

## VARIABLE NAMES & EXPLANATIONS FOR MIDUS REFRESHER 1 PROJECT 5

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**Character 1:** MIDUS Sample

R = MIDUS Refresher

**Character 2:** MIDUS Wave

A = Wave 1

**Character 3:** Project #

5 = Project #5

**Character 4:** Measure

S = Self-reports

B = Startle Eyeblink

C = Corrugator EMG

L = Zygomaticus EMG

K = Heart Rate Variability (QRSTool and CMetX – used in MR1 only)

R = Psychophysiology Emotional Response Task - Response Times

A = Psychophysiology Emotional Response Task - Response Accuracy

N = CANTAB Cognitive measures

D = Cube & Paper Test

F = Free Recall

T = Picture Ratings

P = Participant Characteristics

H = Handedness

O = Hearing Test

I = General MRI Information

E = Extracted Structural Brain Measurements

W = Extracted Diffusion Weighted Imaging Measurements

*Remaining characters differ to build discrete variables, but all within the given measure type set by character 4.*

**For Ch4 = S (i.e., Self-reports):**

**Character(s) 5 (& 6):** Scale

DP = Dispositional Positive Affect Scale (DPES)

P = Positive and Negative Affect Schedule (PANAS)

IR = Interpersonal Reactivity Index (IRI)

S = Spielberger State-Trait Anxiety Scale (STAI)

E = Emotion Regulation Questionnaire (ERQ)

**For Ch5 & 6 = DP (i.e., DPES):**

**Character 7:** Subscale

C = Contentment

J = Joy

H = Hope

L = Love/Attachment

D = Desire

O = Compassion

P = Pride

G = Gratitude

A = Amusement

W = Awe  
I = Interest  
T = All scales summary score

**Characters 8 & 9: Measure**

None = Summary Measures  
Numbers = Individual Questions

**For Ch5 = P (i.e., PANAS):**

**Character 6: Time Point**

1 = PANAS-Now, Time 1 (prior to Psychophysiology Emotional Response Task)  
2 = PANAS-Now, Time 2 (after Psychophysiology Emotional Response Task)  
3 = PANAS-Now, Time 3 (prior to fMRI Emotional Response Task)  
4 = PANAS-Now, Time 4 (after fMRI Emotional Response Task)  
G = PANAS-General

**Character 7: Subscale**

P = Positive Affect  
N = Negative Affect

**Characters 8 & 9: Measure**

None = Summary Measures  
Numbers = Individual Questions

**For Ch5 & 6 = IR (i.e., IRI):**

**Characters 7 & 8: Subscale**

PT = Perspective-Taking Scale  
FS = Fantasy Scale  
EC = Empathic Concern Scale  
PD = Personal Distress Scale  
None = All scales summary score

**Characters 9 & 10: Measure**

None = Summary Measures  
Numbers = Individual Questions

**For Ch5 = S (i.e., STAI):**

**Character 6: Time Point**

1 = STAI-X1, Time 1 (prior to Psychophysiology Emotional Response Task)  
2 = STAI-X1, Time 2 (after Psychophysiology Emotional Response Task)  
3 = STAI-X1, Time 3 (prior to fMRI Emotional Response Task)  
4 = STAI-X1, Time 4 (after fMRI Emotional Response Task)  
T = STAI-X2, Trait anxiety form of STAI

**Characters 7 & 8: Measure**

None = Summary Measures  
Numbers = Individual Questions numbers

**For Ch5 = E (i.e., ERQ):**

**Character 6: Subscale**

R = Reappraisal  
S = Suppression

**Characters 7 & 8: Measure**

None = Summary Measures  
Numbers = Individual Questions numbers

**For Ch4 = B (i.e., Eyeblink Startle):**

RA5B = Number of valid eyeblink startle responses measured over entire paradigm

RA5BF = Filter for good eyeblink startle response data

**Character 5:** Picture Valence

N = Negative

O = Neutral

P = Positive

**Character 6:** Probe Time

E = Early (2900 ms after picture onset)

M = Mid (4400 ms after picture onset)

L = Late (5900 ms after picture onset)

**Character 7:** Metric

A = Amplitude (includes only responses, so assesses height of response)

M = Magnitude (includes no responses as a zero, so averaging will be affected by no responses)

**For Ch4 = C or L** (i.e., Corrugator and Zygomaticus EMG):

RA5C = Filter for good corrugator data (bad corrugator data might exhibit high levels of noise and/or artifact)

RA5L = Filter for good zygomatic data (bad zygomatic data might exhibit high levels of noise and/or artifact)

**Character 5:** Picture Valence

N = Negative

O = Neutral

P = Positive

**Character 6:** Time

E = Early (1-4 seconds following picture onset)

M = Middle (5-8 seconds following picture onset)

L = Late (9-12 seconds following picture onset)

**For Ch4 = K** (i.e., Heart Rate Variability – processed with QRSTool and CMetX)

**Character 5:** Session Type

1 = Psychophysiology baseline

2 = MRI resting state

**Characters 6 & 7:** Heart rate variability metric

FV = Filter variable for good HRV data

LF = low frequency band

HF = high frequency band

FF = ratio low frequency over high frequency

HR = heart rate

NI = Number of interbeat intervals

MI = Mean interbeat interval

MH = Mean heart rate

SN = Standard deviation of RR beats (SDNN)

RM = Root means squared successive differences between RR intervals (RMSSD)

MS = Mean of successive differences between RR intervals (MSD)

PN = "Percentage of successive normal to normal intervals that differ by more than 50 milliseconds" (PNN50) (Shaffer, McCraty & Zerr, 2014)

CV = Cardiac vagal index (CVI)

CS = Cardiac sympathetic index (CSI)

TL = ToichiL (length of longitudinal axis in Lorenz plot of interbeat intervals (Toichi, Sugiura, Murai, & Sengoku, 1997))

TT = ToichiT (length of transverse axis in Lorenz plot of interbeat intervals  
(Toichi, Sugiura, Murai, & Sengoku, 1997))  
LH = logHRV (log of time variance in unfiltered interbeat interval series)  
LR = logRSA (log of respiratory sinus arrhythmia)  
AT = CMetX artifact threshold (in milliseconds) (Allen, Chambers, & Towers, 2007)

**For Ch4 = R or A** (i.e., Psychophysiology Emotional Response Task reaction time and accuracy):

**Character 5:** Picture Valence

N = Negative

O = Neutral

P = Positive

**For Ch4 = N** (i.e., CANTAB cognitive assessments):

**Character 5:** Test type

M = Motor Screening Task (MOT)

I = Intra-Extra Dimensional Set Shift (IED)

A = Affective Go/No-Go (AGN)

S = Information Sampling Task (IST)

T = Attention Switching Task (AST)

E = Emotion Recognition Task (ERT)

G = Cambridge Gambling Task (CGT)

**For Ch5 = M** (i.e., MOT):

**Character 6:** Measure

E = Mean Error

L = Mean Latency

**For Ch5 = I** (i.e., IED):

**Character(s) 6 (& 7):** Measure type

Numbers = Summary stage-related measures. See table in  
*MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206* for list of  
measures

T = Totals

C = Calculated Measures

S = Stages

**For Ch6 = T or C:**

**Characters 7 & 8:** Measure

Numbers = Total measures. See table in

*MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206* for  
list of measures

**For Ch6 = S:**

**Character 7:** Type

T = Trials per stage

E = Errors per stage

**Character 8:** Stage Number

Numbers = Stages #1-9

**For Ch5 = A** (i.e., AGN):

**Character 6:** Measure

R = Affective Response Bias (Mean)

L = Mean Correct Latency

T = Total Incorrect (Commissions/Omissions errors)

**For Ch6 = L:**

**Characters 7 & 8:** Trial Type

Numbers = Condition (Positive/Negative/Neutral, Shift/Non-shift)

**For Ch6 = T:**

**Character 7:** Total Incorrect Responses/Non-responses

M = Total Commissions

O = Total Omissions

**Character 8:** Trial Type

None = Total

Numbers = Condition (Positive/Negative/Neutral, Shift/Non-shift)

**For Ch5 = S (i.e., IST):**

**Characters 6 & 7:** Measure

Numbers = See table in *MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206*  
for list of measures

**For Ch5 = T (i.e., AST):**

**Character 6:** Measure Type

T = Totals

P = Percentages

L = Latency-Related Measures

C = Cost-Related Measures

**For Ch6 = T, P, or L:**

**Characters 7 & 8:** Measure

Numbers = See table in

*MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206* for  
list of measures

**For Ch6 = C:**

**Character 7:** Measure/Trial Type

C = Mean Congruency Cost

S = Mean Switch Cost

**For Ch7 = C or S:**

**Character 8:** Response Type

C = Correct

I = Incorrect

None = All Responses (Correct & Incorrect)

**For Ch5 = E (i.e., ERT):**

**Character 6:** Measure Type

P = Percentages

T = Totals

L = Latency-Related Measures

**For Ch6 = P or T:**

**Character 7:** Response Type

C = Correct

I = Incorrect

**Character 8:** Stimulus Type

Numbers = See table in  
*MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206* for  
list of measures  
None = Total Correct (All Stimulus Types)

**For Ch6 = L:**

**Characters 7 & 8:** Stimulus/Response Type

Numbers = See table in  
*MR1\_P5\_DOCUMENTATION\_OF\_CANTAB\_20260206* for  
list of measures  
None = Mean Overall Response Latency

**For Ch5 = G (i.e., CGT):**

**Character 6:** Measure Type

A = Delay Aversion  
D = Deliberation Time  
P = Overall Proportion Bet  
Q = Quality of Decision-Making  
J = Risk Adjustment  
R = Risk Taking

**Character 7:** Trial Type

A = Ascending Trials  
D = Descending Trials  
None = All Trials

**For Ch4 = D (i.e., Cube & Paper Test):**

RA5D = Cube & Paper Total Correct

**Character 5:** Measure

R = Cube & Paper Total Number of Responses  
C = Cube subset  
P = Paper subset

**For Ch5 = C or P:**

**Character 6:** Subset - Correct vs Number of Responses

A = Number of Correct Response  
B = Number of Responses

**For Ch4 = F (i.e., Free Recall):**

**Character 5:** Measure

R = Total Recalled  
S = Total Recalled (Social)  
X = Total Recalled (Non-Social)  
P = Total Recalled (Positive)  
N = Total Recalled (Negative)  
O = Total Recalled (Neutral)

**For Ch4 = T (i.e., Picture Ratings):**

**Character 5:** Rating Scale

V = Valence  
A = Arousal

**Character 6:** Picture Valence

P = Positive  
N = Negative  
O = Neutral

**Character 7: Session**

1 = Psychophysiology

**For Ch4 = P (i.e., Participant Characteristic):**

RA5PAGE = Age at P5 visit  
RA5PDATE\_MO = Month of P5 data collection  
RA5PDATE\_YR = Year of P5 data collection

**Character 5: Participant Characteristic**

H = Height  
W = Weight  
B = BMI

**For Ch5 = H:**

**Character 6: Units of Measurement**

M = Metric (Centimeters)  
C = Feet/Inches

**For Ch4 = H (i.e., Handedness):**

RA5HAND = Handedness

**For Ch4 = O (i.e., Hearing Test):**

**Character 5: Side of hearing test**

L = Left Ear  
R = Right Ear

**Character 6: Frequency of tone**

1 = 250 Hz  
2 = 500 Hz  
3 = 1000 Hz

**For Ch4 = I (i.e., General MRI Information):**

**Character 5:**

C = Filter for participation in MRI imaging protocol (completed at least T1-weighted structural scan)  
F = Radiologist flagged abnormal structural MRI  
N = Self-reported neurological condition  
T = Time MRI started (military time)

**For Ch5 = T:**

**Character 6: MRI scan**

S = Structural scan start time  
F = Functional scan start time

**For Ch4 = E (i.e., Extracted Structural Brain Measurements):**

**Character 5: Measurement Type**

A = Cortical Area  
C = Cortical Curvature

T = Cortical Thickness  
V = Cortical Volume  
S = Subcortical Volume  
B = Brain-Predicted Age

**For Ch5 = A, C, T, V, S:**

**Character 6:** Brain Hemisphere

L = Left Hemisphere  
R = Right Hemisphere  
N = N/A: Measure is bilateral

**Character 7:** Freesurfer Brain Atlas or Module

D = Destrieux  
K = Desikan-Killiany  
T = Desikan-Killiany-Tourville (DKT)  
A = Aseg Subcortical Atlas or Hippocampal Subfield/Amygdala Nuclei Module

**Characters 8 & 9:**

Numbers = See table in  
*MR1\_P5\_DOCUMENTATION\_OF\_BRAIN\_MEASURES\_20260206*  
for list of measures

**For Ch5 = B (i.e., Brain-Based Aging Algorithms):**

**Character 6:** Algorithm

None = RA5EB - Cole brainageR v1.0 - <https://github.com/james-cole/brainageR/tree/1.0>  
C = Cole brainageR v2.0 - <https://github.com/james-cole/brainageR/tree/2.0>  
T = TSAN brainage - PMID: 34086565 - <https://github.com/Milan-BUAA/TSAN-brain-age-estimation>  
P = 3D-CNN brainage - PMID: 36595679 - [https://github.com/irimia-laboratory/USC\\_BA\\_estimator](https://github.com/irimia-laboratory/USC_BA_estimator)  
D = DunedinPACNI Dunedin Pace of Aging Calculated from NeuroImaging - PMID: 40595015 - <https://github.com/etw11/DunedinPACNI>

**For Ch4 = W (i.e., Extracted Diffusion Weighted Imaging Measurements):**

**Character 5:** Measurement Type

F = Fractional Anisotropy (FA)  
M = Mean Diffusivity (MD)  
R = Radial Diffusivity (RD)  
A = Axial Diffusivity (AD)

**Character 6:** Brain Hemisphere

G = Global Measure  
L = Left Hemisphere  
R = Right Hemisphere  
N = N/A: Measure is bilateral

**Character 7:** Method Used

I = IIT Atlas v4.1  
J = JHU Atlas  
T = Manual Tractography

**Characters 8 & 9:**

Numbers = See table in  
*MR1\_P5\_DOCUMENTATION\_OF\_BRAIN\_MEASURES\_20260206* for list  
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