



WU-Minn HCP Q3 Data Release: Reference Manual

Appendix VII – Abbreviations for HCP Behavioral and Individual Difference Measures

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Abbreviations and descriptions for behavioral and individual difference measures

This document provides definitions for abbreviations used for behavioral and individual difference measures on HCP participants. Each variable and some variable values have abbreviated short names to allow us to display a manageable database for this diverse data in spreadsheet form in the ConnectomeDB dashboard, in the Open Access Behavioral Data comma separated variable (.csv) file available for download on the ConnectomeDB data page: <https://db.humanconnectome.org/>, and in the Restricted Access data distributed to qualified investigators who [apply for Restricted Access](#).

The behavioral domains tested are listed as blue headings in the tables below and are described more fully in the current quarter's Reference Manual.

Category: Subject Information

Variable Name	Description	Values
Instrument: Demographics		
Subject	HCP Participant ID	Ex: 100307
Gender	Gender of Participant	F/M
Age	5 Yr. Age Range of Participant	<ul style="list-style-type: none"> • 22-25 • 26-30 • 31-35
Quarterly Release	Quarterly release in which this subject's data was published to ConnectomeDB.	Q1/Q2/Q3
Instrument: Study Completion - Imaging		
Full Imaging Compl.	Full high quality imaging protocol was completed	TRUE/FALSE
T1 Count	Number of high quality T1 scans obtained	0-2
T2 Count	Number of high quality T2 scans obtained	0-2
RS-fMRI Count	Number of high quality resting state scans obtained	0-4
Full Task fMRI	Full high quality task fMRI protocol was completed	TRUE/FALSE
fMRI WM Compl.	High quality task fMRI working memory task was obtained	TRUE/FALSE
fMRI Gamb. Compl.	High quality task fMRI gambling task was obtained	TRUE/FALSE
fMRI Mot. Compl.	High quality task fMRI motor task was obtained	TRUE/FALSE
fMRI Lang. Compl.	High quality task fMRI language task was obtained	TRUE/FALSE
fMRI Soc. Compl.	High quality task fMRI social cognition task was obtained	TRUE/FALSE



Variable Name	Description	Values
fMRI Rel. Compl.	High quality task fMRI relational processing task was obtained	TRUE/FALSE
fMRI Emo. Compl.	High quality task fMRI emotion processing task was obtained	TRUE/FALSE
dMRI Compl.	Full high quality diffusion MRI protocol was obtained	TRUE/FALSE
Instrument: Study Completion - Behavioral		
Non-Toolbox Compl.	Full non-NIH Toolbox behavioral battery was completed	TRUE/FALSE
Visual Proc. Compl.	Mars Contrast Sensitivity Test (Visual Processing) was completed	TRUE/FALSE
Delay Disc. Compl.	Delay Discounting (Self-Regulation) assessment was completed	TRUE/FALSE
SCPT Compl.	Short Penn Continuous Performance Test (SCPT) (Sustained Attention) was completed	TRUE/FALSE
IWRD Compl.	Penn Word Memory Test (IWRD) (Verbal Episodic Memory) was completed	TRUE/FALSE
PMAT Complete	Penn Matrix Test (PMAT) (Fluid Intelligence) was completed	TRUE/FALSE
Line Orient. Compl.	Variable Short Penn Line Orientation Test (VSPLIT) (Spatial Orientation) was completed	TRUE/FALSE
Emo. Recog. Compl.	Penn Emotion Recognition Test was completed	TRUE/FALSE
NEO-FFI Compl.	Neuroticism/Extroversion/Openness Five Factor Inventory (NEO-FFI) was completed	TRUE/FALSE
ASR-Syn Compl.	Achenbach Adult Self Report (ASR) - Syndrome Scale was completed	TRUE/FALSE
ASR-DSM Compl.	Achenbach Adult Self Report (ASR) - DSM-Oriented Scale was completed	TRUE/FALSE
Instrument: Restricted Demographic Data		
Mother ID	Mother ID	Ex: 51303
Father ID	Father ID	Ex: 81359
Twin Status	Twin Status	<ul style="list-style-type: none"> • Twin • Not a Twin
Zygoty	Zygoty	<ul style="list-style-type: none"> • Monozygotic • Not Monozygotic • Not a Twin
Age in Years	Age in Years	Ex: 33
Race	Race	<ul style="list-style-type: none"> • Am. Indian/ Alaskan Nat. • Asian/ Nat. Hawaiian/ Othr Pacific Is. • Black or African Am. • White • More than one • Unknown or Not Reported
Ethnicity	Restricted: Ethnicity	<ul style="list-style-type: none"> • Hispanic/ Latino • Not Hispanic/ Latino • Unknown or Not Reported
Height *	<i>Restricted:Height of participant in feet, inches</i>	Ex: 5'6



Variable Name	Description	Values
Weight *	<i>Restricted: Weight of participant in pounds</i>	<i>Ex: 129</i>
BMI *	<i>Body mass index of participant</i>	<i>Typical Range: 19-47</i>
Handedness	<i>Participant handedness calculated on a -100 (left) to 100 (right) Laterality Score</i>	<i>-100 to 100</i>

Category: MR Sessions

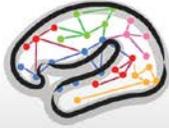
Variable Name	Description	Values
Instrument: Session Information		
Label	MR Session Label	Ex: 100307_3T
Scanner	MR Session Scanner	Ex: HCP3T
Scans	MR Session Scans	

Category: Alertness

Variable Name	Description	Values
Instrument: Cognitive Status (Mini Mental Status Exam / MMSE)		
MMSE Score	Mini Mental Status Exam Total Score	27-30
Instrument: Sleep (Pittsburgh Sleep Questionnaire / PSQI)		
PSQI Score	Sleep (Pittsburgh Sleep Questionnaire) Total Score	0-16

Category: Cognition

Variable Name	Description	Values
Instrument: Episodic Memory (Picture Sequence Memory)		
Picture Sequence Unadjusted	NIH Toolbox Picture Sequence Memory Test Unadjusted Scale Score	70-140
Picture Sequence Adjusted	NIH Toolbox Picture Sequence Memory Test Age-Adjusted Scale Score	55-135
Instrument: Executive Function/Cognitive Flexibility (Dimensional Change Card Sort)		
Card Sort Unadjusted	NIH Toolbox Dimensional Change Card Sort Test Unadjusted Scale Score	80-145
Card Sort Adjusted	NIH Toolbox Dimensional Change Card Sort Test Age-Adjusted Scale Score	65-125



Variable Name	Description	Values
Instrument: Executive Function/Inhibition (Flanker Task)		
Flanker Task Unadjusted	NIH Toolbox Flanker Inhibitory Control and Attention Test Unadjusted Scale Score	90-145
Flanker Task Adjusted	NIH Toolbox Flanker Inhibitory Control and Attention Test Age-Adjusted Scale Score	75-125
Instrument: Fluid Intelligence (Penn Progressive Matrices)		
PMAT24_A_CR	Penn Matrix Test: Number of Correct Responses	0-24
PMAT24_A_SI	Penn Matrix Test: Total Skipped Items (items not presented because maximum errors allowed reached)	0-19
PMAT24_A_RT	Penn Matrix Test: Median Reaction Time for Correct Responses	Typical range: 2730...51730
Instrument: Language/Reading Decoding (Oral Reading Recognition)		
Reading Test Unadjusted	NIH Toolbox Oral Reading Recognition Test Unadjusted Scale Score	80-140
Reading Test Adjusted	NIH Toolbox Oral Reading Recognition Test Age-Adjusted Scale Score	70-135
Instrument: Language/Vocabulary Comprehension (Picture Vocabulary)		
Picture Vocabulary Unadjusted	NIH Toolbox Picture Vocabulary Test Unadjusted Scale Score	85-155
Picture Vocabulary Adjusted	NIH Toolbox Picture Vocabulary Test Age-Adjusted Scale Score	60-155
Instrument: Processing Speed (Pattern Completion Processing Speed)		
Processing Speed Unadjusted	NIH Toolbox Pattern Comparison Processing Speed Test Unadjusted Scale Score	50-135
Processing Speed Adjusted	NIH Toolbox Pattern Comparison Processing Speed Test Age-Adjusted Scale Score	45-130
Instrument: Self-regulation/Impulsivity (Delay Discounting)		
SV_1mo_200	Subjective Value for \$200 at 1 month	0-200
SV_6mo_200	Subjective Value for \$200 at 6 months	0-200
SV_3yr_200	Subjective Value for \$200 at 3 years	0-200
SV_1yr_200	Subjective Value for \$200 at 1 year	0-200
SV_5yr_200	Subjective Value for \$200 at 5 years	0-200
SV_10yr_200	Subjective Value for \$200 at 10 years	0-200
SV_1mo_40K	Subjective Value for \$40,000 at 1 month	0-40000
SV_6mo_40K	Subjective Value for \$40,000 at 6 months	0-40000
SV_1yr_40K	Subjective Value for \$40,000 at 1 year	0-40000



Variable Name	Description	Values
SV_3yr_40K	Subjective Value for \$40,000 at 3 years	0-40000
SV_5yr_40K	Subjective Value for \$40,000 at 5 years	0-40000
SV_10yr_40K	Subjective Value for \$40,000 at 10 years	0-40000
AUC_200	Area Under the Curve for Discounting of \$200 (see formula in Reference Manual)	0.0-1.0
AUC_40K	Area Under the Curve for Discounting of \$40,000 (see formula in Reference Manual)	0.0-1.0
Instrument: Spatial Orientation (Variable Short Penn Line Orientation Test)		
VSPLOT_TC	Penn Line Orientation: Total Number Correct	0-24
VSPLOT_CRTE	Penn Line Orientation: Median Reaction Time Divided by Expected Number of Clicks for Correct Trials	Typical range: 640...2800
VSPLOT_OFF	Penn Line Orientation: Total Positions Off for All Trials	0-165
Instrument: Sustained Attention (Short Penn Continuous Performance Test)		
SCPT_TP	Short Penn CPT True Positives = Sum of CPN_TP and CPL_TP	0-60
SCPT_TN	Short Penn CPT True Negatives = Sum of CPN_TN and CPL_TPN	0-120
SCPT_FP	Short Penn CPT False Positives = Sum of CPN_FP and CPL_FP	0-120
SCPT_FN	Short Penn CPT False Negatives = Sum of CPN_FN and CPL_FN	0-60
SCPT_TPRT	Short Penn CPT Median Response Time for True Positive Responses	0-1000 ms
SCPT_SEN	Short Penn CPT Sensitivity = $SCPT_TP / (SCPT_TP + SCPT_FN)$	Typical range: 0.8-1.0
SCPT_SPEC	Short Penn CPT Specificity = $SCPT_TN / (SCPT_TN + SCPT_FP)$	Typical range: 0.8-1.0
CPT_LRNR	Short Penn CPT Longest Run of Non-Responses)	5-16
Instrument: Verbal Episodic Memory (Penn Word Memory Test)		
IWRD_TOT	Penn Word Memory: Total Number of Correct Responses	0-40
IWRD_RTC	Penn Word Memory: Median Reaction Time for Correct Responses	Typical range: 1100-3200
Instrument: Working Memory (List Sorting)		
List Sorting Unadjusted	NIH Toolbox List Sorting Working Memory Test Unadjusted Scale Score	80-130
List Sorting Adjusted	NIH Toolbox List Sorting Working Memory Test Age-Adjusted Scale Score	60-130



Category: Emotion

Variable Name	Description	Values
Instrument: Emotion Recognition (Penn Emotion Recognition Test)		
ER40_CR	Penn Emotion Recognition: Number of Correct Responses	0-40
ER40_CRT	Penn Emotion Recognition: Correct Responses Median Response Time (ms)	Typical range: 1435-2746
ER40ANG	Penn Emotion Recognition: Correct Anger Identifications	0-8
ER40FEAR	Penn Emotion Recognition: Correct Fear Identifications	0-8
ER40HAP	Penn Emotion Recognition: Correct Happy Identifications	0-8
ER40NOE	Penn Emotion Recognition: Correct Neutral Identifications	0-8
ER40SAD	Penn Emotion Recognition: Correct Sad Identifications	0-8
Instrument: Negative Affect		
Anger-Affect	NIH Toolbox Anger-Affect Survey	28-70
Anger-Hostility	NIH Toolbox Anger-Hostility Survey	36-71
Anger-Aggression	NIH Toolbox Anger-Physical Aggression Survey	43-75
Fear-Affect	NIH Toolbox Fear-Affect Survey	32-70
Fear-Somatic	NIH Toolbox Fear-Somatic Arousal Survey	40-78
Sadness	NIH Toolbox Sadness Survey	34-77
Instrument: Psychological Well-being		
Life Satisfaction	NIH Toolbox General Life Satisfaction Survey	24-75
Meaning and Purpose	NIH Toolbox Meaning and Purpose Survey	30-72
Positive Affect	NIH Toolbox Positive Affect Survey	20-70
Instrument: Social Relationships		
Friendship	NIH Toolbox Friendship Survey	20-67
Loneliness	NIH Toolbox Loneliness Survey	37-76
Perceived Hostility	NIH Toolbox Perceived Hostility Survey	33-72
Perceived Rejection	NIH Toolbox Perceived Rejection Survey	35-75
Emotional Support	NIH Toolbox Emotional Support Survey	27-63
Instrumental Support	NIH Toolbox Instrumental Support Survey	25-63
Instrument: Stress and Self Efficacy		
Perceived Stress	NIH Toolbox Perceived Stress Survey	25-80
Self-Efficacy	NIH Toolbox Self-Efficacy Survey	25-70



Category: Motor

Variable Name	Description	Values
Instrument: Endurance (2 minute walk test)		
Endurance Unadjusted	NIH Toolbox 2-minute Walk Endurance Test Unadjusted Scale Score	Distance walked in feet, 80-145
Endurance Adjusted	NIH Toolbox 2-minute Walk Endurance Test Age-Adjusted Scale Score	Distance walked in feet, 70-145
Instrument: Locomotion (4-meter walk test)		
Locomotion	NIH Toolbox 4-Meter Walk Gait Speed Test	Time in sec, 0.8-1.85
Instrument: Dexterity (9-hole pegboard)		
Dexterity Unadjusted	NIH Toolbox 9-hole Pegboard Dexterity Test Unadjusted Scale Score	Time in sec, 85-145
Dexterity Adjusted	NIH Toolbox 9-hole Pegboard Dexterity Test Age-Adjusted Scale Score	Time in sec, 75-125
Instrument: Strength (Grip Strength Dynamometry)		
Strength Unadjusted	NIH Toolbox Grip Strength Test Unadjusted Scale Score	Force in pounds, 95-145
Strength Adjusted	NIH Toolbox Grip Strength Test Age-Adjusted Scale Score	Force in pounds, 65-145

Category: Personality

Variable Name	Description	Values
Instrument: Five-Factor Model (NEO-FFI)		
NEOFAC_A	NEO-FFI Agreeableness	Typical range: 19-44
NEOFAC_O	NEO-FFI Openness	14-42
NEOFAC_C	NEO-FFI Conscientiousness	23-46
NEOFAC_N	NEO-FFI Neuroticism	4-36
NEOFAC_E	NEO-FFI Extroversion	11-45

Category: Psychiatric, Substance Abuse, and Life Function

Variable Name	Description	Values
Restricted Instrument: Life Function (Achenbach Adult Self-Report, Syndrome Scales and DSM-Oriented Scale)		
ASR_anxdep_raw	Adult Self Report (ASR) Anxious/Depressed Raw Score	0-36



Variable Name	Description	Values
ASR_anxdp_t	ASR Anxious/Depressed Gender and Age Adjusted Percentile	50-100
ASR_wthdp_raw	ASR Withdrawn Raw Score	0-18
ASR_wthdp_t	ASR Withdrawn Gender and Age Adjusted Percentile	50-100
ASR_som_raw	ASR Somatic Complaints Raw Score	0-24
ASR_som_t	ASR Somatic Complaints Gender and Age Adjusted Percentile	50-100
ASR_tho_raw	ASR Thought Problems Raw Score	0-20
ASR_tho_t	ASR Thought Problems Gender and Age Adjusted Percentile	50-100
ASR_att_raw	ASR Attention Problems Raw Score	0-30
ASR_att_t	ASR Attention Problems Gender and Age Adjusted Percentile	50-100
ASR_agg_raw	ASR Aggressive Behavior Raw Score	0-30
ASR_agg_t	ASR Aggressive Behavior Gender and Age Adjusted Percentile	50-100
ASR_rule_raw	ASR Rule Breaking Behavior Raw Score	0-28
ASR_rule_t	ASR Rule Breaking Behavior Gender and Age Adjusted Percentile	50-100
ASR_int_raw	ASR Intrusive Raw Score	0-12
ASR_int_t	ASR Intrusive Gender and Age Adjusted Percentile	50-100
ASR_other_raw	ASR Other Raw Score	0-42
ASR_critical_raw	ASR Critical Items Raw Score	0-34
ASR_computed_internalizing_raw	ASR Internalizing Raw Score	0-78
ASR_computed_internalizing_t	ASR Internalizing Gender and Age Adjusted T-score	30-100
ASR_computed_externalizing_raw	ASR Externalizing Raw Score	0-70
ASR_computed_externalizing_t	ASR Externalizing Gender and Age Adjusted T-score	30-100
ASR_computed_other_raw	ASR Sum of IV, V and Other Raw Score	0-84
ASR_computed_total_raw	ASR Total Raw Score	0-240
ASR_computed_total_t	ASR Total Gender and Age Adjusted T-score	25-100
DSM_dep_raw	ASR Diagnostic and Statistical Manual-Oriented (DSM) Depressive Problems Raw Score	0-28
DSM_dep_t	ASR DSM Depressive Problems Gender and Age Adjusted Percentile	50-100
DSM_anx_raw	ASR DSM Anxiety Problems Raw Score	0-14
DSM_anx_t	ASR DSM Anxiety Problems Gender and Age Adjusted Percentile	50-100
DSM_som_raw	ASR DSM Somatic Problems Raw Score	0-18
DSM_som_t	ASR DSM Somatic Problems Gender and Age Adjusted Percentile	50-100
DSM_avoid_raw	ASR DSM Avoidant Personality Problems Raw Score	0-14



Variable Name	Description	Values
DSM_avoid_t	ASR DSM Avoidant Personality Problems Gender and Age Adjusted Percentile	50-100
DSM_adh_raw	ASR DSM AD/H Problems Raw Score	0-26
DSM_adh_t	ASR DSM AD/H Problems Gender and Age Adjusted Percentile	50-100
DSM_inatt_raw	ASR DSM Inattention Problems Raw Score	0-14
DSM_hyp_raw	ASR DSM Hyperactivity Problems Raw Score	0-12
DSM_asoc_raw	ASR DSM Antisocial Personality Problems Raw Score	0-40
DSM_asoc_t	ASR DSM Antisocial Personality Problems Gender and Age Adjusted Percentile	50-100

Restricted Instrument: Substance Abuse and Drug Screen

Breathalyzer>.05	Any breathalyzer over 0.05	TRUE/FALSE
Breathalyzer>.08	Any breathalyzer over 0.08	TRUE/FALSE
Cocaine	Positive test for Cocaine	TRUE/FALSE
THC	Positive test for THC (Marajuana)	TRUE/FALSE
Opiates	Positive test for Opiates	TRUE/FALSE
Amphetamines	Positive test for Amphetamines	TRUE/FALSE
Methamphetamine	Positive test for Methamphetamine	TRUE/FALSE
Oxycontin	Positive test for Oxycontin	TRUE/FALSE

Category: Sensory

Variable Name	Description	Values
Instrument: Audition (Words in Noise)		
sen_noise_cscr	NIH TB Words-In-Noise Age 6+ (Sensory)	1-12
Instrument: Olfaction (Odor Identification Test)		
sen_odor_uscr	NIH TB Odor Identification Age 3+ (Sensory) Unadjusted Scale Score	93-123
sen_odor_ascr	NIH TB Odor Identification Age 3+ (Sensory) Adjusted Scale Score	70-112
Instrument: Pain (Pain Intensity and Interference Surveys)		
sen_pain_tscr	NIH TB Pain Interference CAT Age 18+ (Sensory)	38-72
Instrument: Taste (Taste Intensity Test)		
Taste Unadjusted	NIH TB Regional Taste Intensity Age 12+ (Sensory) Unadjusted Scale Score	60-130
Taste Adjusted	NIH TB Regional Taste Intensity Age 12+ (Sensory) Adjusted Scale Score	60-130



Variable Name	Description	Values
Restricted Instrument: Vision		
Color Vision	Farnsworth color vision test result	NORMAL, PROTAN, DEUTAN, or TRITIAN
EVA Num	Electronic Visual Acuity Numerator, distance in feet from the EVA system display that the subject's visual acuity was virtually tested. Letters are displayed and the subject (with corrected vision, if applicable) is asked to read the letters at a virtual distance of 20 feet. The subject's ability to read progressively smaller letters is compared with the ability of a person with normal (20/20 Snellen ratio) vision to read letters at 20 feet.	20
EVA Denom	Electronic Visual Acuity Denominator, distance in feet that a person with normal (20/20 Snellen ratio) vision can read letters as well as the subject (with corrected vision, if applicable) can read letters at a virtual distance of 20 feet (value of the EVA numerator). A value less than 20 means the subject has better than normal vision, a value greater than 20 means the subject has poorer than normal vision.	Typical range: 10-25
Instrument: Contrast Sensitivity (Mars Contrast Sensitivity)		
mars_log_score	Contrast Sensitivity Score	Typical range: 1.72-1.92
mars_errs	Errors on Mars	0-2
mars_final	Final Contrast Sensitivity Score (Higher scores indicate better contrast sensitivity)	Typical range: 1.68-1.92