (ABCD) study. Gray JC, Schvey NA, Tanofsky-Kraff M. *Psychol Med*. 2019 Jul 10:1-9. doi: 10.1017/S0033291719001545. [Epub ahead of print]
- No evidence for a bilingual executive function advantage in the nationally representative ABCD study. Dick AS, Garcia NL, Pruden SM, Thompson WK, Hawes SW, Sutherland MT, Riedel MC, Laird AR, Gonzalez R. *Nat Hum Behav*. 2019 Jul;3(7):692-701. doi: 10.1038/s41562-019-0609-3. Epub 2019 May 20.
- Stress exposures, neurodevelopment and health measures in the ABCD study. Hoffman EA, Clark DB, Orendain N, Hudziak J, Squeglia LM, Dowling GJ. *Neurobiol Stress*. 2019 Mar 19;10:100157. doi: 10.1016/j.ynstr.2019.100157. eCollection 2019 Feb.
- Association of Prenatal Cannabis Exposure With Psychosis Proneness Among Children in the Adolescent Brain Cognitive Development (ABCD) Study. Fine JD, Moreau AL, Karcher NR, Agrawal A, Rogers CE, Barch DM, Bogdan R. *JAMA Psychiatry*. 2019 Jul 1;76(7):762-764. doi: 10.1001/jamapsychiatry.2019.0076.
- Resting-State Functional Connectivity and Psychotic-like Experiences in Childhood: Results From the Adolescent Brain Cognitive Development Study. Karcher NR, O'Brien KJ, Kandala S, Barch DM. *Biol Psychiatry*. 2019 Jul 1;86(1):7-15. doi: 10.1016/j.biopsych.2019.01.013. Epub 2019 Jan 26.
- Involvement in Sports, Hippocampal Volume, and Depressive Symptoms in Children. Gorham LS, Jernigan T, Hudziak J, Barch DM. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2019 May;4(5):484-492. doi: 10.1016/j.bpsc.2019.01.011. Epub 2019 Feb 4.

ABCD CALENDAR

- October 19-23, 2019 "Diving DEAP into Adolescent Brain and Cognitive Development (ABCD) Study Data" Society for Neuroscience (SfN), Chicago, IL, USA
- December 8-11, 2019 "ABCD Data Use: Challenges and Opportunities for Prospective and Current ABCD Data Users" American College of Neuropsychopharmacology (ACNP) Annual Meeting, Orlando, FL, USA