
ABCD Human Subject Study

Adolescent Brain Cognitive Development – ABCDSTUDY.org

Release Notes for Annual Release 1.1

README FIRST

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GENERAL INFORMATION

We are happy to announce the 2018 patch release (NDA Release 1.1). This release contains spreadsheet data and minimally processed imaging data collected between September 1, 2016 and September 15, 2017 from the baseline visits of 4,521 of the expected 11,900 participants. Three of the 4524 subjects included in Release 1.0 were excluded from the ABCD study subsequent to Release 1.0 and, therefore, have been removed from this patch release.

Downloading all spreadsheet data for this release will provide you with 3.5 GB of data in tab-separated text format. Each spreadsheet can be imported into programs such as Excel, SPSS and R. A collection of scripts developed by ABCD's Data Analysis and Informatics Center (DAIC) to facilitate processing of these data can be found at <https://github.com/ABCD-STUDY/analysis-nda17>.

Please refer to the data dictionary page on the NDA website for more detailed information on the value ranges and data value representation, especially with respect to “don’t know” and “refuse to answer” values. Data filtering is required before you can use these values in statistical packages, for example, if “don’t know” has been coded as

“999.” Also, categorical variables downloaded through this mechanism will appear as numerical entries. The data dictionary will inform you about the labels attached to each value.

Each download of ABCD data will include a documentation folder that includes a set of PDF files containing additional information about the data collection instruments in each domain, relevant references, and imaging abbreviations, as well as acknowledgements of any issues relevant to specific element names as well as changes from NDA 1.0 that users should be aware of when analyzing these data. In addition to this README file, users should also start by reading **Release Notes ABCD Imaging Instruments (includes table of imaging instruments)** and **Known Issues with Release 1.0 and Changes between Release 1.0 and 1.1**, which are included in the set of ABCD Release Notes pdf files.

Below we describe general information regarding ABCD data, data collection and clarification of changes NDA has made to the ABCD data dictionaries in the process of harmonizing the ABCD data and data dictionaries with their systems.

NDA AND SPANISH CHARACTERS

1) Parent questionnaires used by ABCD are dual-language (English and Spanish). Each parent instrument specifies a first select-language item:



¿Español? ☐ Sí

which affects which language the data collection instrument is displayed in. This allows the ABCD project to use a single instrument to capture responses for both languages (<https://github.com/ABCD-STUDY/redcap-hook-framework>).

We are sharing the Spanish language descriptions of items, but due to technical limitations of the export process (no support for UTF-8) the Spanish language content will appear to be broken. We hope that the visible content is still sufficient to inform the reader about the wording of the Spanish language portion. Please contact ABCD

(abcdstudy.org) if you require access to the original Spanish language version of the REDCap¹ instruments used by ABCD.

ABCD/NDA VARIABLE NAME HARMONIZATION

2) Data is shared according to the rules of the National Data Archive (ndar.nih.gov). ABCD data collection instruments have been edited to be compatible with existing NDA measures (data harmonization). The original names used by ABCD are usually preserved in the “Aliases” column of the data dictionary for the instrument. Please look in both the “Element Name” and the “Aliases” column if item names appear to be inconsistent. For example, one item from the behavioral spreadsheet for the MID functional task is listed as “beh_nback_all_total”. The “Alias” column correctly identifies this item as “beh_mid_total_numtrials”.

SURVEY ITEMS: DIRECTIONS AND DESCRIPTIONS

3) The ABCD versions of many instruments contain descriptive text used during data collection as prompts to the participant/parent. In some cases, these descriptive prompts define the meaning of the responses. These descriptive texts that sometimes precede multiple items have been removed from the data dictionaries by NDA – only items containing data values can be shared on this platform. Where appropriate the NDA item description has been extended to include the additional text from the descriptive prompts.

INSTRUMENTS THAT CONTAIN GREATER THAN 1000 VARIABLES

4) Due to technical limitations ABCD instruments with more than about 1,000 measures have been split on the NDA platform and are provided as individual parts. For instruments that have been split into several parts, information that specifies the visibility of an item (i.e., branching logic, conditional logic) has been removed, if the conditional logic referenced items in another part of the instrument. The conditional logic field was removed to allow for data sharing. We attempted to convey this information in the Notes section of the PDFs associated with the domain.

REFERENCE ITEMS

5) A small list of reference items appears before the data in each NDA spreadsheet. These reference items were added during the data sharing process with the NDA platform and include:

¹ The REDCap project, NIH/NCRR Colorado CTSI Grant Number UL1 RR025780

- Sex at birth (gender)
We are aware that the item label “gender” is unfortunate. The data values shared under this heading are derived from the sex at birth values collected during screening.
- collection_id and dataset_id
Both values are related to the data upload process from ABCD to NDA. They can be ignored during data analysis.
- subjectkey, src_subject_id, and promoted_subjectkey
Values should be the same for each participant and refer to the pseudo global unique identifier (pGUID) assigned by NDA to each participant (see <https://ndar.nih.gov/standards.html#guid> for details).
- Age in months at the time of the interview (interview_age)
This value has been calculated from the de-identified birth date (middle of the birth month date) and the assent signature time stamp and is the same for all sessions of the baseline visit for each participant (even when these fall on different days).
- The date the child was enrolled in the ABCD Study is defined by ABCD as the assent date (interview_date).

In general, this set of items can be used to merge participant data across different data collection instruments with one exception. The behavioral spreadsheets containing imaging related data for the functional imaging runs contain a “run” item that is used to encode individual runs (run1, run2, and average). Items from these spreadsheets will appear as individual rows in the merged spreadsheet (long format) instead of as individual columns (wide format). This format has been selected to reduce the number of shared instruments.

If you are interested in the data collection instruments used by ABCD (in REDCap format) please contact the ABCD Study (abcdstudy.org).

TABLE OF SHARED NON-IMAGING INSTRUMENTS

Individual instruments can be identified on NDA by the short name (second column) in the following table. A table of shared imaging instruments can be found in Release Notes ABCD Imaging Instruments. Each data dictionary can be downloaded at this link: https://ndar.nih.gov/data_dictionary.html?source=ABCD&submission=ALL

Measure	NDA Short Name	Description
Physical and Mental Health		
ABCD Youth Anthropometrics Modified From PhenX	abcd_ant01	Height, weight, waist circumference
ABCD Youth Edinburgh Handedness Inventory Short Form	abcd_ehis01	Handedness, laterality quotient
ABCD Youth Snellen Vision Screener	abcd_svs01	Vision screening
ABCD Youth Risk Behavior Survey Exercise Physical Activity	abcd_yrb01	Physical exercise
ABCD Youth Pubertal Development Scale and Menstrual Cycle Survey History	abcd_ypdms01	Pubertal stage and menstrual phase (for postmenarcheal girls) - youth survey
ABCD Youth Screen Time Survey	abcd_stq01	Screen time utilization - youth
ABCD Parent Pubertal Development Scale and Menstrual Cycle Survey History	abcd_ppdms01	Pubertal stage and menstrual phase (for postmenarcheal girls) - parent survey
ABCD Parent Screen Time Survey	stq01	Screen time utilization - parent
ABCD Parent Demographics Survey	pdem02	Demographics, race, gender, family structure, SES, education, occupation (includes Native American Acculturation Scale)
ABCD Parent Medical History Questionnaire	abcd_mx01	Medical history and health services utilization
ABCD Developmental History Questionnaire	dhx01	Prenatal exposure before and during pregnancy - medications, drugs alcohol, tobacco
ABCD Parent Medications Survey Inventory Modified from PhenX	medsy01	Medications taken in the last two weeks
ABCD Parent Sleep Disturbance Scale for Children	abcd_sds01	Sleep and sleep disorders
ABCD Parent Sports and Activities Involvement Questionnaire	abcd_saiq02	Involvement in sports, music and hobbies, TBI risk
ABCD Parent Ohio State Traumatic Brain Injury Screen Short Modified	abcd_otbi01	Traumatic brain injury of youth
ABCD Youth Diagnostic Interview for DSM-5 Background Items	abcd_ysad01	School, sexual orientation
ABCD Youth Diagnostic Interview for DSM-5	abcd_ksad501	Mental health diagnosis - youth questions

UPPS-P for Children Short Form (ABCD-version)	abcd_upps01	Impulsivity
ABCD Youth Behavioral Inhibition/Behavioral Approach System Scales Modified from PhenX	abcd_bisbas01	Inhibition and reward seeking
ABCD Prodromal Psychosis Scale	pps01	Prodromal psychosis levels
ABCD Youth Resilience Scale	abcd_ysr01	Resilience (friends)
ABCD Parent Child Behavior Checklist Raw Scores Aseba	abcd_cbcl01	Dimensional psychopathology, adaptive functioning
Child Behavior Check List Scores	abcd_cbcls01	Child Behavior Check List summary scores
ABCD Parent General Behavior Inventory-Mania	abcd_pgbi01	Subsyndromal mania
ABCD Parent Adult Self Report Raw Scores Aseba	pasr01	Parent dimensional psychopathology
Adult Self Report Scores	abcd_asrs01	Adult Self Report summary scores
ABCD Parent Diagnostic Interview for DSM-5 Background Items Full	dibf01	School, family, social relations
ABCD Parent Diagnostic Interview for DSM-5 Full	abcd_ksad01	Mental health diagnosis - parent questions
Parent Diagnostic Interview for DSM-5 (KSADS) Traumatic Events	abcd_ptsd01	KSADS - PTSD raw values
ABCD Family History Assessment Part 1	fhxp101	Family history of psychopathology and substance use (for biological or adoptive parent)
ABCD Family History Assessment Part 2	fhxp201	Family history of psychopathology and substance use (for biological or adoptive parent)
ABCD Sum Scores Mental Health Youth	abcd_mhy01	Mental Health summary scores - youth surveys
ABCD Sum Scores Mental Health Parent	abcd_mhp01	Mental Health summary scores - parent surveys
ABCD Sum Scores Traumatic Brain Injury	abcd_tbi01	Traumatic brain injury of youth summary scores
ABCD Sum Scores Parent Sports and Activities Involvement	abcd_spacss01	ABCD Parent Sports and Activities Involvement Questionnaire: If no is endorsed, for an activity, e.g., ballet, the value is missing for all relevant follow-up items. In this instrument, "0" has replaced missing for all relevant items.
ABCD Sum Scores Parent Medical History	abcd_medhxss01	ABCD Parent Medical History Questionnaire: If no is endorsed, for a gating item, e.g., Burns?, value is

ABCD Sum Scores Developmental History	abcd_devhxs01	missing for "How many times...? In this instrument, "0" has replaced missing for all relevant items. ABCD Developmental History Questionnaire: If no is endorsed, for a gating item, e.g., Cocaine?, value is missing for "How many times...? In this instrument, "0" has replaced missing for all relevant items.
Substance Use		
ABCD Parental Rules on Substance Use	prq01	Parental substance use approval and rules
ABCD Parent Community Risk and Protective Factors (CRPF)	abcd_crpf01	Beliefs about drug availability (alcohol, nicotine, marijuana, "other" drugs) along with questions about access and exposure to medical marijuana
ABCD Youth Substance Use Interview Timeline Follow-back (Lifetime)	abcd_ysu02	Measures included in Substance Use Interview are described below: At baseline, this will establish whether participant ever used alcohol or drugs (sip, puff, or full use). Measures when they first used it, first regular (weekly) use, lifetime quantity (in standard doses), maximum dose (standard), last date of use, and past 6-month quantity/frequency of each drug category. This results in data re: patterns (e.g., max recent use, days of combined use, average dose per occasion, number of binge drinking episodes, drinks/binge, etc.)
PATH Inventory – Intention to Use		Youth's intention to use alcohol, nicotine and marijuana
Caffeine Intake		Quantity/frequency of various caffeine beverages use in past 6 months
iSay II Q2 Sipping Items		Details of first sip (when, where, what type alcohol, etc.)
Tobacco Low-Level Use Measures		Details of first puff nicotine (when, where, what type nicotine, etc.)
Marijuana Low-Level Use		Details of first puff or use of marijuana (when, where, what type marijuana, potency, how high they felt, etc.)
Peer Group Deviance		Friends' use of alcohol, nicotine, marijuana, inhalants, and "other" drugs
Acute Subjective Response to Alcohol		Participant's subjective effects to alcohol following the first 5 times ever

		drank, recent 6 months, and over their heaviest period
Acute Subjective Response to Tobacco		Participant's subjective response to nicotine following their first exposure
Acute Subjective Response to Marijuana		Participant's subjective response to marijuana following their first exposure
Hangover Symptom Scale		Frequency of hangover symptoms over the last 6 months
Rutgers Alcohol Problem Index (RAPI)		Symptom frequency checklist of alcohol-related problems over past 6 months
Nicotine Dependence (DAPI)		Symptom frequency checklist of nicotine-related problems over past 6 months
Marijuana Dependence Index (MAPI)		Symptom frequency checklist of marijuana-related problems over past 6 months
Drug Problem Index (DAPI)		Symptom frequency checklist of "other" drug-related problems over past 6 months
ABCD Timeline Follow-back Survey Calendar Scores	abcd_tlf01	Timeline follow-up back calendar scores
ABCD Youth Participant Last Use Survey Day 1 2 3 4	abcd_plus01	Tobacco/caffeine/medication usage in the last 24 hours - youth answers
ABCD Parent Participant Last Use Survey Day 2 3 4	plus01	Tobacco/caffeine/medication usage in the last 24 hours - parent answers
Summary Scores Substance Use	abcd_suss01	Caffeine summary scores
Neurocognition		
ABCD Youth NIH TB Summary Scores	abcd_tbss01	Measures included in NIH TB Summary Scores are described below:
NIH TBX Picture Vocabulary		Language vocabulary knowledge, estimated verbal IQ; uncorrected and age corrected scores
NIH Tbx Flanker Inhibitory Control and Attention		Attention, cognitive control, executive function, inhibition of automatic response; uncorrected and age corrected scores
NIH Tbx List Sorting Working Memory		Working memory, information processing; uncorrected and age corrected scores
NIH Tbx Dimensional Change Card Sort		Executive function: set shifting, flexible thinking, concept formation; uncorrected and age corrected scores
NIH Tbx Pattern Comparison		Information processing, processing speed; uncorrected and age corrected

Processing Speed		scores
NIH Tbx Picture Sequence Memory		Episodic memory; sequencing; uncorrected and age corrected scores
NIH Tbx Oral Reading Recognition		Language, oral reading (decoding) skills, academic achievement; uncorrected and age corrected scores
ABCD TBX Demo	abctdemo01	Demographics - age only
ABCD Cash Choice Task	cct01	Impulsivity, delayed gratification
ABCD Little Man Task	lmt201	Visuospatial processing flexibility, attention
ABCD Pearson Scores	absd_ps01	Measures included in Pearson Scores are described below
Rey Auditory Verbal Learning Test		Learning and memory
Matrix Reasoning Task		Fluid intelligence, visuospatial reasoning
Culture and Environment		
Youth Prosocial Behavior Survey	abcd_psb01	Resilience
ABCD Youth Acculturation Survey Modified from PhenX	yacc01	Cultural factors
ABCD Parental Monitoring Survey	pmq01	Parental monitoring and supervision
ABCD Children's Report of Parental Behavioral Inventory	crpb01	Environment- family and religion
ABCD Youth Family Environment Scale-Family Conflict Subscale Modified from PhenX	abcd_fes01	Family dynamics, cohesion, expressiveness, conflict
ABCD Youth Neighborhood Safety/Crime Survey Modified from PhenX	abcd_nsc01	Neighborhood risk and protective factors, crime
ABCD School Risk and Protective Factors Survey	srpf01	School risk and protective factors
Parent Prosocial Behavior Survey	psb01	Resilience
ABCD Parent Acculturation Survey Modified from PhenX	pacc01	Cultural factors
ABCD Parent Family Environment Scale-Family Conflict Subscale Modified from PhenX	fes02	Family dynamics, cohesion, expressiveness, conflict
ABCD Parent Neighborhood Safety/Crime Survey Modified	abcd_pnsc01	Neighborhood risk and protective factors, crime

from PhenX		
ABCD Parent Vancouver Index of Acculturation-Short Survey	abcd_via01	Acculturation
ABCD Parent Multi-Group Ethnic Identity-Revised Survey	abcd_meim01	Cultural affiliation
ABCD Parent Mexican American Cultural Values Scale Modified	macv01	Familism, religion, independence, self-reliance
ABCD Sum Scores Culture & Environment Youth	abcd_sscey01	Culture and environment summary scores - youth surveys
ABCD Sum Scores Culture & Environment Parent	abcd_sscep01	Culture and environment summary scores - parent surveys
Prescan/Postscan Questionnaires		
ABCD RA Scanning Checklist and Notes	abcd_ra01	Checklist used by site coordinators/research assistants prior to and during scanning sessions
ABCD Youth Pre Scan Questionnaire 1	abcd_ypre101	Current mood ratings before completing MRI scan
ABCD Youth Pre Scan Questionnaire 2	abcd_ypre201	Current mood ratings before completing second MRI scan. Used if MRI is split between two days, or if there is a significant break between scan sessions. Re-assesses current mood
ABCD Youth Post Scan Questionnaire 1	abcd_ypsq101	Current mood ratings after completing MRI scan
ABCD Youth Post Scan Questionnaire 2	abcd_ypsq201	Current mood ratings after completing second MRI scan. Used if MRI is split between two days, or if there is a significant break between scan sessions. Re-assesses current mood
ABCD Youth Monetary Incentive Delay (MID) Task Survey Post Scan Questionnaire	abcd_monet01	Ratings of mood when viewing the different cues and receiving the different outcomes during the MID task to determine the effectiveness and value of wins and losses
ABCD Youth Rescan MID Task Survey Post Scan Questionnaire	abcd_prepost01	Ratings of mood when viewing the different cues and receiving the different outcomes during the MID task to determine the effectiveness and value of wins and losses, if rescan is necessary
Biospecimens		
ABCD Youth Alcohol Screen	yalcs01	Past day alcohol use - Breathalyzer

ABCD Youth Toxicology Test	abcd_ytt01	Past day drug use - Oral Fluid Draeger
ABCD Youth Hair Sample	abcd_hers01	Information collected by RAs at the time of collecting ~100 strands of hair for metabolites indicating substance use in past month or longer (e.g. time of day of collection)
ABCD Pubertal Hormone Saliva	sph01	Information collected by RAs at the time of collecting oral fluid to indicate current estradiol, testosterone, and DHEA levels (e.g., time of day of collection)
ABCD Hormone Saliva Salimetric Scores	abcd_hsss01	Pubertal hormone levels (estradiol, testosterone, and DHEA)
ABCD Youth Genetic Blood (RUCDR)	biocf01	Information collected by RAs at the time of venipuncture blood collection for genetics studies (e.g., time of day of collection)
ABCD Youth Genetic Saliva (RUCDR)	abcd_ygs01	Information collected by RAs at the time of saliva collection for genetics studies (e.g., time of day of collection)
Rutgers Biosamples	abcd_rb01	DNA concentrations from saliva and blood samples
Other Data Sources		
ABCD Screener	abcd_screen01	Eligibility screener and screener risk measures
ACS Post Stratification Weights	acspsw02	ACS post stratification weights for demographic and socioeconomic measures, and family relationships table
Residential History Derived Scores	abcd_rhds01	Environmental risk
ABCD Longitudinal Tracking	abcd_lt_01	Includes site ID of subject at each visit to facilitate identification of the site ID associated with each scan