

0.1 Data Analysis

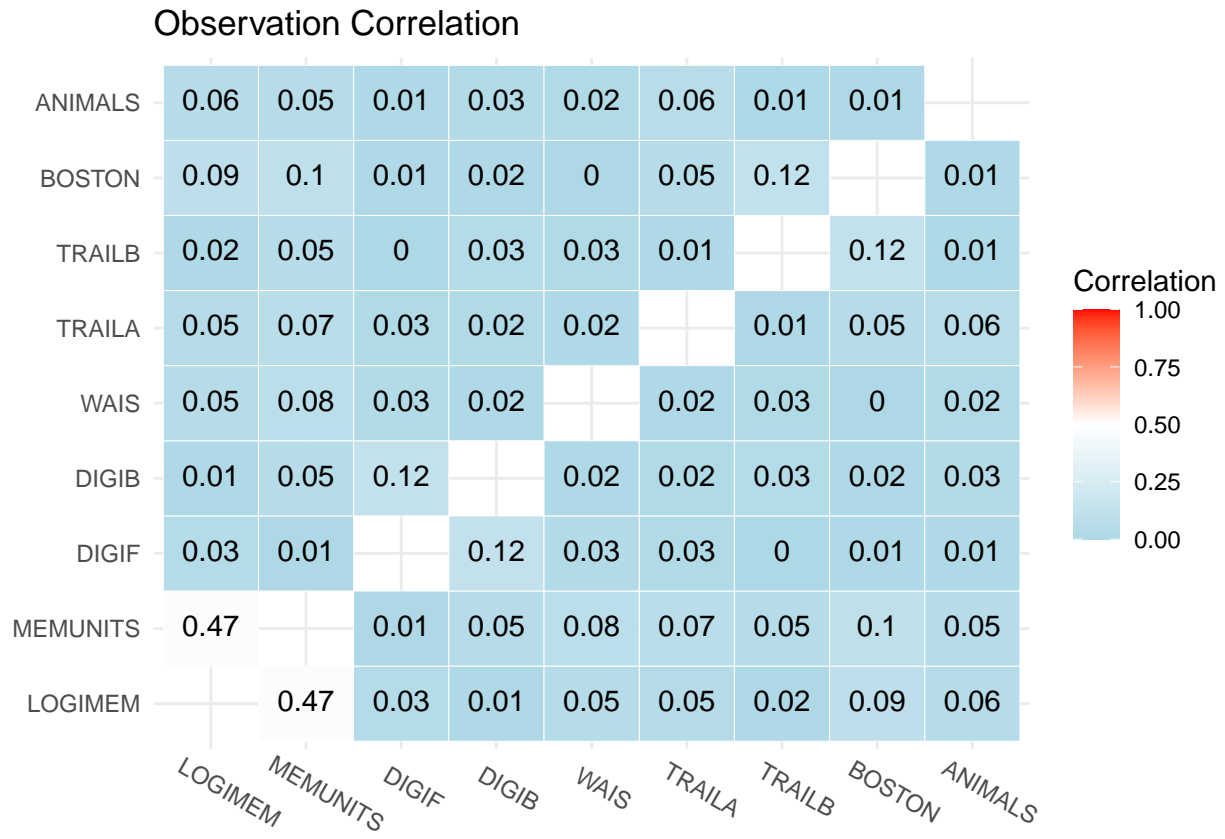
Using the MLLT model which allows correlation in the observation errors and underlying cognitive process (OS), we carry out an analysis on the NACC data with the outcomes and predictors of interest as described in (section _____). The Gibb's sampling was repeated 5,000 times with a burn-in of 2,000 samples. Non-informative priors are used for both the linear effects and covariance matrices.

0.1.1 Data Analysis Results

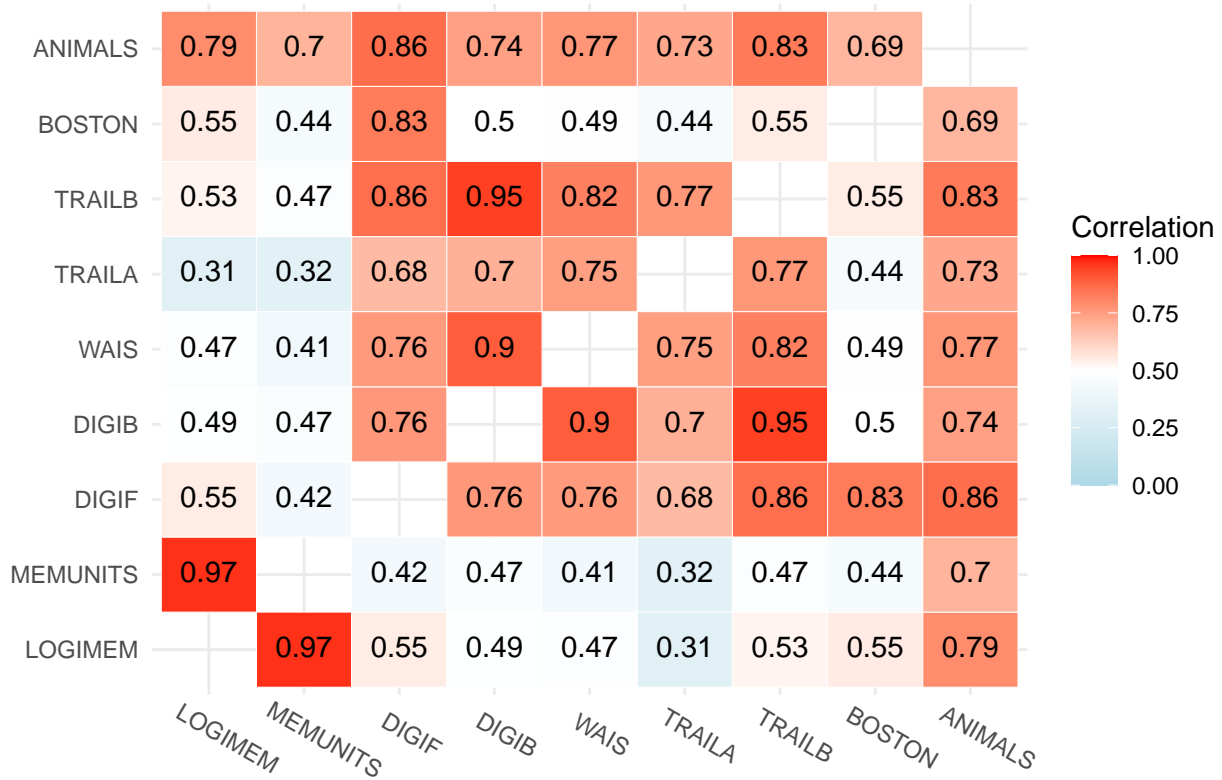
0.1.1.1 Dementia

	LOGIMEM	MEMUNITS	DIGIF	DIGIB	WAIS
time	-0.08 (-0.27, 0.10)	-0.01 (-0.20, 0.18)	-0.17 (-0.31, -0.03)	-0.39 (-0.54, -0.24)	-0.18 (-0.33, -0.03)
RACEWHITE	-0.25 (-0.41, -0.09)	-0.30 (-0.46, -0.15)	-0.05 (-0.17, 0.06)	0.05 (-0.07, 0.18)	-0.23 (-0.34, -0.12)
SEX	-0.15 (-0.29, -0.02)	-0.21 (-0.36, -0.07)	0.08 (-0.02, 0.17)	0.10 (-0.00, 0.20)	0.01 (-0.11, 0.13)
APOE	-0.24 (-0.42, -0.06)	-0.22 (-0.40, -0.04)	0.01 (-0.12, 0.14)	0.24 (0.11, 0.38)	-0.03 (-0.16, 0.10)
APOESEX	0.11 (-0.10, 0.33)	-0.01 (-0.23, 0.22)	-0.09 (-0.24, 0.06)	-0.30 (-0.46, -0.14)	-0.15 (-0.31, 0.00)
EDUC	0.00 (-0.00, 0.01)	0.00 (-0.00, 0.01)	0.00 (-0.00, 0.01)	0.00 (-0.00, 0.01)	-0.01 (-0.01, -0.00)
DEC	-0.17 (-0.30, -0.05)	-0.10 (-0.24, 0.02)	-0.11 (-0.22, -0.00)	-0.16 (-0.27, -0.05)	-0.31 (-0.41, -0.21)
AgeBase	-0.01 (-0.02, -0.01)	-0.02 (-0.02, -0.01)	0.00 (-0.00, 0.01)	-0.01 (-0.01, -0.00)	-0.01 (-0.02, -0.01)

	TRAILA	TRAILB	BOSTON	ANIMALS
time	-0.26 (-0.48, -0.04)	-0.46 (-0.67, -0.27)	-0.06 (-0.25, 0.10)	-0.20 (-0.38, -0.04)
RACEWHITE	-0.11 (-0.28, 0.07)	-0.06 (-0.21, 0.11)	-0.12 (-0.26, 0.03)	-0.30 (-0.43, -0.16)
SEX	0.12 (-0.05, 0.29)	0.07 (-0.09, 0.22)	-0.15 (-0.27, -0.03)	-0.08 (-0.21, 0.04)
APOE	0.05 (-0.13, 0.24)	-0.05 (-0.22, 0.12)	-0.06 (-0.23, 0.11)	-0.11 (-0.27, 0.04)
APOESEX	-0.25 (-0.47, -0.02)	-0.19 (-0.41, 0.02)	0.03 (-0.15, 0.23)	-0.04 (-0.23, 0.13)
EDUC	-0.01 (-0.01, 0.00)	-0.00 (-0.01, 0.00)	0.00 (-0.01, 0.01)	0.00 (-0.00, 0.01)
DEC	-0.44 (-0.59, -0.28)	-0.26 (-0.40, -0.12)	-0.33 (-0.44, -0.21)	-0.13 (-0.25, -0.01)
AgeBase	-0.02 (-0.02, -0.01)	-0.02 (-0.02, -0.01)	-0.01 (-0.02, -0.01)	-0.01 (-0.02, -0.01)



State Correlation



0.1.1.2 Non-Dementia

	LOGIMEM	MEMUNITS	DIGIF	DIGIB	WAIS
time	0.09 (0.04, 0.14)	0.14 (0.09, 0.19)	-0.02 (-0.07, 0.02)	-0.06 (-0.11, -0.02)	-0.08 (-0.11, -0.05)
RACEWHITE	0.13 (0.09, 0.18)	0.13 (0.09, 0.17)	0.00 (-0.04, 0.04)	0.06 (0.02, 0.10)	0.01 (-0.01, 0.04)
SEX	0.05 (0.01, 0.09)	0.03 (-0.01, 0.07)	-0.04 (-0.08, -0.01)	-0.00 (-0.04, 0.03)	0.01 (-0.01, 0.04)
APOE	-0.01 (-0.07, 0.05)	-0.04 (-0.10, 0.02)	0.00 (-0.06, 0.06)	0.00 (-0.06, 0.06)	-0.00 (-0.05, 0.03)
APOESEX	-0.06 (-0.13, 0.02)	-0.00 (-0.07, 0.07)	-0.01 (-0.08, 0.06)	0.02 (-0.05, 0.08)	-0.02 (-0.06, 0.03)
EDUC	0.00 (0.00, 0.01)	0.00 (0.00, 0.01)	0.00 (-0.00, 0.00)	0.00 (0.00, 0.01)	0.00 (0.00, 0.00)
AgeBase	-0.01 (-0.01, -0.01)	-0.01 (-0.01, -0.01)	-0.01 (-0.01, -0.00)	-0.01 (-0.01, -0.01)	-0.01 (-0.01, -0.01)

	TRAILA	TRAILB	BOSTON	ANIMALS
time	-0.06 (-0.10, -0.01)	-0.14 (-0.18, -0.09)	-0.00 (-0.04, 0.03)	-0.08 (-0.13, -0.04)
RACEWHITE	0.01 (-0.02, 0.05)	0.08 (0.04, 0.12)	0.06 (0.03, 0.09)	0.04 (-0.00, 0.08)
SEX	0.01 (-0.02, 0.05)	-0.03 (-0.06, 0.00)	0.01 (-0.02, 0.04)	0.01 (-0.03, 0.04)
APOE	-0.00 (-0.06, 0.06)	-0.01 (-0.06, 0.04)	-0.02 (-0.07, 0.02)	-0.00 (-0.06, 0.05)
APOESEX	-0.00 (-0.07, 0.07)	0.01 (-0.05, 0.08)	0.01 (-0.05, 0.06)	-0.05 (-0.12, 0.02)
EDUC	0.00 (-0.00, 0.00)	0.00 (0.00, 0.01)	0.00 (-0.00, 0.00)	0.00 (-0.00, 0.00)
AgeBase	-0.02 (-0.02, -0.01)	-0.01 (-0.02, -0.01)	-0.01 (-0.01, -0.01)	-0.01 (-0.01, -0.01)

