Supplemental Material

11/30/2020

Contents

Contents

```
read_chunk("meta.R")
```

Load Workspace

```
options(knitr.kable.NA = "")

num <- function(x, digits = 2, int = F) {
    num_internal = function(x = x) {
        if (is.character(x))
            x = as.numeric(x)
        if (int == TRUE)
            digits = 0
        if (int == FALSE)
            y <- prettyNum(round(x, digits))
        if (int == TRUE)
            y <- prettyNum(round(x), big.mark = ",")
        if (grepl("\\.", y))
            z <- strsplit(y, "\\.")
        if (grepl("\\.", y) & int == F) {
            y <- paste0(y, paste(rep(0, digits - nchar(z[[1]][2])), collapse = ""))
```

```
        } else if (!grepl("\\.", y) & int == F & digits != 0) {
            y <- paste0(y, ".", paste(rep(0, digits), collapse = ""))
        }
        return(y)
    }
    if (length(x) == 1) {
        num_internal(x)
    } else sapply(x, num_internal)
}

# EAS = EAS; SATSA = MAP; ROS = ROS; MAP = SATSA
study.names = c("EAS", "SATSA", "ROS", "MAP")

for (i in study.names) {
    load(paste0("/Users/ekg870/Box Sync/Academics/Research/Admin Supplement Projects/JRP_Stage1/",
        i, "_output.Rdata"))
}

# for(i in study.names){
# load(paste0('P:\\Projects\\Personality\\JRP_1\\Data\\all_data\\',
# i, '_output.Rdata')) }

# SATSA_output = `SATSA_output-2level` rm(`SATSA_output-2level`)
```

Introduction to the Supplemental File.

The following document contains model summaries for all results that are not presented in the main manuscript. This includes: models that evaluated the two time metrics separately (age and time since dementia are presented together in the main manuscript), and models that did not adjust for covariates. Code to recreate this document can be found on OSF (https://osf.io/32wgf/).

0. Intercept Only Model

Table S1: Intercept Only Model

coef	EAS	MAP	ROS	SATSA
Intercept	-0.07	-0.14	-0.14	-0.12
(se)	0.03	0.02	0.03	0.03
	p = 0.021	p < .001	p < .001	p < .001
τ_{00}	0.77	0.94	0.89	0.77
σ^2	0.31	0.24	0.29	0.29
ICC	0.71	0.80	0.76	0.72
$N_{totalobs}$	2,907	14,293	14,522	3,733
Log Likelihood	-3244	-13284	-13911	-4001
NA	737	2,175	1,477	836

[a] ICC = Intra-Class Correlation;

Random-Effects Model (k = 4; tau^2 estimator: REML)

logLik deviance AIC BIC AICc 6.2073 -12.4147 -8.4147 -10.2175 3.5853

tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0006) tau (square root of estimated tau^2 value): 0.0004 I^2 (total heterogeneity / total variability): 0.02% H^2 (total variability / sampling variability): 1.00

Test for Heterogeneity: Q(df = 3) = 3.4724, p-val = 0.3244

Model Results:

estimate se zval pval ci.lb ci.ub -0.1276 0.0134 -9.4937 <.0001 -0.1540 -0.1013 ***

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

1. Cognitive Change as Function of Age

This section contains results from the models testing cognitive slopes with age as the time metric. There are three sets of models: 1) age, with fixed effect for slope only and no covariates; 2) age, with random effects, and no covariates; 3) age, with fixed effects, and with covariates. The fourth model, age with random effects and covariates, is presented in the main manuscript.

1.1. Age, with fixed effect only

Table S2: Cognitive Trajectories Across Age (fixed slopes only)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.82	0.98	0.72	0.29
(se)	0.09	0.03	0.03	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.04	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Random Effects				
Intercept Variance	0.76	0.86	0.75	0.62
Residual(σ^2)	0.30	0.21	0.25	0.21
N_{people}	736	2,175	1,477	836
$N_{totalobs}$	2,906	14,293	14,522	3,733
Log Likelihood	-3192	-12332	-12779	-3420

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  12.3991  -24.7983  -20.7983  -22.6010   -8.7983
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0038
## I^2 (total heterogeneity / total variability):   90.81%
## H^2 (total variability / sampling variability):  10.88
##
## Test for Heterogeneity:
## Q(df = 3) = 32.1116, p-val < .0001
##
## Model Results:
##
## estimate      se      zval    pval    ci.lb    ci.ub
##  -0.0437  0.0021  -20.7562  <.0001  -0.0478  -0.0396  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

1.2. Age, with fixed and random effects

Table S3: Cognitive Trajectories Across Age (with random slopes)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.90	1.37	1.21	0.35
(se)	0.11	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.05	-0.06	-0.06	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Random Effects				
Intercept Variance	2.67	3.40	1.75	0.75
Slope Variance	0.01	0.01	0.01	0.00
Int-Slope Cov	-0.12	-0.13	-0.08	-0.01
Residual(σ^2)	0.27	0.14	0.16	0.15
N_{people}	736	2,175	1,477	836
$N_{totalobs}$	2,906	14,293	14,522	3,733
Log Likelihood	-3156	-11185	-11110	-3262

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   9.3051  -18.6102  -14.6102  -16.4129   -2.6102
##
## tau^2 (estimated amount of total heterogeneity): 0.0001 (SE = 0.0001)
## tau (square root of estimated tau^2 value):      0.0106
## I^2 (total heterogeneity / total variability):   94.80%
## H^2 (total variability / sampling variability):  19.24
##
## Test for Heterogeneity:
## Q(df = 3) = 75.9274, p-val < .0001
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.0535  0.0055  -9.6939  <.0001  -0.0643  -0.0427  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

1.3. Age, with fixed effect only, including covariates

Table S4: Cognitive Trajectories Across Age (fixed slopes only, and covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.44	0.30	0.07	0.22
(se)	0.1	0.08	0.09	0.04
	p < .001	p < .001	p = 0.223	p < .001
Age	-0.05	-0.05	-0.04	-0.04
(se)	0	0	0	0
	p < .001	p < .001	p < .001	p < .001
Sex	0.00	0.26	0.30	0.09
(se)	0.06	0.04	0.05	0.05
	p = 0.474	p < .001	p < .001	p = 0.044
Race	0.67	0.53	0.47	
(se)	0.07	0.08	0.08	
	p < .001	p < .001	p < .001	
Education	0.23	0.31	0.23	0.33
(se)	0.03	0.02	0.02	0.03
	p < .001	p < .001	p < .001	p < .001
Random Effects				
Intercept Variance	0.58	0.73	0.67	0.51
Residual(σ^2)	0.30	0.21	0.24	0.21
N_{people}	736	2,175	1,476	827
$N_{totalobs}$	2,906	14,293	14,499	3,691
Log Likelihood	-3111	-12175	-12642	-3303

[a] ICC = Intra-Class Correlation;

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  12.2175  -24.4351  -20.4351  -22.2378   -8.4351
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0040
## I^2 (total heterogeneity / total variability):   91.77%
## H^2 (total variability / sampling variability):  12.16
##
## Test for Heterogeneity:
## Q(df = 3) = 37.3125, p-val < .0001
##
## Model Results:
##
## estimate      se      zval    pval    ci.lb    ci.ub
##  -0.0440  0.0022  -19.9737  <.0001  -0.0483  -0.0396  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

1.4. Age, with random effects, including covariates. Table and meta analysis presented in main manuscript

Table S5: Cognitive Trajectories Across Age (with random slopes and covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.50	0.64	0.40	0.27
(se)	0.11	0.1	0.09	0.05
	p < .001	p < .001	p < .001	p < .001
Age	-0.05	-0.06	-0.06	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Sex	0.03	0.30	0.38	0.11
(se)	0.06	0.05	0.05	0.06
	p = 0.327	p < .001	p < .001	p = 0.027
Random Effects				
Race	0.69	0.53	0.59	
(se)	0.06	0.08	0.08	
	p < .001	p < .001	p < .001	
Education	0.25	0.32	0.21	0.34
(se)	0.03	0.02	0.02	0.03
	p < .001	p < .001	p < .001	p < .001
Intercept Variance	1.70	2.87	1.46	0.64
Slope Variance	0.01	0.01	0.00	0.00
Int-Slope Cov	-0.09	-0.11	-0.07	-0.01
Residual(σ^2)	0.27	0.14	0.16	0.15
N_{people}	736	2,175	1,476	827
$N_{totalobs}$	2,906	14,293	14,499	3,691
Log Likelihood	-3061	-11035	-10996	-3148

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   9.3451  -18.6902  -14.6902  -16.4929   -2.6902
##
## tau^2 (estimated amount of total heterogeneity): 0.0001 (SE = 0.0001)
## tau (square root of estimated tau^2 value):      0.0105
## I^2 (total heterogeneity / total variability):   95.03%
## H^2 (total variability / sampling variability):  20.13
##
## Test for Heterogeneity:
## Q(df = 3) = 85.1080, p-val < .0001
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.0540  0.0055  -9.8852  <.0001  -0.0647  -0.0433  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Mixed-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   7.1072  -14.2145   -8.2145  -12.1350   15.7855
##
## tau^2 (estimated amount of residual heterogeneity):     0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):             0.0053
```

```
## I^2 (residual heterogeneity / unaccounted variability): 77.69%
## H^2 (unaccounted variability / sampling variability):   4.48
## R^2 (amount of heterogeneity accounted for):            74.37%
##
## Test for Residual Heterogeneity:
## QE(df = 2) = 5.8046, p-val = 0.0549
##
## Test of Moderators (coefficient 2):
## QM(df = 1) = 7.7219, p-val = 0.0055
##
## Model Results:
##
##              estimate      se     zval    pval    ci.lb    ci.ub
## intrcpt       -0.0411  0.0056  -7.3713  <.0001  -0.0520  -0.0302  ***
## countryU.S.   -0.0184  0.0066  -2.7788  0.0055  -0.0314  -0.0054   **
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Mixed-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   7.1072  -14.2145   -8.2145  -12.1350   15.7855
##
## tau^2 (estimated amount of residual heterogeneity):     0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):             0.0053
## I^2 (residual heterogeneity / unaccounted variability): 77.69%
## H^2 (unaccounted variability / sampling variability):   4.48
## R^2 (amount of heterogeneity accounted for):            74.37%
##
## Test for Residual Heterogeneity:
## QE(df = 2) = 5.8046, p-val = 0.0549
##
## Test of Moderators (coefficient 2):
## QM(df = 1) = 7.7219, p-val = 0.0055
##
## Model Results:
##
##            estimate      se      zval    pval    ci.lb    ci.ub
## intrcpt     -0.0595  0.0036  -16.6188  <.0001  -0.0665  -0.0525  ***
## interval3    0.0184  0.0066    2.7788  0.0055   0.0054   0.0314   **
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Mixed-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.0591  -10.1183   -2.1183  -10.1183   37.8817
##
## tau^2 (estimated amount of residual heterogeneity):     0 (SE = 0.0000)
## tau (square root of estimated tau^2 value):             0
## I^2 (residual heterogeneity / unaccounted variability): 0.00%
```

```
## H^2 (unaccounted variability / sampling variability):   1.00
## R^2 (amount of heterogeneity accounted for):            100.00%
##
## Test for Residual Heterogeneity:
## QE(df = 1) = 0.2368, p-val = 0.6265
##
## Test of Moderators (coefficients 2:3):
## QM(df = 2) = 84.8712, p-val < .0001
##
## Model Results:
##
##                     estimate      se      zval    pval    ci.lb    ci.ub
## intrcpt              -0.0411  0.0017  -24.2413  <.0001  -0.0444  -0.0378  ***
## personalityIPIP      -0.0084  0.0055   -1.5211  0.1282  -0.0192   0.0024
## personalityNEO-FFI   -0.0214  0.0023   -9.1962  <.0001  -0.0259  -0.0168  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

2. Cognitive Change as Function of Age and Time Since Dementia Diagnosis.

This section contains results from the models testing cognitive slopes with age as the time metric, as well as time since dementia diagnosis. There are three sets of models: 1) model with fixed effect for slope only and no covariates; 2) model with fixed and random effects, and no covariates; 3) model with fixed and random effects, as well as covariates. The fourth set of models, with random effects and covariates, is presented in the main manuscript.

2.1. Age and Time Since Dementia Diagnosis, fixed effects only

Table S6: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis (fixed slopes only)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.72	0.86	0.64	0.29
(se)	0.09	0.03	0.03	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.04	-0.04	-0.04
(se)	0	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.27	-0.14	-0.15	-0.12
(se)	0.1	0.01	0	0.03
	p < .001	p < .001	p < .001	p < .001
Random Effects				
Intercept Variance	0.71	0.80	0.66	0.62
Residual(σ^2)	0.29	0.20	0.23	0.21
N_{people}	736	2,175	1,477	836
$N_{totalobs}$	2,906	14,293	14,522	3,733
Log Likelihood	-3105	-12084	-12318	-3411

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -2.5299    5.0598    9.0598    7.2570   21.0598
##
## tau^2 (estimated amount of total heterogeneity): 0.3093 (SE = 0.2545)
## tau (square root of estimated tau^2 value):      0.5562
## I^2 (total heterogeneity / total variability):   99.97%
## H^2 (total variability / sampling variability):  3525.98
##
## Test for Heterogeneity:
## Q(df = 3) = 140.9497, p-val < .0001
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.4136  0.2792  -1.4816  0.1384  -0.9608  0.1335
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

2.2. Age and Time Since Dementia Diagnosis, with random effects

Table S7: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis (with random slopes)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.78	1.19	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.23	-0.13	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Random Effects				
Intercept Variance	1.94	3.41	1.67	0.75
Slope Variance	0.00	0.01	0.00	0.00
Int-Slope Cov	-0.08	-0.12	-0.07	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,175	1,477	836
$N_{totalobs}$	2,906	14,293	14,522	3,733
Log Likelihood	-3086	-11066	-10931	-3258

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -2.4881    4.9762    8.9762    7.1734   20.9762
##
## tau^2 (estimated amount of total heterogeneity): 0.2997 (SE = 0.2469)
## tau (square root of estimated tau^2 value):      0.5475
## I^2 (total heterogeneity / total variability):   99.95%
## H^2 (total variability / sampling variability):  2096.48
##
## Test for Heterogeneity:
## Q(df = 3) = 122.6188, p-val < .0001
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.3840  0.2750  -1.3965  0.1626  -0.9229  0.1549
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

2.3. Age and Time Since Dementia Diagnosis, with fixed effect only, including covariates

Table S8: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.37	0.22	0.02	0.22
(se)	0.1	0.08	0.08	0.04
	p < .001	p = 0.004	p = 0.407	p < .001
Age	-0.04	-0.04	-0.04	-0.04
(se)	0	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.28	-0.14	-0.15	-0.12
(se)	0.09	0.01	0	0.03
	p < .001	p < .001	p < .001	p < .001
Sex	-0.01	0.25	0.30	0.09
(se)	0.06	0.04	0.05	0.05
	p = 0.451	p < .001	p < .001	p = 0.043
Race	0.65	0.50	0.44	
(se)	0.06	0.07	0.08	
	p < .001	p < .001	p < .001	
Education	0.23	0.31	0.22	0.33
(se)	0.03	0.02	0.02	0.03
	p < .001	p < .001	p < .001	p < .001
Random Effects				
Intercept Variance	0.54	0.68	0.59	0.51
N_{people}	736	2,175	1,476	827
$N_{totalobs}$	2,906	14,293	14,499	3,691
Log Likelihood	-3022	-11917	-12170	-3294
NA	0.29	0.20	0.23	0.21

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -2.5536    5.1073    9.1073    7.3045   21.1073
##
## tau^2 (estimated amount of total heterogeneity): 0.3145 (SE = 0.2587)
## tau (square root of estimated tau^2 value):      0.5608
## I^2 (total heterogeneity / total variability):   99.97%
## H^2 (total variability / sampling variability):  3611.40
##
## Test for Heterogeneity:
## Q(df = 3) = 144.4178, p-val < .0001
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.4166  0.2814  -1.4801  0.1388  -0.9682  0.1350
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

2.4. Age and Time Since Dementia Diagnosis, with random effects, including covariates. Table and meta analysis presented in main manuscript.

3. Cognitive Change as Function of Age and Time Since Dementia Diagnosis, by personality traits.

This section contains results with personality added to the above models: 1) a model with only the main effect of personality, 2) a model with the trait x age interaction, 3) a model with the trait x time since dementia interaction, and 4) a model with both interactions. These models are presented both with (.cov) and without covariates. The final model, with both interactions and covariates, is presented in the main manuscript and thus is not in this document.

3.1. Neuroticism

3.1.1. Main Effect Only

Table S9: Cognitive Trajectories, with Neuroticism (no interactions)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.77	1.25	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.23	-0.16	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Neuroticism	-0.14	-0.21	-0.17	-0.13
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Random Effects				
Intercept Variance	1.91	2.74	1.66	0.74
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.10	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,471	823
$N_{totalobs}$	2,906	12,712	14,497	3,687
Log Likelihood	-3077	-9137	-10855	-3197

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.6941  -11.3882   -7.3882   -9.1910    4.6118
##
## tau^2 (estimated amount of total heterogeneity): 0.0007 (SE = 0.0011)
## tau (square root of estimated tau^2 value):      0.0257
## I^2 (total heterogeneity / total variability):   50.48%
## H^2 (total variability / sampling variability):  2.02
##
## Test for Heterogeneity:
## Q(df = 3) = 5.9596, p-val = 0.1136
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.1683  0.0182  -9.2415  <.0001  -0.2040  -0.1326  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.2 Main Effect, with covariates

Table S10: Cognitive Trajectories, with Neuroticism (no interactions), with covariates

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.37	0.63	0.28	0.25
(se)	0.1	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.22	-0.16	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Neuroticism	-0.12	-0.15	-0.15	-0.11
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Sex	0.05	0.27	0.36	0.14
(se)	0.06	0.04	0.05	0.06
	$p = 0.207$	$p < .001$	$p < .001$	$p = 0.006$
Race	0.70	0.43	0.53	
(se)	0.06	0.08	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.23	0.26	0.19	0.33
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Random Effects				
Intercept Variance	1.19	2.39	1.41	0.62
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.09	-0.06	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	1,781	1,470	816
$N_{totalobs}$	2,906	12,712	14,474	3,653
Log Likelihood	-2982	-9034	-10753	-3103

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   7.1348  -14.2696  -10.2696  -12.0723    1.7304
##
## tau^2 (estimated amount of total heterogeneity): 0 (SE = 0.0004)
## tau (square root of estimated tau^2 value):      0
## I^2 (total heterogeneity / total variability):   0.00%
## H^2 (total variability / sampling variability):  1.00
##
## Test for Heterogeneity:
## Q(df = 3) = 2.4880, p-val = 0.4775
##
## Model Results:
##
## estimate      se      zval    pval    ci.lb    ci.ub
##  -0.1384  0.0117  -11.8294  <.0001  -0.1614  -0.1155  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.3 Interaction with Age

Table S11: Cognitive Trajectories over Time, by Neuroticism

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.76	1.25	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.16	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.002
Neuroticism	-0.21	-0.12	-0.10	-0.15
(se)	0.1	0.05	0.04	0.04
	p = 0.021	p = 0.011	p = 0.012	p < .001
Age x Neuroticism	0.00	0.00	0.00	0.00
(se)	0.01	0	0	0
	p = 0.235	p = 0.039	p = 0.024	p = 0.12
Random Effects				
Intercept Variance	1.88	2.74	1.65	0.74
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.10	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,471	823
$N_{totalobs}$	2,906	12,712	14,497	3,687
Log Likelihood	-3077	-9135	-10853	-3196

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  12.2622  -24.5243  -20.5243  -22.3271   -8.5243
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0030
## I^2 (total heterogeneity / total variability):   61.13%
## H^2 (total variability / sampling variability):  2.57
##
## Test for Heterogeneity:
## Q(df = 3) = 7.8987, p-val = 0.0482
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0013  0.0020  -0.6288  0.5295  -0.0052  0.0027
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.4 Interaction with Age, with covariates

Table S12: Cognitive Trajectories over Time, by Neuroticism (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.37	0.63	0.29	0.25
(se)	0.1	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.22	-0.16	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Neuroticism	-0.16	-0.06	-0.07	-0.12
(se)	0.09	0.05	0.04	0.03
	$p = 0.041$	$p = 0.104$	$p = 0.042$	$p < .001$
Sex	0.05	0.27	0.36	0.14
(se)	0.06	0.04	0.05	0.06
	$p = 0.207$	$p < .001$	$p < .001$	$p = 0.006$
Race	0.70	0.43	0.53	
(se)	0.06	0.08	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.23	0.26	0.19	0.33
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age x Neuroticism	0.00	0.00	0.00	0.00
(se)	0	0	0	0
	$p = 0.327$	$p = 0.026$	$p = 0.015$	$p = 0.15$
Random Effects				
Intercept Variance	1.18	2.39	1.40	0.62
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.09	-0.06	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,470	816
$N_{totalobs}$	2,906	12,712	14,474	3,653
Log Likelihood	-2982	-9032	-10750	-3102

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  12.4371  -24.8743  -20.8743  -22.6770   -8.8743
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0030
## I^2 (total heterogeneity / total variability):   62.33%
## H^2 (total variability / sampling variability):  2.65
##
## Test for Heterogeneity:
## Q(df = 3) = 7.8573, p-val = 0.0491
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0017  0.0020  -0.8420  0.3998  -0.0055  0.0022
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.5 Interaction with Time Since Dementia

Table S13: Cognitive Change after Dementia Diagnosis, by Neuroticism

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.76	1.25	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.34	-0.16	-0.13	-0.07
(se)	0.11	0.01	0.01	0.04
	$p < .001$	$p < .001$	$p < .001$	$p = 0.033$
Neuroticism	-0.14	-0.21	-0.17	-0.13
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia x Neuroticism	0.39	-0.02	0.02	-0.03
(se)	0.12	0.01	0.01	0.04
	$p < .001$	$p = 0.066$	$p < .001$	$p = 0.228$
Random Effects				
Intercept Variance	1.74	2.74	1.69	0.74
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.07	-0.10	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,471	823
$N_{totalobs}$	2,906	12,712	14,497	3,687
Log Likelihood	-3072	-9136	-10849	-3196

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   0.8948   -1.7896    2.2104    0.4076   14.2104
##
## tau^2 (estimated amount of total heterogeneity): 0.0201 (SE = 0.0187)
## tau (square root of estimated tau^2 value):      0.1417
## I^2 (total heterogeneity / total variability):   99.06%
## H^2 (total variability / sampling variability):  106.12
##
## Test for Heterogeneity:
## Q(df = 3) = 20.8205, p-val = 0.0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0589  0.0758  0.7764  0.4375  -0.0897  0.2074
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.6 Interaction with Time Since Dementia, with covariates

Table S14: Cognitive Change Since Dementia Diagnosis, by Neuroticism (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.37	0.63	0.28	0.25
(se)	0.1	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.34	-0.16	-0.13	-0.07
(se)	0.11	0.01	0.01	0.04
	$p < .001$	$p < .001$	$p < .001$	$p = 0.033$
Neuroticism	-0.12	-0.15	-0.15	-0.11
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Sex	0.05	0.27	0.36	0.14
(se)	0.06	0.04	0.05	0.06
	$p = 0.208$	$p < .001$	$p < .001$	$p = 0.006$
Race	0.70	0.42	0.53	
(se)	0.06	0.08	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.23	0.26	0.19	0.33
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia x Neuroticism	0.41	-0.02	0.02	-0.03
(se)	0.12	0.01	0.01	0.04
	$p < .001$	$p = 0.053$	$p < .001$	$p = 0.231$
Random Effects				
Intercept Variance	1.06	2.39	1.43	0.62
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.05	-0.09	-0.06	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,470	816
$N_{totalobs}$	2,906	12,712	14,474	3,653
Log Likelihood	-2976	-9033	-10747	-3103

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   0.7170   -1.4339    2.5661    0.7633   14.5661
##
## tau^2 (estimated amount of total heterogeneity): 0.0246 (SE = 0.0225)
## tau (square root of estimated tau^2 value):      0.1567
## I^2 (total heterogeneity / total variability):   99.24%
## H^2 (total variability / sampling variability):  131.22
##
## Test for Heterogeneity:
## Q(df = 3) = 21.9293, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0658  0.0830  0.7923  0.4282  -0.0970  0.2285
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.7 Interaction with both Age and Time Since Dementia

Table S15: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis, by Neuroticism

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.76	1.25	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.34	-0.16	-0.13	-0.07
(se)	0.11	0.01	0.01	0.04
	p < .001	p < .001	p < .001	p = 0.032
Neuroticism	-0.19	-0.13	-0.08	-0.15
(se)	0.1	0.05	0.04	0.04
	p = 0.03	p = 0.007	p = 0.046	p < .001
Age x Neuroticism	0.00	0.00	-0.01	0.00
(se)	0.01	0	0	0
	p = 0.302	p = 0.057	p = 0.005	p = 0.115
Dementia x Neuroticism	0.38	-0.01	0.02	-0.03
(se)	0.12	0.01	0.01	0.04
	p < .001	p = 0.099	p < .001	p = 0.219
Random Effects				
Intercept Variance	1.72	2.74	1.68	0.74
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.07	-0.10	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,781	1,471	823
$N_{totalobs}$	2,906	12,712	14,497	3,687
Log Likelihood	-3072	-9134	-10845	-3196

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   0.9411   -1.8822    2.1178    0.3151   14.1178
##
## tau^2 (estimated amount of total heterogeneity): 0.0190 (SE = 0.0178)
## tau (square root of estimated tau^2 value):      0.1377
## I^2 (total heterogeneity / total variability):   98.98%
## H^2 (total variability / sampling variability):  98.37
##
## Test for Heterogeneity:
## Q(df = 3) = 20.5868, p-val = 0.0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0578  0.0739  0.7828  0.4338  -0.0869  0.2026
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.8 Interaction with both Age and Time Since Dementia, with covariates. This table and meta-analysis are presented in the main manuscript.

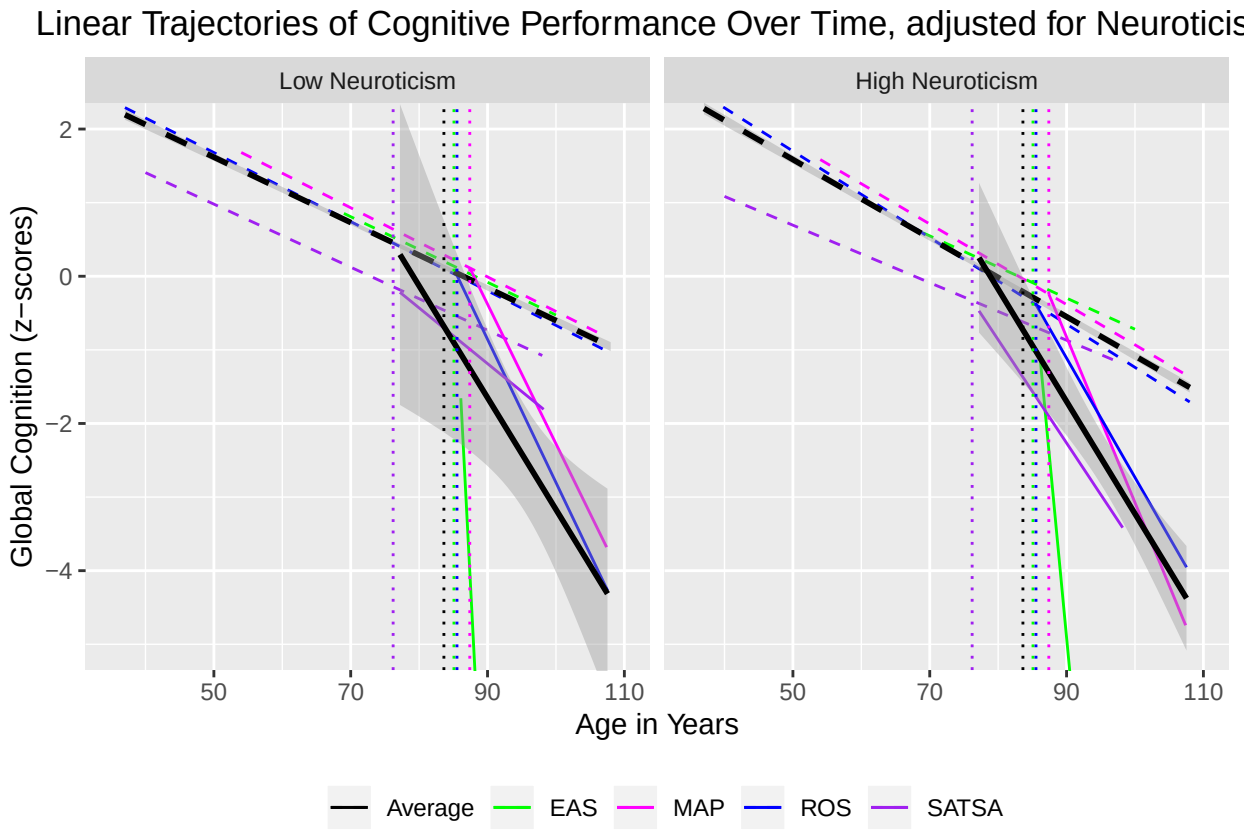

Figure S1: Overall cognitive trajectories across studies and the unique slope for individuals with dementia, among individuals high and low in neuroticism, and the average trajectories weighted by sample size

3.2. Extraversion

3.2.1. Main Effect Only

Table S16: Cognitive Trajectories, with Extraversion (no interactions)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.78	1.18	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.14	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.002
Extraversion	0.04	0.08	0.07	-0.01
(se)	0.03	0.02	0.02	0.03
	p = 0.097	p < .001	p = 0.002	p = 0.413
Random Effects				
Intercept Variance	1.92	3.08	1.67	0.76
Slope Variance	0.00	0.01	0.00	0.00
Int-Slope Cov	-0.08	-0.11	-0.07	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,058	1,470	822
$N_{totalobs}$	2,906	13,793	14,494	3,690
Log Likelihood	-3085	-10403	-10873	-3202

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.5083  -11.0165   -7.0165   -8.8193    4.9835
##
## tau^2 (estimated amount of total heterogeneity): 0.0008 (SE = 0.0012)
## tau (square root of estimated tau^2 value):      0.0279
## I^2 (total heterogeneity / total variability):   54.39%
## H^2 (total variability / sampling variability):  2.19
##
## Test for Heterogeneity:
## Q(df = 3) = 6.4179, p-val = 0.0930
##
## Model Results:
##
## estimate      se    zval    pval   ci.lb   ci.ub
##   0.0508  0.0190  2.6659  0.0077  0.0134  0.0881  **
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.2 Main Effect, with covariates

Table S17: Cognitive Trajectories, with Extraversion (no interactions), with covariates

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.41	0.54	0.31	0.27
(se)	0.1	0.09	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Demdx	-1.23	-0.14	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Extraversion	0.03	0.06	0.03	-0.03
(se)	0.03	0.02	0.02	0.03
	$p = 0.162$	$p = 0.001$	$p = 0.055$	$p = 0.106$
Sex	0.02	0.24	0.34	0.11
(se)	0.06	0.04	0.05	0.06
	$p = 0.367$	$p < .001$	$p < .001$	$p = 0.028$
Race	0.68	0.49	0.51	
(se)	0.06	0.08	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.25	0.31	0.21	0.34
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Random Effects				
Intercept Variance	1.22	2.59	1.41	0.63
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.10	-0.06	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,058	1,469	815
$N_{totalobs}$	2,906	13,793	14,471	3,656
Log Likelihood	-2990	-10247	-10769	-3106

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.5094  -11.0187   -7.0187   -8.8215    4.9813
##
## tau^2 (estimated amount of total heterogeneity): 0.0009 (SE = 0.0012)
## tau (square root of estimated tau^2 value):      0.0294
## I^2 (total heterogeneity / total variability):   60.99%
## H^2 (total variability / sampling variability):  2.56
##
## Test for Heterogeneity:
## Q(df = 3) = 7.5185, p-val = 0.0571
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0244  0.0190  1.2881  0.1977  -0.0127  0.0616
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.3 Interaction with Age

Table S18: Cognitive Trajectories over Time, by Extraversion

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.78	1.18	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.14	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.002
Extraversion	-0.07	0.04	0.04	-0.02
(se)	0.11	0.05	0.04	0.03
	p = 0.244	p = 0.227	p = 0.166	p = 0.243
Age x Extraversion	0.01	0.00	0.00	0.00
(se)	0.01	0	0	0
	p = 0.121	p = 0.183	p = 0.26	p = 0.144
Random Effects				
Intercept Variance	1.95	3.08	1.67	0.76
Slope Variance	0.00	0.01	0.00	0.00
Int-Slope Cov	-0.08	-0.11	-0.07	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,058	1,470	822
$N_{totalobs}$	2,906	13,793	14,494	3,690
Log Likelihood	-3084	-10403	-10873	-3202

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  14.6835  -29.3670  -25.3670  -27.1697  -13.3670
##
## tau^2 (estimated amount of total heterogeneity): 0 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0
## I^2 (total heterogeneity / total variability):   0.00%
## H^2 (total variability / sampling variability):  1.00
##
## Test for Heterogeneity:
## Q(df = 3) = 0.7132, p-val = 0.8701
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0019  0.0011  1.7355  0.0826  -0.0002  0.0041  .
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.4 Interaction with Age, with covariates

Table S19: Cognitive Trajectories over Time, by Extraversion (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.41	0.55	0.31	0.27
(se)	0.1	0.09	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.22	-0.14	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Extraversion	-0.08	0.01	0.01	-0.05
(se)	0.09	0.05	0.04	0.03
	$p = 0.209$	$p = 0.415$	$p = 0.418$	$p = 0.048$
Sex	0.02	0.24	0.34	0.11
(se)	0.06	0.04	0.05	0.06
	$p = 0.373$	$p < .001$	$p < .001$	$p = 0.028$
Race	0.68	0.49	0.51	
(se)	0.06	0.08	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.25	0.31	0.21	0.34
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age x Extraversion	0.01	0.00	0.00	0.00
(se)	0	0	0	0
	$p = 0.12$	$p = 0.151$	$p = 0.232$	$p = 0.122$
Random Effects				
Intercept Variance	1.25	2.59	1.41	0.63
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.10	-0.06	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,058	1,469	815
$N_{totalobs}$	2,906	13,793	14,471	3,656
Log Likelihood	-2989	-10246	-10769	-3106

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  14.8398  -29.6797  -25.6797  -27.4825  -13.6797
##
## tau^2 (estimated amount of total heterogeneity): 0 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0
## I^2 (total heterogeneity / total variability):   0.00%
## H^2 (total variability / sampling variability):  1.00
##
## Test for Heterogeneity:
## Q(df = 3) = 0.6350, p-val = 0.8884
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0021  0.0011  1.9233  0.0544  -0.0000  0.0042  .
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.5 Interaction with Time Since Dementia

Table S20: Cognitive Change after Dementia Diagnosis, by Extraversion

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.77	1.18	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-0.95	-0.15	-0.13	-0.09
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p < .001
Extraversion	0.04	0.08	0.06	-0.01
(se)	0.03	0.02	0.02	0.03
	p = 0.11	p < .001	p = 0.002	p = 0.406
Dementia x Extraversion	0.80	-0.03	-0.03	0.05
(se)	0.1	0.01	0.01	0.04
	p < .001	p < .001	p < .001	p = 0.143
Random Effects				
Intercept Variance	1.81	3.07	1.68	0.76
Slope Variance	0.00	0.01	0.00	0.00
Int-Slope Cov	-0.07	-0.11	-0.07	-0.01
Residual(σ^2)	0.25	0.14	0.16	0.15
N_{people}	736	2,058	1,470	822
$N_{totalobs}$	2,906	13,793	14,494	3,690
Log Likelihood	-3052	-10397	-10862	-3202

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -1.4768    2.9537    6.9537    5.1509   18.9537
##
## tau^2 (estimated amount of total heterogeneity): 0.1495 (SE = 0.1244)
## tau (square root of estimated tau^2 value):      0.3867
## I^2 (total heterogeneity / total variability):   99.90%
## H^2 (total variability / sampling variability):  985.10
##
## Test for Heterogeneity:
## Q(df = 3) = 74.9662, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.1881  0.1951  0.9640  0.3350  -0.1943  0.5706
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.6 Interaction with Time Since Dementia, with covariates

Table S21: Cognitive Change after Dementia Diagnosis, by Extraversion (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.40	0.54	0.31	0.27
(se)	0.1	0.09	0.09	0.05
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-0.94	-0.15	-0.12	-0.09
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p < .001
Extraversion	0.03	0.06	0.03	-0.03
(se)	0.03	0.02	0.02	0.03
	p = 0.177	p = 0.001	p = 0.067	p = 0.102
Sex	0.03	0.24	0.34	0.11
(se)	0.06	0.04	0.05	0.06
	p = 0.336	p < .001	p < .001	p = 0.028
Race	0.67	0.49	0.51	
(se)	0.06	0.08	0.08	
	p < .001	p < .001	p < .001	
Education	0.25	0.31	0.21	0.34
(se)	0.03	0.02	0.02	0.03
	p < .001	p < .001	p < .001	p < .001
Dementia x Extraversion	0.78	-0.03	-0.03	0.05
(se)	0.1	0.01	0.01	0.04
	p < .001	p < .001	p < .001	p = 0.149
Random Effects				
Intercept Variance	1.15	2.58	1.42	0.63
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.05	-0.10	-0.06	-0.01
Residual(σ^2)	0.26	0.14	0.16	0.15
N_{people}	736	2,058	1,469	815
$N_{totalobs}$	2,906	13,793	14,471	3,656
Log Likelihood	-2958	-10240	-10758	-3106

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -1.4040    2.8079    6.8079    5.0051   18.8079
##
## tau^2 (estimated amount of total heterogeneity): 0.1422 (SE = 0.1183)
## tau (square root of estimated tau^2 value):      0.3771
## I^2 (total heterogeneity / total variability):   99.90%
## H^2 (total variability / sampling variability):  958.32
##
## Test for Heterogeneity:
## Q(df = 3) = 72.5103, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.1826  0.1904  0.9594  0.3374  -0.1905  0.5557
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.7 Interaction with both Age and Time Since Dementia

Table S22: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis, by Extraversion

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.77	1.18	1.01	0.35
(se)	0.1	0.05	0.04	0.03
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-0.95	-0.15	-0.13	-0.09
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p < .001
Extraversion	-0.01	0.01	0.00	-0.02
(se)	0.1	0.05	0.04	0.03
	p = 0.47	p = 0.449	p = 0.458	p = 0.243
Age x Extraversion	0.00	0.00	0.00	0.00
(se)	0.01	0	0	0
	p = 0.308	p = 0.06	p = 0.058	p = 0.151
Dementia x Extraversion	0.79	-0.03	-0.03	0.05
(se)	0.1	0.01	0.01	0.04
	p < .001	p < .001	p < .001	p = 0.15
Random Effects				
Intercept Variance	1.82	3.07	1.68	0.76
Slope Variance	0.00	0.01	0.00	0.00
Int-Slope Cov	-0.07	-0.11	-0.07	-0.01
Residual(σ^2)	0.25	0.14	0.16	0.15
N_{people}	736	2,058	1,470	822
$N_{totalobs}$	2,906	13,793	14,494	3,690
Log Likelihood	-3052	-10396	-10861	-3201

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  -1.4686    2.9371    6.9371    5.1343   18.9371
##
## tau^2 (estimated amount of total heterogeneity): 0.1486 (SE = 0.1236)
## tau (square root of estimated tau^2 value):      0.3855
## I^2 (total heterogeneity / total variability):   99.89%
## H^2 (total variability / sampling variability):  946.71
##
## Test for Heterogeneity:
## Q(df = 3) = 74.1426, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.1856  0.1946  0.9537  0.3402  -0.1958  0.5669
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.2.8 Interaction with both Age and Time Since Dementia, with covariates. This table and meta-analysis are presented in the main manuscript.

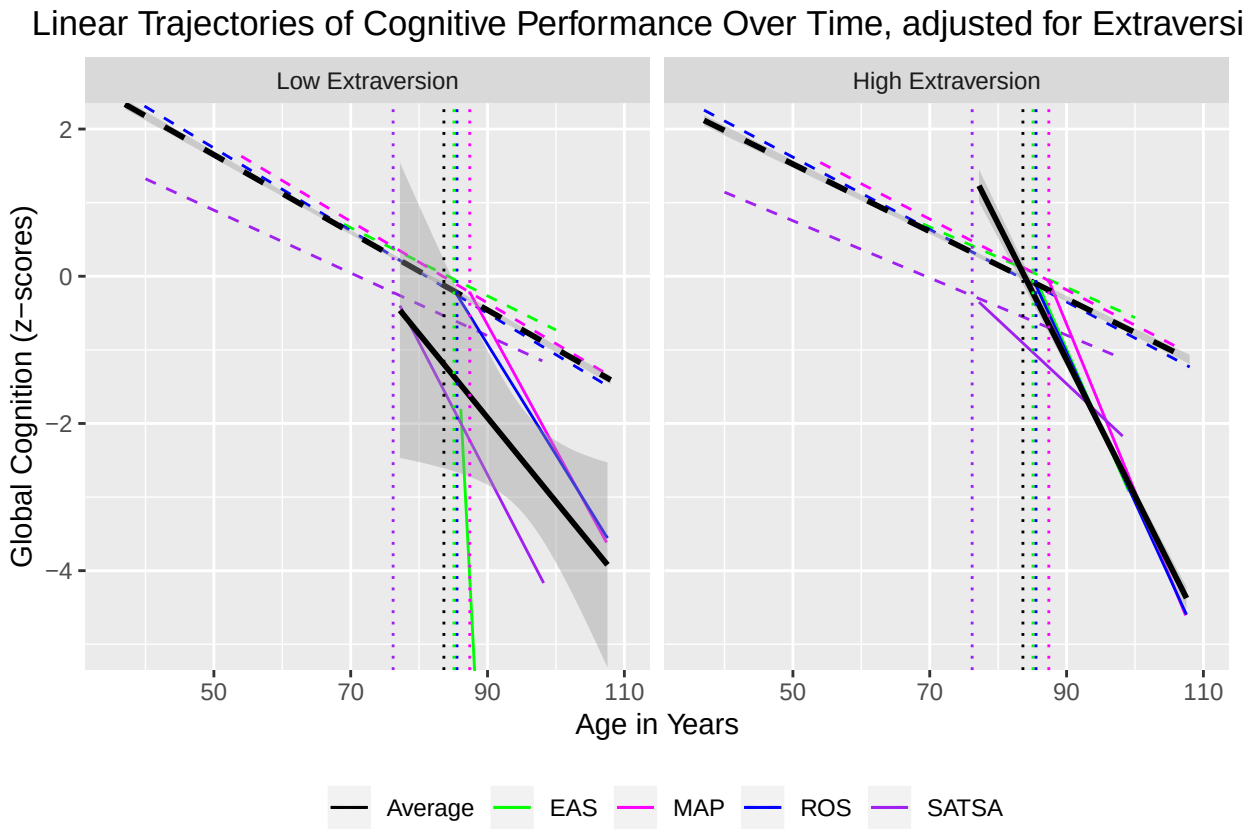

Figure S2: Overall cognitive trajectories across studies and the unique slope for individuals with dementia, among individuals high and low in Extraversion, and the average trajectories weighted by sample size

3.3. Openness

3.3.1. Main Effect Only

Table S23: Cognitive Trajectories, with Openness (no interactions)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.77	1.00	0.42
(se)	0.1	0.04	0.03
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.24	-0.13	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.003
Openness	0.24	0.20	0.28
(se)	0.03	0.02	0.03
	p < .001	p < .001	p < .001
Random Effects			
Intercept Variance	1.84	1.56	0.61
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,468	678
$N_{totalobs}$	2,906	14,461	3,115
Log Likelihood	-3060	-10805	-2624

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.6285   -7.2570   -3.2570   -5.8707    8.7430
##
## tau^2 (estimated amount of total heterogeneity): 0.0008 (SE = 0.0016)
## tau (square root of estimated tau^2 value):      0.0289
## I^2 (total heterogeneity / total variability):   51.64%
## H^2 (total variability / sampling variability):  2.07
##
## Test for Heterogeneity:
## Q(df = 2) = 4.1446, p-val = 0.1259
##
## Model Results:
##
## estimate      se     zval    pval   ci.lb   ci.ub
##   0.2357  0.0232  10.1464  <.0001  0.1901  0.2812  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.2 Main Effect, with covariates

Table S24: Cognitive Trajectories, with Openness (no interactions), with covariates

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.40	0.34	0.35
(se)	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.23	-0.12	-0.08
(se)	0.1	0.01	0.03
	$p < .001$	$p < .001$	$p = 0.003$
Openness	0.14	0.13	0.19
(se)	0.03	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$
Sex	0.03	0.31	0.08
(se)	0.06	0.05	0.06
	$p = 0.324$	$p < .001$	$p = 0.077$
Race	0.69	0.50	
(se)	0.06	0.08	
	$p < .001$	$p < .001$	
Education	0.18	0.17	0.28
(se)	0.03	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$
Random Effects			
Intercept Variance	1.18	1.37	0.53
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,467	672
$N_{totalobs}$	2,906	14,438	3,089
Log Likelihood	-2980	-10724	-2561

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.8871   -7.7742   -3.7742   -6.3879    8.2258
##
## tau^2 (estimated amount of total heterogeneity): 0.0004 (SE = 0.0012)
## tau (square root of estimated tau^2 value):      0.0208
## I^2 (total heterogeneity / total variability):   35.69%
## H^2 (total variability / sampling variability):  1.55
##
## Test for Heterogeneity:
## Q(df = 2) = 3.0729, p-val = 0.2151
##
## Model Results:
##
## estimate      se    zval    pval   ci.lb   ci.ub
##   0.1525  0.0200  7.6449  <.0001  0.1134  0.1916  ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.3 Interaction with Age

Table S25: Cognitive Trajectories over Time, by Openness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.75	1.00	0.42
(se)	0.1	0.04	0.03
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.25	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.003
Openness	0.41	0.18	0.30
(se)	0.1	0.04	0.04
	p < .001	p < .001	p < .001
Age x Openness	-0.01	0.00	0.00
(se)	0.01	0	0
	p = 0.037	p = 0.267	p = 0.082
Random Effects			
Intercept Variance	1.74	1.56	0.61
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.07	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,468	678
$N_{totalobs}$	2,906	14,461	3,115
Log Likelihood	-3058	-10805	-2623

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   7.9056  -15.8113  -11.8113  -14.4250    0.1887
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0031
## I^2 (total heterogeneity / total variability):   60.26%
## H^2 (total variability / sampling variability):  2.52
##
## Test for Heterogeneity:
## Q(df = 2) = 4.2878, p-val = 0.1172
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0020  0.0024  -0.8420  0.3998  -0.0066  0.0026
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.4 Interaction with Age, with covariates

Table S26: Cognitive Trajectories over Time, by Openness (with covariates)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.39	0.34	0.34
(se)	0.1	0.09	0.05
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.24	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.003
Openness	0.30	0.11	0.21
(se)	0.09	0.04	0.03
	p < .001	p = 0.004	p < .001
Sex	0.03	0.30	0.08
(se)	0.06	0.05	0.06
	p = 0.315	p < .001	p = 0.075
Race	0.69	0.50	
(se)	0.06	0.08	
	p < .001	p < .001	
Education	0.18	0.17	0.28
(se)	0.03	0.02	0.03
	p < .001	p < .001	p < .001
Age x Openness	-0.01	0.00	0.00
(se)	0	0	0
	p = 0.034	p = 0.255	p = 0.11
Random Effects			
Intercept Variance	1.10	1.36	0.53
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.05	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,467	672
$N_{totalobs}$	2,906	14,438	3,089
Log Likelihood	-2979	-10724	-2560

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   7.9477  -15.8954  -11.8954  -14.5091    0.1046
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0031
## I^2 (total heterogeneity / total variability):   61.47%
## H^2 (total variability / sampling variability):  2.60
##
## Test for Heterogeneity:
## Q(df = 2) = 4.3286, p-val = 0.1148
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0019  0.0023  -0.8014  0.4229  -0.0065  0.0027
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.5 Interaction with Time Since Dementia

Table S27: Cognitive Change after Dementia Diagnosis, by Openness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.76	1.00	0.42
(se)	0.1	0.04	0.03
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.33	-0.13	-0.09
(se)	0.13	0.01	0.03
	p < .001	p < .001	p = 0.002
Openness	0.24	0.20	0.28
(se)	0.03	0.02	0.03
	p < .001	p < .001	p < .001
Dementia x	-0.11	-0.02	-0.05
Openness			
(se)	0.1	0.01	0.02
	p = 0.137	p < .001	p = 0.006
Random Effects			
Intercept Variance	1.78	1.57	0.61
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,468	678
$N_{totalobs}$	2,906	14,461	3,115
Log Likelihood	-3059	-10800	-2621

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.8017   -7.6034   -3.6034   -6.2171    8.3966
##
## tau^2 (estimated amount of total heterogeneity): 0.0002 (SE = 0.0005)
## tau (square root of estimated tau^2 value):      0.0136
## I^2 (total heterogeneity / total variability):   32.09%
## H^2 (total variability / sampling variability):  1.47
##
## Test for Heterogeneity:
## Q(df = 2) = 2.5171, p-val = 0.2841
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.0302  0.0126  -2.3991  0.0164  -0.0549  -0.0055  *
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.6 Interaction with Time Since Dementia, with covariates

Table S28: Cognitive Change after Dementia Diagnosis, by Openness (with covariates)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.40	0.34	0.35
(se)	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.34	-0.13	-0.09
(se)	0.13	0.01	0.03
	$p < .001$	$p < .001$	$p = 0.002$
Openness	0.14	0.13	0.19
(se)	0.03	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$
Sex	0.03	0.31	0.08
(se)	0.06	0.05	0.06
	$p = 0.329$	$p < .001$	$p = 0.077$
Race	0.69	0.50	
(se)	0.06	0.08	
	$p < .001$	$p < .001$	
Education	0.18	0.17	0.28
(se)	0.03	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$
Dementia x Openness	-0.13	-0.02	-0.05
(se)	0.1	0.01	0.02
	$p = 0.097$	$p < .001$	$p = 0.006$
Random Effects			
Intercept Variance	1.13	1.38	0.53
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,467	672
$N_{totalobs}$	2,906	14,438	3,089
Log Likelihood	-2979	-10719	-2557

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.6663   -7.3326   -3.3326   -5.9463    8.6674
##
## tau^2 (estimated amount of total heterogeneity): 0.0002 (SE = 0.0005)
## tau (square root of estimated tau^2 value):      0.0134
## I^2 (total heterogeneity / total variability):   31.40%
## H^2 (total variability / sampling variability):  1.46
##
## Test for Heterogeneity:
## Q(df = 2) = 2.7882, p-val = 0.2481
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.0306  0.0124  -2.4632  0.0138  -0.0550  -0.0063  *
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.7 Interaction with both Age and Time Since Dementia

Table S29: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis, by Openness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.75	1.00	0.42
(se)	0.1	0.04	0.03
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.33	-0.13	-0.09
(se)	0.13	0.01	0.03
	p < .001	p < .001	p = 0.002
Openness	0.40	0.15	0.30
(se)	0.1	0.04	0.04
	p < .001	p < .001	p < .001
Age x Openness	-0.01	0.00	0.00
(se)	0.01	0	0
	p = 0.043	p = 0.094	p = 0.111
Dementia x Openness	-0.10	-0.02	-0.05
(se)	0.1	0.01	0.02
	p = 0.163	p < .001	p = 0.008
Random Effects			
Intercept Variance	1.69	1.57	0.61
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.07	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,468	678
$N_{totalobs}$	2,906	14,461	3,115
Log Likelihood	-3058	-10799	-2620

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   4.0178   -8.0357   -4.0357   -6.6494    7.9643
##
## tau^2 (estimated amount of total heterogeneity): 0.0001 (SE = 0.0004)
## tau (square root of estimated tau^2 value):      0.0094
## I^2 (total heterogeneity / total variability):   18.37%
## H^2 (total variability / sampling variability):  1.23
##
## Test for Heterogeneity:
## Q(df = 2) = 1.8716, p-val = 0.3923
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb    ci.ub
##  -0.0290  0.0101  -2.8608  0.0042  -0.0488  -0.0091  **
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.3.8 Interaction with both Age and Time Since Dementia, with covariates. This table and meta-analysis are presented in the main manuscript.

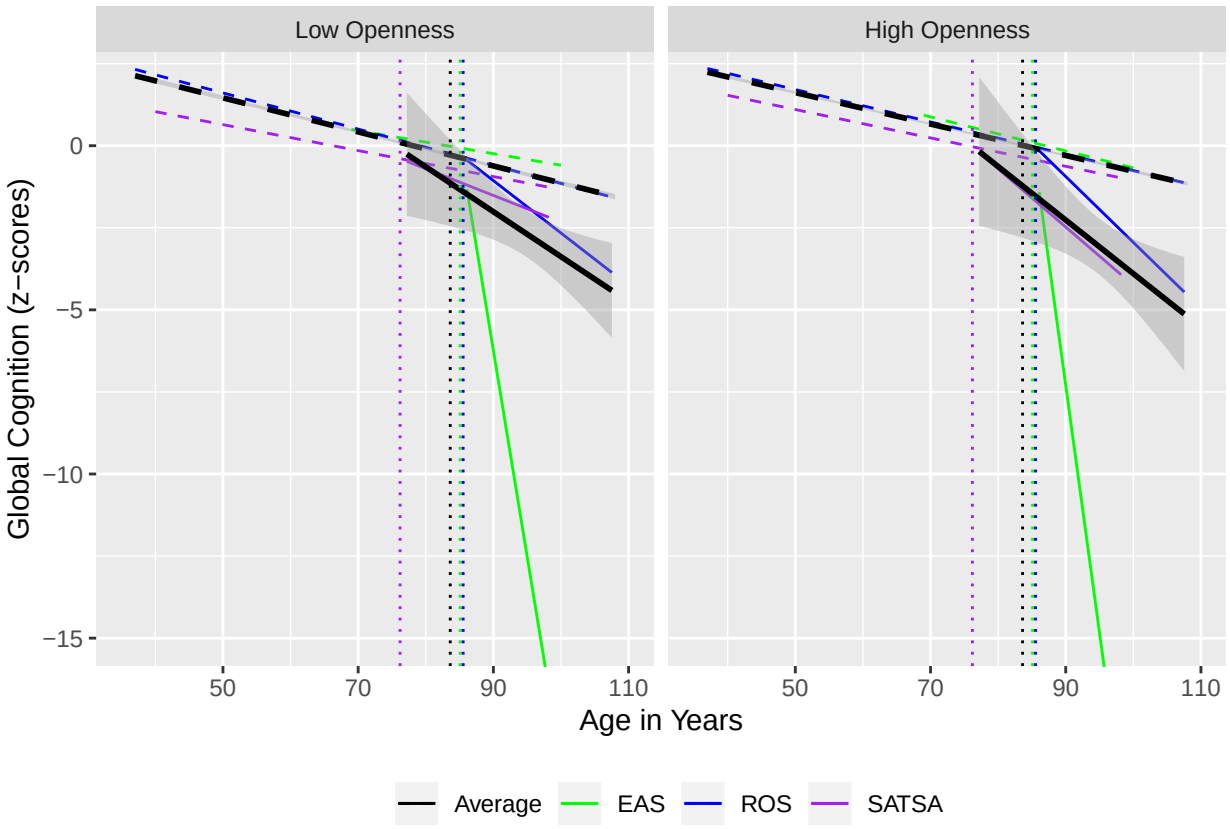

Figure S3: Overall cognitive trajectories across studies and the unique slope for individuals with dementia, among individuals high and low in Openness, and the average trajectories weighted by sample size

3.4. Conscientiousness

3.4.1. Main Effect Only

Table S30: Cognitive Trajectories, with Conscientiousness (no interactions)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.78	1.31	1.01	0.41
(se)	0.1	0.06	0.04	0.04
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.15	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.004
Conscientiousness	0.06	0.11	0.15	-0.05
(se)	0.03	0.02	0.02	0.03
	p = 0.039	p < .001	p < .001	p = 0.058
Random Effects				
Intercept Variance	1.92	2.29	1.68	0.71
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.09	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,471	700
$N_{totalobs}$	2,906	10,216	14,497	3,225
Log Likelihood	-3084	-6670	-10863	-2754

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.0601   -6.1202   -2.1202   -3.9230    9.8798
##
## tau^2 (estimated amount of total heterogeneity): 0.0067 (SE = 0.0061)
## tau (square root of estimated tau^2 value):      0.0819
## I^2 (total heterogeneity / total variability):   90.48%
## H^2 (total variability / sampling variability):  10.50
##
## Test for Heterogeneity:
## Q(df = 3) = 26.4476, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0682  0.0433  1.5751  0.1152  -0.0167  0.1530
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.2 Main Effect of Conscientioousness, with covariates

Table S31: Cognitive Trajectories, with Conscientiousness (no interactions), with covariates

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.41	0.76	0.34	0.34
(se)	0.1	0.11	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.22	-0.15	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.004$
Conscientiousness	0.04	0.09	0.10	-0.05
(se)	0.03	0.02	0.02	0.03
	$p = 0.077$	$p < .001$	$p < .001$	$p = 0.059$
Sex	0.02	0.15	0.31	0.08
(se)	0.06	0.05	0.05	0.06
	$p = 0.372$	$p < .001$	$p < .001$	$p = 0.098$
Race	0.68	0.41	0.50	
(se)	0.06	0.09	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.24	0.23	0.20	0.34
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Random Effects				
Intercept Variance	1.23	2.08	1.42	0.58
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,470	694
$N_{totalobs}$	2,906	10,216	14,474	3,199
Log Likelihood	-2989	-6607	-10767	-2670

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.8639   -7.7278   -3.7278   -5.5306    8.2722
##
## tau^2 (estimated amount of total heterogeneity): 0.0037 (SE = 0.0035)
## tau (square root of estimated tau^2 value):      0.0605
## I^2 (total heterogeneity / total variability):   85.76%
## H^2 (total variability / sampling variability):  7.02
##
## Test for Heterogeneity:
## Q(df = 3) = 17.8672, p-val = 0.0005
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0481  0.0329  1.4643  0.1431  -0.0163  0.1126
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.3 Interaction with Age

Table S32: Cognitive Trajectories over Time, by Conscientiousness

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.77	1.31	1.01	0.41
(se)	0.1	0.06	0.04	0.04
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.15	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.004
Conscientiousness	0.13	-0.12	0.04	-0.04
(se)	0.11	0.06	0.04	0.04
	p = 0.106	p = 0.017	p = 0.208	p = 0.13
Age x Conscientiousness	0.00	0.01	0.01	0.00
(se)	0.01	0	0	0
	p = 0.233	p < .001	p = 0.001	p = 0.273
Random Effects				
Intercept Variance	1.91	2.24	1.66	0.71
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.09	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,471	700
$N_{totalobs}$	2,906	10,216	14,497	3,225
Log Likelihood	-3084	-6661	-10858	-2754

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  10.8488  -21.6976  -17.6976  -19.5003   -5.6976
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0056
## I^2 (total heterogeneity / total variability):   83.84%
## H^2 (total variability / sampling variability):  6.19
##
## Test for Heterogeneity:
## Q(df = 3) = 18.4429, p-val = 0.0004
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0037  0.0032  1.1506  0.2499  -0.0026  0.0099
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.4 Interaction with Age, with covariates

Table S33: Cognitive Trajectories over Time, by Conscientiousness (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.41	0.76	0.35	0.34
(se)	0.1	0.11	0.09	0.05
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.04	-0.05	-0.04
(se)	0	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.15	-0.12	-0.08
(se)	0.1	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.004
Conscientiousness	0.09	-0.13	-0.02	-0.04
(se)	0.09	0.05	0.04	0.04
	p = 0.184	p = 0.007	p = 0.338	p = 0.129
Sex	0.02	0.15	0.31	0.08
(se)	0.06	0.05	0.05	0.06
	p = 0.372	p < .001	p < .001	p = 0.098
Race	0.68	0.41	0.50	
(se)	0.06	0.09	0.08	
	p < .001	p < .001	p < .001	
Education	0.24	0.23	0.20	0.34
(se)	0.03	0.02	0.02	0.03
	p < .001	p < .001	p < .001	p < .001
Age x Conscientiousness	0.00	0.01	0.01	0.00
(se)	0	0	0	0
	p = 0.313	p < .001	p < .001	p = 0.297
Random Effects				
Intercept Variance	1.22	2.04	1.41	0.58
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,470	694
$N_{totalobs}$	2,906	10,216	14,474	3,199
Log Likelihood	-2989	-6597	-10761	-2670

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##  11.0209  -22.0418  -18.0418  -19.8446   -6.0418
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0054
## I^2 (total heterogeneity / total variability):   83.16%
## H^2 (total variability / sampling variability):  5.94
##
## Test for Heterogeneity:
## Q(df = 3) = 18.3381, p-val = 0.0004
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0040  0.0030  1.3161  0.1881  -0.0020  0.0099
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.5 Interaction with Time Since Dementia

Table S34: Cognitive Change after Dementia Diagnosis, by Conscientiousness

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.78	1.31	1.00	0.41
(se)	0.1	0.06	0.04	0.04
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.27	-0.15	-0.13	-0.09
(se)	0.12	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.002
Conscientiousness	0.06	0.11	0.15	-0.05
(se)	0.03	0.02	0.02	0.03
	p = 0.039	p < .001	p < .001	p = 0.059
Dementia x Conscientiousness	-0.06	0.00	-0.03	-0.07
(se)	0.1	0.01	0.01	0.04
	p = 0.275	p = 0.401	p < .001	p = 0.062
Random Effects				
Intercept Variance	1.88	2.29	1.70	0.71
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.09	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,471	700
$N_{totalobs}$	2,906	10,216	14,497	3,225
Log Likelihood	-3084	-6670	-10852	-2753

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.7795  -11.5590   -7.5590   -9.3618    4.4410
##
## tau^2 (estimated amount of total heterogeneity): 0.0003 (SE = 0.0005)
## tau (square root of estimated tau^2 value):      0.0168
## I^2 (total heterogeneity / total variability):   57.68%
## H^2 (total variability / sampling variability):  2.36
##
## Test for Heterogeneity:
## Q(df = 3) = 6.3313, p-val = 0.0966
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0220  0.0126  -1.7378  0.0822  -0.0468  0.0028  .
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.6 Interaction with Time Since Dementia, with covariates

Table S35: Cognitive Change after Dementia Diagnosis, by Conscientiousness (with covariates)

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.41	0.76	0.34	0.34
(se)	0.1	0.11	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.05	-0.04
(se)	0	0	0	0
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.27	-0.15	-0.13	-0.09
(se)	0.12	0.01	0.01	0.03
	$p < .001$	$p < .001$	$p < .001$	$p = 0.002$
Conscientiousness	0.04	0.09	0.10	-0.05
(se)	0.03	0.02	0.02	0.03
	$p = 0.077$	$p < .001$	$p < .001$	$p = 0.059$
Sex	0.02	0.15	0.31	0.08
(se)	0.06	0.05	0.05	0.06
	$p = 0.374$	$p < .001$	$p < .001$	$p = 0.096$
Race	0.68	0.41	0.49	
(se)	0.06	0.09	0.08	
	$p < .001$	$p < .001$	$p < .001$	
Education	0.24	0.23	0.20	0.34
(se)	0.03	0.02	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Dementia x Conscientiousness	-0.06	0.00	-0.03	-0.07
(se)	0.1	0.01	0.01	0.04
	$p = 0.255$	$p = 0.47$	$p < .001$	$p = 0.062$
Random Effects				
Intercept Variance	1.20	2.08	1.44	0.58
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,470	694
$N_{totalobs}$	2,906	10,216	14,474	3,199
Log Likelihood	-2989	-6607	-10756	-2669

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   5.6245  -11.2491   -7.2491   -9.0518    4.7509
##
## tau^2 (estimated amount of total heterogeneity): 0.0004 (SE = 0.0006)
## tau (square root of estimated tau^2 value):      0.0189
## I^2 (total heterogeneity / total variability):   63.73%
## H^2 (total variability / sampling variability):  2.76
##
## Test for Heterogeneity:
## Q(df = 3) = 7.5374, p-val = 0.0566
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0208  0.0138  -1.5040  0.1326  -0.0479  0.0063
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.7 Interaction with both Age and Time Since Dementia

Table S36: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis, by Conscientiousness

coef	EAS	MAP	ROS	SATSA
Fixed Effects				
Intercept	0.77	1.31	1.01	0.41
(se)	0.1	0.06	0.04	0.04
	p < .001	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.05	-0.04
(se)	0.01	0	0	0
	p < .001	p < .001	p < .001	p < .001
Dementia Dx	-1.27	-0.15	-0.13	-0.09
(se)	0.12	0.01	0.01	0.03
	p < .001	p < .001	p < .001	p = 0.002
Conscientiousness	0.13	-0.12	-0.01	-0.04
(se)	0.11	0.06	0.04	0.04
	p = 0.114	p = 0.014	p = 0.453	p = 0.126
Age x Conscientiousness	0.00	0.01	0.01	0.00
(se)	0.01	0	0	0
	p = 0.247	p < .001	p < .001	p = 0.291
Dementia x Conscientiousness	-0.05	-0.01	-0.04	-0.07
(se)	0.1	0.01	0.01	0.04
	p = 0.294	p = 0.202	p < .001	p = 0.064
Random Effects				
Intercept Variance	1.87	2.24	1.68	0.71
Slope Variance	0.00	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.09	-0.07	-0.01
Residual(σ^2)	0.26	0.13	0.16	0.15
N_{people}	736	1,233	1,471	700
$N_{totalobs}$	2,906	10,216	14,497	3,225
Log Likelihood	-3084	-6660	-10844	-2753

```
##
## Random-Effects Model (k = 4; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   3.1299   -6.2598   -2.2598   -4.0626    9.7402
##
## tau^2 (estimated amount of total heterogeneity): 0.0010 (SE = 0.0030)
## tau (square root of estimated tau^2 value):      0.0314
## I^2 (total heterogeneity / total variability):   26.23%
## H^2 (total variability / sampling variability):  1.36
##
## Test for Heterogeneity:
## Q(df = 3) = 5.3322, p-val = 0.1490
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0365  0.0306  -1.1949  0.2321  -0.0964  0.0234
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.4.8 Interaction with both Age and Time Since Dementia, with covariates. This table and meta-analysis are presented in the main manuscript.

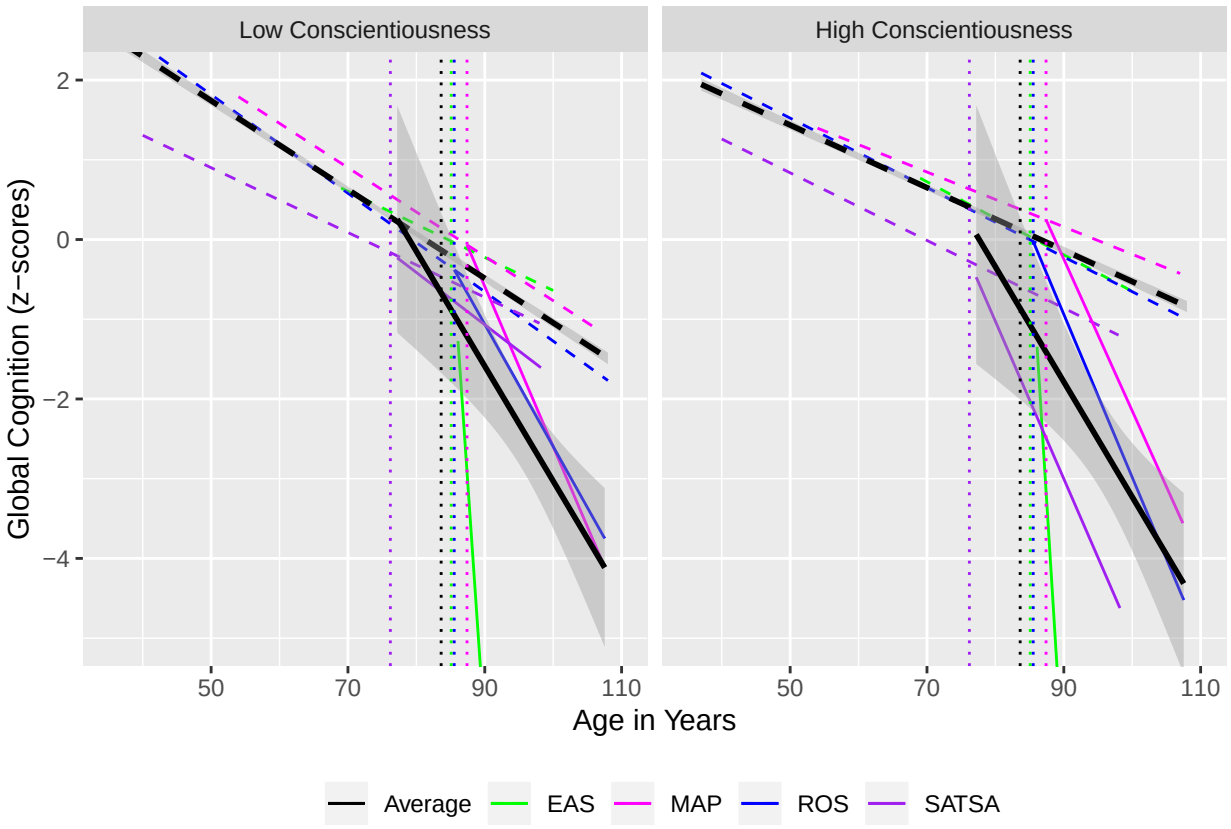

Figure S4: Overall cognitive trajectories across studies and the unique slope for individuals with dementia, among individuals high and low in Conscientiousness, and the average trajectories weighted by sample size

3.1. Agreeableness

3.1.1. Main Effect Only

Table S37: Cognitive Trajectories, with agreeableness (no interactions)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.80	1.00	0.41
(se)	0.1	0.04	0.04
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.004
Agreeableness	0.09	0.15	-0.05
(se)	0.03	0.02	0.03
	p = 0.002	p < .001	p = 0.063
Random Effects			
Intercept Variance	1.98	1.61	0.72
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,466	707
$N_{totalobs}$	2,906	14,441	3,232
Log Likelihood	-3082	-10810	-2760

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   1.7446   -3.4893    0.5107   -2.1030   12.5107
##
## tau^2 (estimated amount of total heterogeneity): 0.0094 (SE = 0.0102)
## tau (square root of estimated tau^2 value):      0.0967
## I^2 (total heterogeneity / total variability):   91.68%
## H^2 (total variability / sampling variability):  12.02
##
## Test for Heterogeneity:
## Q(df = 2) = 24.4364, p-val < .0001
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0646  0.0584  1.1063  0.2686  -0.0499  0.1792
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.2 Main Effect, with covariates

Table S38: Cognitive Trajectories, with Agreeableness (no interactions), with covariates

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.44	0.35	0.32
(se)	0.11	0.09	0.05
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.22	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.004
Agreeableness	0.07	0.08	-0.02
(se)	0.03	0.02	0.03
	p = 0.006	p < .001	p = 0.281
Sex	0.00	0.32	0.10
(se)	0.06	0.05	0.06
	p = 0.484	p < .001	p = 0.052
Race	0.67	0.47	
(se)	0.06	0.08	
	p < .001	p < .001	
Education	0.25	0.20	0.34
(se)	0.03	0.02	0.03
	p < .001	p < .001	p < .001
Random Effects			
Intercept Variance	1.28	1.39	0.58
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,465	701
$N_{totalobs}$	2,906	14,418	3,206
Log Likelihood	-2987	-10718	-2677

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   2.9606   -5.9211   -1.9211   -4.5348   10.0789
##
## tau^2 (estimated amount of total heterogeneity): 0.0022 (SE = 0.0029)
## tau (square root of estimated tau^2 value):      0.0468
## I^2 (total heterogeneity / total variability):   74.90%
## H^2 (total variability / sampling variability):  3.98
##
## Test for Heterogeneity:
## Q(df = 2) = 7.5506, p-val = 0.0229
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0486  0.0313  1.5521  0.1206  -0.0128  0.1099
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.3 Interaction with Age

Table S39: Cognitive Trajectories over Time, by Agreeableness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.80	1.00	0.41
(se)	0.11	0.04	0.04
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.23	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.004
Agreeableness	0.09	0.13	-0.01
(se)	0.1	0.04	0.04
	p = 0.206	p = 0.001	p = 0.445
Age x Agreeableness	0.00	0.00	0.00
(se)	0.01	0	0
	p = 0.468	p = 0.338	p = 0.006
Random Effects			
Intercept Variance	1.98	1.61	0.72
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,466	707
$N_{totalobs}$	2,906	14,441	3,232
Log Likelihood	-3082	-10810	-2757

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   8.3820  -16.7640  -12.7640  -15.3777   -0.7640
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0025
## I^2 (total heterogeneity / total variability):   48.23%
## H^2 (total variability / sampling variability):  1.93
##
## Test for Heterogeneity:
## Q(df = 2) = 3.9858, p-val = 0.1363
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0017  0.0021  -0.8090  0.4185  -0.0058  0.0024
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.4 Interaction with Age, with covariates

Table S40: Cognitive Trajectories over Time, by Agreeableness (with covariates)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.44	0.35	0.32
(se)	0.11	0.09	0.05
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.22	-0.12	-0.08
(se)	0.1	0.01	0.03
	p < .001	p < .001	p = 0.004
Agreeableness	0.06	0.06	0.02
(se)	0.09	0.04	0.04
	p = 0.271	p = 0.077	p = 0.269
Sex	0.00	0.32	0.10
(se)	0.06	0.05	0.06
	p = 0.484	p < .001	p = 0.052
Race	0.67	0.47	
(se)	0.06	0.08	
	p < .001	p < .001	
Education	0.25	0.20	0.34
(se)	0.03	0.02	0.03
	p < .001	p < .001	p < .001
Age x Agreeableness	0.00	0.00	0.00
(se)	0	0	0
	p = 0.432	p = 0.236	p = 0.009
Random Effects			
Intercept Variance	1.29	1.40	0.58
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,465	701
$N_{totalobs}$	2,906	14,418	3,206
Log Likelihood	-2987	-10717	-2674

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   8.3322  -16.6644  -12.6644  -15.2781   -0.6644
##
## tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0000)
## tau (square root of estimated tau^2 value):      0.0027
## I^2 (total heterogeneity / total variability):   53.08%
## H^2 (total variability / sampling variability):  2.13
##
## Test for Heterogeneity:
## Q(df = 2) = 4.6623, p-val = 0.0972
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0012  0.0022  -0.5523  0.5808  -0.0054  0.0030
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.5 Interaction with Time Since Dementia

Table S41: Cognitive Change after Dementia Diagnosis, by Agreeableness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.80	1.00	0.41
(se)	0.1	0.04	0.04
	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.25	-0.14	-0.10
(se)	0.11	0.01	0.03
	$p < .001$	$p < .001$	$p = 0.002$
Agreeableness	0.09	0.14	-0.05
(se)	0.03	0.02	0.03
	$p = 0.002$	$p < .001$	$p = 0.063$
Dementia x Agreeableness	-0.05	-0.03	0.07
(se)	0.09	0.01	0.06
	$p = 0.299$	$p < .001$	$p = 0.115$
Random Effects			
Intercept Variance	1.94	1.63	0.72
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.07	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,466	707
$N_{totalobs}$	2,906	14,441	3,232
Log Likelihood	-3082	-10792	-2759

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   2.5781   -5.1562   -1.1562   -3.7699   10.8438
##
## tau^2 (estimated amount of total heterogeneity): 0.0017 (SE = 0.0042)
## tau (square root of estimated tau^2 value):      0.0412
## I^2 (total heterogeneity / total variability):   41.15%
## H^2 (total variability / sampling variability):  1.70
##
## Test for Heterogeneity:
## Q(df = 2) = 3.2263, p-val = 0.1993
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0128  0.0338  -0.3794  0.7044  -0.0791  0.0534
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.6 Interaction with Time Since Dementia, with covariates

Table S42: Cognitive Change after Dementia Diagnosis, by Agreeableness (with covariates)

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.44	0.35	0.32
(se)	0.1	0.09	0.05
	$p < .001$	$p < .001$	$p < .001$
Age	-0.04	-0.05	-0.04
(se)	0	0	0
	$p < .001$	$p < .001$	$p < .001$
Dementia Dx	-1.26	-0.13	-0.10
(se)	0.11	0.01	0.03
	$p < .001$	$p < .001$	$p = 0.002$
Agreeableness	0.07	0.08	-0.02
(se)	0.03	0.02	0.03
	$p = 0.006$	$p < .001$	$p = 0.279$
Sex	0.00	0.32	0.10
(se)	0.06	0.05	0.06
	$p = 0.484$	$p < .001$	$p = 0.052$
Race	0.67	0.47	
(se)	0.06	0.08	
	$p < .001$	$p < .001$	
Education	0.25	0.20	0.34
(se)	0.03	0.02	0.03
	$p < .001$	$p < .001$	$p < .001$
Dementia x Agreeableness	-0.07	-0.03	0.07
(se)	0.09	0.01	0.06
	$p = 0.21$	$p < .001$	$p = 0.13$
Random Effects			
Intercept Variance	1.24	1.42	0.59
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.06	-0.06	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,465	701
$N_{totalobs}$	2,906	14,418	3,206
Log Likelihood	-2987	-10700	-2677

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   2.5504   -5.1007   -1.1007   -3.7145   10.8993
##
## tau^2 (estimated amount of total heterogeneity): 0.0014 (SE = 0.0038)
## tau (square root of estimated tau^2 value):      0.0367
## I^2 (total heterogeneity / total variability):   35.92%
## H^2 (total variability / sampling variability):  1.56
##
## Test for Heterogeneity:
## Q(df = 2) = 3.1078, p-val = 0.2114
##
## Model Results:
##
## estimate      se     zval    pval    ci.lb   ci.ub
##  -0.0180  0.0310  -0.5816  0.5608  -0.0788  0.0427
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

3.1.7 Interaction with both Age and Time Since Dementia

Table S43: Cognitive Trajectories Across Age and Time Since Dementia Diagnosis, by Agreeableness

coef	EAS	ROS	SATSA
Fixed Effects			
Intercept	0.80	1.00	0.41
(se)	0.1	0.04	0.04
	p < .001	p < .001	p < .001
Age	-0.04	-0.05	-0.04
(se)	0.01	0	0
	p < .001	p < .001	p < .001
Dementia Dx	-1.25	-0.14	-0.10
(se)	0.11	0.01	0.03
	p < .001	p < .001	p = 0.002
Agreeableness	0.08	0.09	0.00
(se)	0.1	0.04	0.04
	p = 0.219	p = 0.021	p = 0.449
Age x Agreeableness	0.00	0.00	0.00
(se)	0.01	0	0
	p = 0.449	p = 0.07	p = 0.005
Dementia x Agreeableness	-0.05	-0.04	0.07
(se)	0.09	0.01	0.06
	p = 0.295	p < .001	p = 0.102
Random Effects			
Intercept Variance	1.94	1.64	0.72
Slope Variance	0.00	0.00	0.00
Int-Slope Cov	-0.08	-0.07	-0.01
Residual(σ^2)	0.26	0.16	0.15
N_{people}	736	1,466	707
$N_{totalobs}$	2,906	14,441	3,232
Log Likelihood	-3082	-10791	-2756

```
##
## Random-Effects Model (k = 3; tau^2 estimator: REML)
##
##   logLik  deviance       AIC       BIC      AICc
##   2.6191   -5.2382   -1.2382   -3.8519   10.7618
##
## tau^2 (estimated amount of total heterogeneity): 0.0018 (SE = 0.0045)
## tau (square root of estimated tau^2 value):      0.0419
## I^2 (total heterogeneity / total variability):   39.29%
## H^2 (total variability / sampling variability):  1.65
##
## Test for Heterogeneity:
## Q(df = 2) = 2.8461, p-val = 0.2410
##
## Model Results:
##
## estimate      se    zval    pval    ci.lb   ci.ub
##   0.0434  0.0386  1.1235  0.2612  -0.0323  0.1190
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

4.0 Likelihood ratio tests comparing models with fixed effect and random effects; power analysis

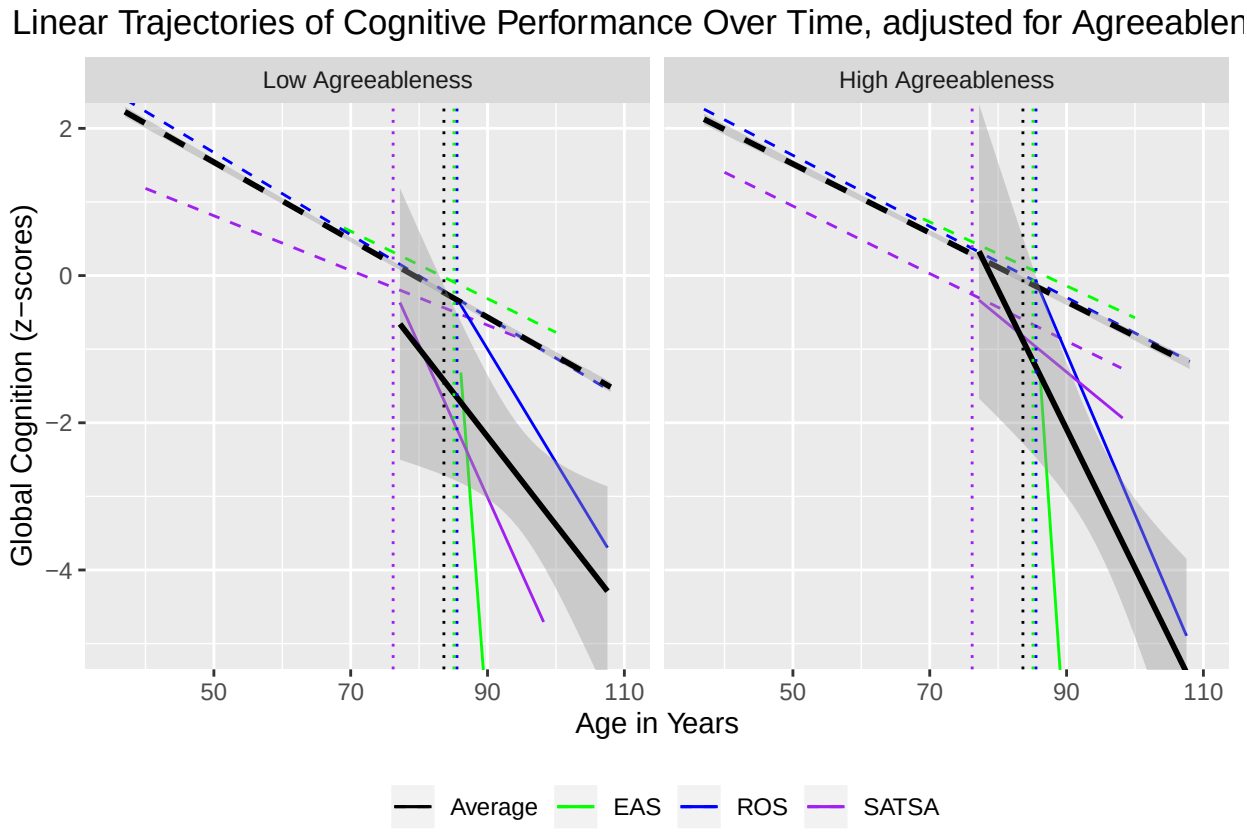

Figure S5: Overall cognitive trajectories across studies and the unique slope for individuals with dementia, among individuals high and low in Agreeableness, and the average trajectories weighted by sample size

```
## $EAS
## $EAS$age
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + (1 + age | id)
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                   6 -3155.5 6323.0
## age in (1 + age | id)    4 -3191.7 6391.4 72.399  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$demdx
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + sex + educ + race + (1 + age | id)
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  10 -2990.1 6000.2
## age in (1 + age | id)    8 -3022.3 6060.6 64.403  2  1.035e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$neuro
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + neuro + sex + educ + race + (1 + age | id) +
##     age:neuro + demdx:neuro
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  13 -2975.9 5977.9
## age in (1 + age | id)   11 -3005.9 6033.9 60.001  2  9.351e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$extra
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + extra + sex + educ + race + (1 + age | id) +
##     age:extra + demdx:extra
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  13 -2957.6 5941.1
## age in (1 + age | id)   11 -2987.4 5996.8 59.664  2  1.107e-13 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$open
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + open + sex + educ + race + (1 + age | id) +
##     age:open + demdx:open
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
```

```
## <none>                  13 -2978.0 5981.9
## age in (1 + age | id)   11 -3009.4 6040.8 62.924  2  2.169e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$consc
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + consc + sex + educ + race + (1 + age | id) +
##     age:consc + demdx:consc
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  13 -2988.8 6003.6
## age in (1 + age | id)   11 -3019.9 6061.8 62.263  2  3.018e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $EAS$agree
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + agree + sex + educ + race + (1 + age | id) +
##     age:agree + demdx:agree
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  13 -2986.7 5999.3
## age in (1 + age | id)   11 -3018.8 6059.5 64.183  2  1.156e-14 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## $SATSA
## $SATSA$age
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + (1 + age | id)
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                   6 -3262.3 6536.7
## age in (1 + age | id)    4 -3419.8 6847.5 314.88  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$demdx
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + sex + educ + (1 + age | id)
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                   9 -3144.2 6306.4
## age in (1 + age | id)    7 -3293.7 6601.3 298.95  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$neuro
```

```
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + neuro + sex + educ + (1 + age | id) + age:neuro +
##     demdx:neuro
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  12 -3102.1 6228.2
## age in (1 + age | id)   10 -3251.0 6522.1 297.87  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$extra
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + extra + sex + educ + (1 + age | id) + age:extra +
##     demdx:extra
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  12 -3105.2 6234.5
## age in (1 + age | id)   10 -3253.1 6526.3 295.79  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$open
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + open + sex + educ + (1 + age | id) + age:open +
##     demdx:open
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  12 -2556.9 5137.8
## age in (1 + age | id)   10 -2667.3 5354.5 220.73  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$consc
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + consc + sex + educ + (1 + age | id) + age:consc +
##     demdx:consc
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
## <none>                  12 -2668.8 5361.6
## age in (1 + age | id)   10 -2785.2 5590.4 232.82  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $SATSA$agree
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + agree + sex + educ + (1 + age | id) + age:agree +
##     demdx:agree
##                       npar  logLik    AIC    LRT Df Pr(>Chisq)
```

```
## <none>                  12 -2673.7 5371.4
## age in (1 + age | id)   10 -2792.4 5604.9 237.51  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## $ROS
## $ROS$age
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + (1 + age | id)
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                   6 -11110 22232
## age in (1 + age | id)    4 -12779 25566 3338.4  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$demdx
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + sex + educ + race + (1 + age | id)
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  10 -10820 21659
## age in (1 + age | id)    8 -12170 24357 2701.5  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$neuro
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + neuro + sex + educ + race + (1 + age | id) +
##     age:neuro + demdx:neuro
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -10744 21513
## age in (1 + age | id)   11 -12098 24217 2707.9  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$extra
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + extra + sex + educ + race + (1 + age | id) +
##     age:extra + demdx:extra
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -10757 21540
## age in (1 + age | id)   11 -12113 24248 2712.3  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$open
```

```
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + open + sex + educ + race + (1 + age | id) +
##     age:open + demdx:open
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -10718 21461
## age in (1 + age | id)   11 -12045 24111 2653.9  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$consc
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + consc + sex + educ + race + (1 + age | id) +
##     age:consc + demdx:consc
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -10747 21520
## age in (1 + age | id)   11 -12107 24236 2720.1  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $ROS$agree
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + agree + sex + educ + race + (1 + age | id) +
##     age:agree + demdx:agree
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -10699 21424
## age in (1 + age | id)   11 -12034 24091 2671.1  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## $MAP
## $MAP$age
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + (1 + age | id)
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                   6 -11185 22382
## age in (1 + age | id)    4 -12332 24673 2295.2  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $MAP$demdx
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + sex + educ + race + (1 + age | id)
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
```

```
## <none>                  10 -10918 21856
## age in (1 + age | id)    8 -11917 23850 1998.3  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $MAP$neuro
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + neuro + sex + educ + race + (1 + age | id) +
##     age:neuro + demdx:neuro
##                       npar  logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13 -9031.1 18088
## age in (1 + age | id)   11 -9964.8 19952 1867.3  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $MAP$extra
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + extra + sex + educ + race + (1 + age | id) +
##     age:extra + demdx:extra
##                       npar logLik   AIC  LRT Df Pr(>Chisq)
## <none>                  13 -10239 20504
## age in (1 + age | id)   11 -11198 22418 1918  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## $MAP$consc
## ANOVA-like table for random-effects: Single term deletions
##
## Model:
## cog ~ age + demdx + consc + sex + educ + race + (1 + age | id) +
##     age:consc + demdx:consc
##                       npar logLik   AIC    LRT Df Pr(>Chisq)
## <none>                  13  -6597 13220
## age in (1 + age | id)   11  -7403 14828 1611.9  2  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## $EAS
##      n power.given power.small power.med power.large
## 1 2906         4.9        68.4       100         100
##
## $ROS
##       n power.given power.small power.med power.large
## 1 14474        76.9        99.9       100         100
##
## $MAP
##       n power.given power.small power.med power.large
## 1 12712        42.4        99.9       100         100
```