R Console Output

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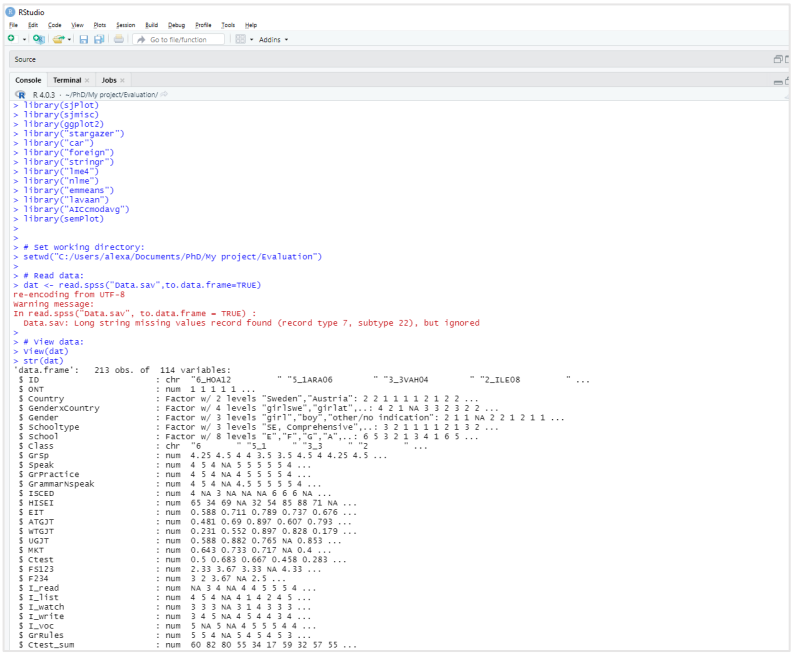
1 Packages & Data Preparation



```
> library(sjPlot)
> library(sjmisc)
> library(ggplot2)
> library("stargazer")
> library("car")
> library("foreign")
> library("stringr")
> library("lme4")
> library("nlme")
> library("emmeans")
> library("lavaan")
> library("AICcmodavg")
> library(semPlot)
>
>
> # Set working directory:
> setwd("C:/Users/alexa/Documents/PhD/My project/Evaluation")
>
> # Read data:
> dat <- read.spss("Data.sav",to.data.frame=TRUE)
re-encoding from UTF-8
warning message:
In read.spss("Data.sav", to.data.frame = TRUE) :
  Data.sav: Long string missing values record found (record type 7, subtype 22), but ignored
>
> # View data:
> View(dat)
> str(dat)
'data.frame':   213 obs. of  114 variables:
 $ ID                          : chr  "6_HOA12          " "5_1ARA06          " "3_3VAH04          " "2_ILE08          " ...
 $ ONT                         : num  1 1 1 1 1 ...
 $ Country                     : Factor w/ 2 levels "Sweden","Austria": 2 2 1 1 1 1 2 1 2 2 ...
 $ GenderxCountry              : Factor w/ 4 levels "girlswe","girlat",..: 4 2 1 NA 3 3 2 3 2 2 ...
 $ Gender                      : Factor w/ 3 levels "girl","boy","other/no indication": 2 1 1 NA 2 2 1 2 1 1 ...
 $ Schooltype                  : Factor w/ 3 levels "SE, Comprehensive",..: 3 2 1 1 1 1 2 1 3 2 ...
 $ School                      : Factor w/ 8 levels "E","F","G","A",..: 6 5 3 2 1 3 4 1 6 5 ...
 $ Class                       : chr  "6       " "5_1     " "3_3     " "2       " ...
 $ GrSp                        : num  4.25 4.5 4 4 3.5 3.5 4.5 4 4.25 4.5 ...
 $ Speak                       : num  4 5 4 NA 5 5 5 5 5 4 ...
 $ GrPractice                  : num  4 5 4 NA 4 5 5 5 5 4 ...
 $ GrammarnSpeak               : num  4 5 4 NA 4.5 5 5 5 5 4 ...
 $ ISCED                       : num  4 NA 3 NA NA NA 6 6 6 NA ...
 $ HISEI                       : num  65 34 69 NA 32 54 85 88 71 NA ...
 $ EIT                         : num  0.588 0.711 0.789 0.737 0.676 ...
 $ ATGJT                       : num  0.481 0.69 0.897 0.607 0.793 ...
 $ WTGJT                       : num  0.231 0.552 0.897 0.828 0.179 ...
 $ UGJT                        : num  0.588 0.882 0.765 NA 0.853 ...
 $ MKT                         : num  0.643 0.733 0.717 NA 0.4 ...
 $ Ctest                       : num  0.5 0.683 0.667 0.458 0.283 ...
 $ FS123                       : num  2.33 3.67 3.33 NA 4.33 ...
 $ F234                        : num  3 2 3.67 NA 2.5 ...
 $ I_read                      : num  NA 3 4 NA 4 4 5 5 5 4 ...
 $ I_list                      : num  4 5 4 NA 4 1 4 2 4 5 ...
 $ I_watch                     : num  3 3 3 NA 3 1 4 3 3 3 ...
 $ I_write                     : num  3 4 5 NA 4 5 4 4 3 4 ...
 $ I_voc                       : num  5 NA 5 NA 4 5 5 5 4 4 ...
 $ GrRules                     : num  5 5 4 NA 5 4 5 4 5 3 ...
 $ Ctest_sum                   : num  60 82 80 55 34 17 59 32 57 55 ...
```

```
 $ ExtramuralEnglish           : num  20 7 NA NA 90.5 ...
 $ Starting_median_nomusic     : num  2 0.417 6 NA 7 ...
 $ Starting_mean_nomusic       : num  2.29 0.56 7 NA 5.8 ...
 $ Dyslex                      : Factor w/ 2 levels "no dyslex","dyslex": 1 NA 1 NA 1 1 1 NA 1 1 ...
 $ Dyslex_orig                 : Factor w/ 3 levels "dyslex","no dyslex",..: 2 NA 2 NA 2 2 2 3 2 2 ...
 $ Dyslex2                     : Factor w/ 2 levels "no dyslex","dyslex": 1 NA 1 NA 1 1 1 1 1 1 ...
 $ Age                         : num  14.2 13.7 13.7 NA 13.5 ...
 $ L1                          : Factor w/ 2 levels "Swedish/German",..: 1 2 2 NA 1 1 1 2 1 1 ...
 $ L1_nom                      : chr  "1                    " "Serbian             " "Arabic              " "                    " ...
 $ L_other                     : chr  "2                    " "                    " "                    " "                    " ...
                                 " "Arabic                " "                    " "                    " "                    " ...
 $ residency                   : num  14 13.33 5.75 NA 13.5 ...
 $ residency_ok                : num  1 1 1 NA 1 1 1 1 1 1 ...
 $ birth_cntry                 : chr  "1                    " "1                    " "Syria               " "                    " ...
 $ birth_cntry_binary          : num  1 1 0 NA 1 1 1 0 1 1 ...
 $ F1                          : num  3 2 4 NA 4 5 1 1 1 1 ...
 $ F2                          : num  3 3 4 NA NA 2 1 NA 1 3 ...
 $ F3                          : num  3 1 3 NA 2 1 2 1 1 1 ...
 $ F4                          : num  3 2 4 NA 3 2 1 1 1 1 ...
 $ F5                          : num  5 1 3 NA NA 3 4 NA 3 3 ...
 $ FS1                         : num  4 3 3 NA 5 2 5 3 5 3 ...
 $ FS2                         : num  1 3 5 NA 4 2 5 4 5 5 ...
 $ FS3                         : num  2 5 2 NA 4 4 5 4 4 5 ...
 $ F1_classwise                : num  3 2 3 4 3 4 3.5 4.5 3 3 ...
 $ FS2_classwise               : num  4 3 3 3 4 3 3 3 4 3.5 ...
 $ I_grmean                    : num  4.5 5 4 NA 4.5 4.5 5 4.5 5 3.5 ...
 $ Strtage_fncmusic_mean       : num  10.17 12.08 6.04 NA 7.31 ...
 $ EE_usually_mean_nom         : num  3.29 2.86 4.71 NA 4.43 ...
 $ EE_usually_median_nom       : num  3 3 5 NA 5 4 3 5 1 5 ...
 $ EE_usually_median_wmus      : num  3 3.5 5 NA 5 4 3.5 5 2 5 ...
 $ EE_usually_mean_wmus        : num  3.5 3 4.75 NA 4.5 ...
 $ SUM_wkly_withmusic          : num  26 7.42 NA NA 114.5 ...
 $ Starting_median_withmusic: num  11.17 13.21 5.67 NA 6.5 ...
 $ Read_us1                    : Factor w/ 5 levels "(almost) never",..: 2 5 5 NA 5 4 3 5 1 5 ...
 $ Write_us1                   : Factor w/ 5 levels "(almost) never",..: 3 1 5 NA 5 3 4 4 3 5 ...
 $ List_us1                    : Factor w/ 5 levels "(almost) never",..: 2 1 3 NA 3 5 1 5 1 1 ...
 $ Spea_us1                    : Factor w/ 5 levels "(almost) never",..: 3 4 5 NA 5 3 3 5 4 5 ...
 $ Sing_us1                    : Factor w/ 5 levels "(almost) never",..: 3 3 5 NA 3 1 5 5 1 5 ...
 $ Watch_us1                   : Factor w/ 5 levels "(almost) never",..: 5 5 5 NA 5 5 5 5 3 5 ...
 $ Game_us1                    : Factor w/ 5 levels "(almost) never",..: 5 1 5 NA 5 5 1 5 1 4 ...
 $ ListMu_us1                  : Factor w/ 5 levels "(almost) never",..: 5 4 5 NA 5 4 5 5 5 5 ...
 $ Read_wkly                   : num  8 1 55.5 NA 12.2 ...
 $ Write_wkly                  : num  0.5 0 45 NA 3.2 ...
 $ List_wkly                   : num  0 0 2 NA 1.03 ...
 $ Speak_wkly                  : num  2 1 NA NA 25.4 ...
 $ Sing_wkly                   : num  0.5 0 40 NA 0.167 ...
 $ Watch_wkly                  : num  3 5 25 NA 7 ...
 $ Watch_wkly_suben            : num  NA 4.5 10 NA 5 ...
 $ Watch_wkly_subo             : num  NA NA NA NA 2 ...
 $ Watch_wkly_nosub            : num  3 0.5 15 NA NA ...
 $ Game_wkly_al                : num  1 0 6 NA 11.5 ...
 $ Game_wkly_w                 : num  5 0 5 NA 30 NA 0 NA 0 NA ...
 $ Game_wkly                   : num  6 0 11 NA 41.5 ...
 $ ListMu_wkly                 : num  6 0.417 30 NA 24 ...
 $ Read_strtage                : num  NA 11.67 7.67 NA NA ...
 $ Write_strtage               : num  10.17 NA 9.67 NA 7.42 ...
 $ List_strtage                : num  NA NA 3.67 NA 13.17 ...
```

```
 $ Spea_strtage                : num  12.17 13.17 7.67 NA 6.5 ...
 $ Sing_strtage                : num  NA 12.67 3.67 NA 6.5 ...
 $ Watch_strtage               : num  9.17 13.25 3.67 NA 4.92 ...
 $ Game_strtage                : num  9.17 NA 10.67 NA NA ...
 $ ListMu_strtage              : num  10.17 9.67 1.67 NA 5.33 ...
 $ Read_strt                   : num  0 2 6 NA NA ...
 $ Write_strt                  : num  4 0 4 NA 6.08 ...
 $ List_strt                   : num  0 0 10 NA 0.333 ...
 $ Spea_strt                   : num  2 0.5 6 NA 7 ...
 $ Sing_strt                   : num  0 1 10 NA 7 ...
 $ Watch_strt                  : num  5 0.417 10 NA 8.583 ...
 $ Game_strt                   : num  5 0 3 NA NA ...
 $ ListMu_strt                 : num  4 4 12 NA 8.17 ...
 $ Read_wkly_pic               : num  6 1 40.5 NA 5.17 ...
  [list output truncated]
  - attr(*, "variable.labels")= Named chr [1:114] "" "" "" "" ...
   ..- attr(*, "names")= chr [1:114] "ID" "ONT" "Country" "GenderxCountry" ...
  - attr(*, "codepage")= int 65001
>
> # Create two new variables for class (because names are 1_2, 1_2, 2_1, 2_2, etc.):
>
> dat$Class_neu <- str_sub(dat$Class,3,3)
> dat$Class_neu <- as.numeric(dat$Class_neu)
> dat$Class_neu[is.na(dat$Class_neu)] <- 1
> table(dat$Class_neu)

  1   2   3   4
132  55  14  12
```

2 Confirmatory Factor Analysis

```
>
> ########################################################
> ######## Confirmatory factor analysis ##################
> ########################################################
>
> ############## Sweden ###################
>
> ### Model with 1 factor ###
>
> # Define model:
> model1s <- 'knowledge =~ ONT + EIT + ATGJT + WTGJT + UGJT + MKT'
>
> # Compute model:
> fit1s <- cfa(model1s, data = dat[dat$Country=="Sweden",])
>
> # Outputs ansehen:
> summary(fit1s, fit.measures = TRUE)
lavaan 0.6-11 ended normally after 46 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        12

                                                  Used       Total
  Number of observations                            49         103

Model Test User Model:

  Test statistic                                 9.547
  Degrees of freedom                                 9
```

```
  P-value (Chi-square)                           0.388

Model Test Baseline Model:

  Test statistic                               125.459
  Degrees of freedom                                15
  P-value                                        0.000

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.995
  Tucker-Lewis Index (TLI)                       0.992

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)                130.365
  Loglikelihood unrestricted model (H1)        135.138

  Akaike (AIC)                                -236.729
  Bayesian (BIC)                              -214.027
  Sample-size adjusted Bayesian (BIC)         -251.684

Root Mean Square Error of Approximation:

  RMSEA                                          0.035
  90 Percent confidence interval - lower         0.000
  90 Percent confidence interval - upper         0.167
  P-value RMSEA <= 0.05                          0.485

Standardized Root Mean Square Residual:

  SRMR                                           0.049

Parameter Estimates:

  Standard errors                             Standard
  Information                                 Expected
  Information saturated (h1) model          Structured

Latent variables:
                   Estimate  Std.Err  z-value  P(>|z|)
  knowledge =~
    ONT               1.000
    EIT               1.044    0.221    4.720    0.000
    ATGJT             1.094    0.194    5.646    0.000
    WTGJT             0.707    0.211    3.354    0.001
    UGJT              1.575    0.266    5.919    0.000
    MKT               0.491    0.129    3.816    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)
   .ONT               0.014    0.003    4.004    0.000
   .EIT               0.024    0.006    4.360    0.000
   .ATGJT             0.012    0.003    3.650    0.000
   .WTGJT             0.030    0.006    4.733    0.000
   .UGJT              0.018    0.006    3.138    0.002
   .MKT               0.010    0.002    4.645    0.000
    knowledge         0.019    0.006    3.007    0.003
```

```
>
> ### Model with 2 factors ###
>
> # Define model:
> model2s <- 'implicit =~ ONT + EIT + ATGJT + WTGJT
+             explicit =~ UGJT + MKT'
>
> # Compute model:
> fit2s <- cfa(model2s, data = dat[dat$Country=="Sweden",])
warning message:
In lav_object_post_check(object) :
  lavaan WARNING: covariance matrix of latent variables
                is not positive definite;
                use lavInspect(fit, "cov.lv") to investigate.
>
> # View output:
> summary(fit2s, fit.measures = TRUE)
lavaan 0.6-11 ended normally after 60 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        13

                                                  Used       Total
  Number of observations                            49         103

Model Test User Model:

  Test statistic                                 8.894
  Degrees of freedom                                 8
  P-value (Chi-square)                           0.351

Model Test Baseline Model:

  Test statistic                               125.459
  Degrees of freedom                                15
  P-value                                        0.000

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.992
  Tucker-Lewis Index (TLI)                       0.985

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)                130.691
  Loglikelihood unrestricted model (H1)        135.138

  Akaike (AIC)                                -235.382
  Bayesian (BIC)                              -210.789
  Sample-size adjusted Bayesian (BIC)         -251.583

Root Mean Square Error of Approximation:

  RMSEA                                          0.048
  90 Percent confidence interval - lower         0.000
  90 Percent confidence interval - upper         0.179
  P-value RMSEA <= 0.05                          0.442
```

```
Standardized Root Mean Square Residual:

  SRMR                                           0.048

Parameter Estimates:

  Standard errors                             Standard
  Information                                 Expected
  Information saturated (h1) model          Structured

Latent variables:
                   Estimate  Std.Err  z-value  P(>|z|)
  implicit =~
    ONT               1.000
    EIT               1.035    0.220    4.710    0.000
    ATGJT             1.083    0.192    5.653    0.000
    WTGJT             0.705    0.210    3.366    0.001
  explicit =~
    UGJT              1.000
    MKT               0.323    0.081    4.012    0.000

Covariances:
                   Estimate  Std.Err  z-value  P(>|z|)
  implicit ~~
    explicit          0.031    0.008    3.895    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)
   .ONT               0.014    0.003    4.057    0.000
   .EIT               0.025    0.006    4.422    0.000
   .ATGJT             0.013    0.003    3.774    0.000
   .WTGJT             0.030    0.006    4.753    0.000
   .UGJT              0.024    0.009    2.673    0.008
   .MKT               0.010    0.002    4.643    0.000
    implicit          0.019    0.006    3.013    0.003
    explicit          0.043    0.015    2.948    0.003
```

```
>
> # AIC:
> aictab(list(fit1s,fit2s))

Model selection based on AICc:

      K    AICc Delta_AICc AICcWt Cum.Wt     LL
Mod1 12 -228.06       0.00   0.82   0.82 130.36
Mod2 13 -224.98       3.08   0.18   1.00 130.69

warning message:
In aictab.AIClavaan(list(fit1s, fit2s)) :
Model names have been supplied automatically in the table

>
> # Plot:
> semPaths(fit1s,"path", "est",edge.label.cex=1.2,nCharNodes = 50, layout="tree",edge.color="black")
>
> semPaths(fit2s,"path", "est",edge.label.cex=1.2,nCharNodes = 10, layout="tree",edge.color="black")
>
```

```
>
> ### Improved 1 factor model (excl MKT) ###
>
> # Define model:
> model1bs <- 'knowledge =~ ONT + EIT + ATGJT + WTGJT + UGJT'
>
> # Compute model:
> fit1bs <- cfa(model1bs, data = dat[dat$Country=="Sweden",])
>
> # View Outputs:
> summary(fit1bs, fit.measures = TRUE)
lavaan 0.6-11 ended normally after 43 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        10

                                                  Used       Total
  Number of observations                            49         103
```

```
Model Test User Model:

  Test statistic                                 8.592
  Degrees of freedom                                 5
  P-value (Chi-square)                           0.126

Model Test Baseline Model:

  Test statistic                               108.715
  Degrees of freedom                                10
  P-value                                        0.000
```

```
User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.964
  Tucker-Lewis Index (TLI)                       0.927

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)                 88.898
  Loglikelihood unrestricted model (H1)         93.194

  Akaike (AIC)                                -157.796
  Bayesian (BIC)                              -138.878
  Sample-size adjusted Bayesian (BIC)         -170.258

Root Mean Square Error of Approximation:

  RMSEA                                          0.121
  90 Percent confidence interval - lower         0.000
  90 Percent confidence interval - upper         0.255
  P-value RMSEA <= 0.05                          0.176

Standardized Root Mean Square Residual:

  SRMR                                           0.055

Parameter Estimates:
```

```
  Standard errors                             Standard
  Information                                 Expected
  Information saturated (h1) model          Structured

Latent Variables:
                   Estimate  Std.Err  z-value  P(>|z|)
  knowledge =~
    ONT               1.000
    EIT               1.038    0.226    4.601    0.000
    ATGJT             1.101    0.198    5.550    0.000
    WTGJT             0.707    0.214    3.308    0.001
    UGJT              1.610    0.275    5.851    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)
   .ONT               0.014    0.004    3.988    0.000
   .EIT               0.025    0.006    4.363    0.000
   .ATGJT             0.012    0.003    3.572    0.000
   .WTGJT             0.030    0.006    4.728    0.000
   .UGJT              0.017    0.006    2.856    0.004
    knowledge         0.019    0.006    2.963    0.003

>
> # Plot:
> semPaths(fitibs,"path", "est",edge.label.cex=1.2,nCharNodes = 50, layout="tree",edge.color="black")
>
> ################## Austria ###################
>
> ### 1 factor model: ###
>
> # Define model:
> model1a <- 'knowledge =~ ONT + EIT + ATGJT + WTGJT + UGJT + MKT'
>
> # Compute model 1 factor:
> fit1a <- cfa(model1a, data = dat[dat$Country=="Austria",])
>
> # View output:
> summary(fit1a, fit.measures = TRUE)
lavaan 0.6-11 ended normally after 57 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        12

                                                  Used       Total
  Number of observations                            66         110

Model Test User Model:

  Test statistic                                18.714
  Degrees of freedom                                 9
  P-value (Chi-square)                           0.028

Model Test Baseline Model:

  Test statistic                               145.713
  Degrees of freedom                                15
  P-value                                        0.000
```

```
User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.926
  Tucker-Lewis Index (TLI)                       0.876

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)                197.293
  Loglikelihood unrestricted model (H1)        206.649

  Akaike (AIC)                                -370.585
  Bayesian (BIC)                              -344.309
  Sample-size adjusted Bayesian (BIC)         -382.088

Root Mean Square Error of Approximation:

  RMSEA                                          0.128
  90 Percent confidence interval - lower         0.041
  90 Percent confidence interval - upper         0.210
  P-value RMSEA <= 0.05                          0.064

Standardized Root Mean Square Residual:

  SRMR                                           0.069

Parameter Estimates:

  Standard errors                             Standard
  Information                                 Expected
  Information saturated (h1) model          Structured

Latent Variables:
                   Estimate  Std.Err  z-value  P(>|z|)
  knowledge =~
    ONT               1.000
    EIT               1.879    0.372    5.051    0.000
    ATGJT             1.649    0.347    4.748    0.000
    WTGJT             1.433    0.331    4.327    0.000
    UGJT              1.629    0.357    4.563    0.000
    MKT               0.683    0.252    2.711    0.007

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)
   .ONT               0.011    0.002    5.120    0.000
   .EIT               0.011    0.003    3.548    0.000
   .ATGJT             0.015    0.003    4.487    0.000
   .WTGJT             0.019    0.004    5.004    0.000
   .UGJT              0.019    0.004    4.768    0.000
   .MKT               0.020    0.004    5.585    0.000
    knowledge         0.007    0.003    2.629    0.009

>
> ### 2 factor model:###
>
> # Define model:
> model2a <- 'implicit =~ ONT + EIT + ATGJT + WTGJT
+           explicit =~ UGJT + MKT'
```

```
> # Compute model 2 factor:
> fit2a <- cfa(model2a, data = dat[dat$Country=="Austria",])
Warning message:
In lav_object_post_check(object) :
  lavaan WARNING: some estimated ov variances are negative
>
>
> # View outputs:
> summary(fit2a, fit.measures = TRUE)
lavaan 0.6-11 ended normally after 72 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        13

                                                  Used       Total
  Number of observations                            66         110

Model Test User Model:

  Test statistic                                10.389
  Degrees of freedom                                 8
  P-value (Chi-square)                           0.239

Model Test Baseline Model:

  Test statistic                               145.713
  Degrees of freedom                                15
  P-value                                        0.000
```

```
User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.982
  Tucker-Lewis Index (TLI)                       0.966

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)               201.455
  Loglikelihood unrestricted model (H1)       206.649

  Akaike (AIC)                               -376.910
  Bayesian (BIC)                             -348.445
  Sample-size adjusted Bayesian (BIC)        -389.371

Root Mean Square Error of Approximation:

  RMSEA                                          0.067
  90 Percent confidence interval - lower         0.000
  90 Percent confidence interval - upper         0.168
  P-value RMSEA <= 0.05                          0.350

Standardized Root Mean Square Residual:

  SRMR                                           0.047
```

```
Parameter Estimates:

  Standard errors                             Standard
  Information                                 Expected
  Information saturated (h1) model          Structured

Latent Variables:
                   Estimate  Std.Err  z-value  P(>|z|)
  implicit =~
    ONT               1.000
    EIT               1.855    0.371    4.992    0.000
    ATGJT             1.703    0.353    4.827    0.000
    WTGJT             1.471    0.334    4.397    0.000
  explicit =~
    UGJT              1.000
    MKT               0.359    0.138    2.603    0.009

Covariances:
                   Estimate  Std.Err  z-value  P(>|z|)
  implicit ~~
    explicit          0.011    0.003    3.518    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)
   .ONT               0.011    0.002    5.098    0.000
   .EIT               0.012    0.003    3.631    0.000
   .ATGJT             0.014    0.003    4.221    0.000
   .WTGJT             0.019    0.004    4.900    0.000
   .UGJT             -0.001    0.012   -0.089    0.929
   .MKT               0.018    0.004    5.178    0.000
    implicit          0.007    0.003    2.623    0.009
    explicit          0.039    0.014    2.883    0.004

>
>
> # AIC:
> aictab(list(fit1a,fit2a))

Model selection based on AICc:

      K    AICc Delta_AICc AICcWt Cum.Wt     LL
Mod2 13 -369.91       0.00   0.93   0.93 201.46
Mod1 12 -364.70       5.21   0.07   1.00 197.29

Warning message:
In aictab.AICclavaan(list(fit1a, fit2a)) :
Model names have been supplied automatically in the table

>
> # Plot:
> semPaths(fit1a,"path", "est",edge.label.cex=1.2, nCharNodes = 10, layout="tree",edge.color="black")
>
> semPaths(fit2a,"path","est",edge.label.cex=1.2,nCharNodes = 10, layout="tree",edge.color="black")
>
```

3 Linear Mixed Models (Total EE)

```
> ################################################
> ######### Linear mixed models ##################
> ################################################
>
> # dv: ATGJT, WTGJT, etc.
> # iv: Gender, HISEI, Ctest, ExtramuralEnglish / individual EE activities, Country, Schooltype
> # Mixed-Effects structure: all iv fixed; random: 3 steps: school-class-student
>
> ##############################################################################################################
> ############################## Overall EE Models ##############################################################
> ##############################################################################################################
>
> ########################
> ######### ONT ######
> ########################
> ################################################
> ######### Linear mixed models ##################
> ################################################
>
> # dv: ATGJT, WTGJT, etc.
> # iv: Gender, HISEI, Ctest, ExtramuralEnglish / individual EE activities, Country, Schooltype
> # Mixed-Effects structure: all iv fixed; random: 3 steps: school-class-student
>
> ##############################################################################################################
> ############################## Overall EE Models ##############################################################
> ##############################################################################################################
>
> ########################
> ######### ONT ######
> ########################
>
> #stepwise introduction
>
```

```
> mdat <- na.omit(dat[c("ONT","ExtramuralEnglish","Class_neu","School")])
> o0 <- lme(ONT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o0) #EE
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -76.50799 -62.96034 43.25399

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.082337e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05612394 0.1463248

Fixed effects: ONT ~ ExtramuralEnglish
                      Value   Std.Error DF   t-value p-value
(Intercept)       0.7493794 0.026254500 98 28.542893  0.0000
ExtramuralEnglish 0.0015786 0.000640452 98  2.464886  0.0154
 Correlation:
                  (Intr)
ExtramuralEnglish -0.595

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.1853574 -0.4307342  0.1386694  0.7225116  1.3944593

Number of Observations: 113
Number of Groups:
             School Class_neu %in% School
                  7                   14
```

```
>
> mdat <- na.omit(dat[c("ONT","ctest","Class_neu","School")])
> o0 <- lme(ONT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o0) #Ctest
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -108.2311 -94.29363 59.11554

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.490135e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03860426 0.1406825

Fixed effects: ONT ~ Ctest
                Value  Std.Error  DF   t-value p-value
(Intercept) 0.6572893 0.03423201 107 19.201013       0
Ctest       0.4360923 0.08992791 107  4.849355       0
 Correlation:
```

```
      (Intr)
Ctest -0.869

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2553593 -0.4810322  0.1026902  0.6662984  1.5604425

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT","Country", "Class_neu","School")])
> o0 <- lme(ONT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o0) #nothing
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -103.8581 -89.44406 56.92904

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.001602359

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02406709 0.1508253

Fixed effects: ONT ~ Country
                  Value  Std.Error  DF  t-value p-value
(Intercept)   0.8047521 0.02116986 120 38.01406  0.0000
CountryAustria 0.0025209 0.02950238   5  0.08545  0.9352
 Correlation:
               (Intr)
CountryAustria -0.718

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.3764153 -0.4467347  0.1362179  0.6950376  1.3299863

Number of Observations: 134
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> o0 <- lme(ONT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o0) #E & Ctest
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -76.50293 -58.05982 45.25146

Random effects:
 Formula: ~1 | School
```

```
        (Intercept)
StdDev: 3.966135e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0506563 0.1368755

Fixed effects: ONT ~ ExtramuralEnglish + Ctest + Country
                      Value  Std.Error DF   t-value p-value
(Intercept)       0.6152996 0.04139777 91 14.863110  0.0000
ExtramuralEnglish 0.0013382 0.00067474 91  1.983244  0.0504
Ctest             0.4803349 0.10983541 91  4.373224  0.0000
CountryAustria   -0.0332579 0.04515861  5 -0.736468  0.4945
 Correlation:
                  (Intr) ExtrnE Ctest
ExtramuralEnglish -0.364
Ctest             -0.526 -0.190
CountryAustria    -0.301  0.243 -0.445

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0534351 -0.4041862  0.1457706  0.6961467  1.6028294

Number of Observations: 107
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> ## ONT - Country
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Country","Class_neu","School")])
> o1 <- lme(ONT ~ ExtramuralEnglish +  Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -71.22497 -55.02209 41.61249

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.710749e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05861944 0.1458303

Fixed effects: ONT ~ ExtramuralEnglish + Country
                      Value  Std.Error DF   t-value p-value
(Intercept)       0.7215575 0.03677952 98 19.618460  0.0000
ExtramuralEnglish 0.0017215 0.00065095 98  2.644585  0.0095
CountryAustria    0.0468915 0.04389122  5  1.068356  0.3342
 Correlation:
                  (Intr) ExtrnE
ExtramuralEnglish -0.544
CountryAustria    -0.689  0.182
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.09840368 -0.42802729  0.09405702  0.69959716  1.34605550

Number of Observations: 113
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o2 <- lme(ONT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -7.773229 20.19557 15.88661

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.523777e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03350941 0.1519926

Fixed effects: ONT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.8822840 0.6591191 64  1.3385804  0.1854
ExtramuralEnglish 0.0016143 0.0008876 64  1.8187387  0.0736
CountryAustria   -0.0074786 0.0603572  5 -0.1235377  0.9065
Ctest             0.4254261 0.1491928 64  2.8515197  0.0059
Dyslexdyslex      0.0179389 0.0856580 64  0.2094246  0.8348
HISEI             0.0002773 0.0012697 64  0.2184320  0.8278
Genderboy         0.0270161 0.0370110 64  0.7299476  0.4681
L1not majority L  0.0026738 0.0592961 64  0.0450929  0.9642
Age              -0.0213583 0.0488581 64 -0.4371500  0.6635
 Correlation:
                  (Intr) ExtrnE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish  0.090
CountryAustria     0.534  0.327
Ctest             -0.165 -0.249 -0.517
Dyslexdyslex       0.300 -0.040  0.128  0.152
HISEI             -0.078  0.110  0.236 -0.312 -0.035
Genderboy         -0.118 -0.114  0.059 -0.084 -0.118  0.156
L1not majority L   0.351 -0.134  0.214  0.091  0.226  0.013 -0.053
Age               -0.992 -0.123 -0.575  0.152 -0.314 -0.019  0.089 -0.371

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8571788 -0.3907649  0.1241775  0.7038796  1.4209658

Number of Observations: 85
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
```

```
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o3 <- lme(ONT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+          random= ~ 1 | School/Class_neu,data=mdat)
> summary(o3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
 -1.205919 28.92143 13.60296

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.03797069

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 8.758835e-06 0.1465629

Fixed effects: ONT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                      Value Std.Error DF   t-value p-value
(Intercept)                       0.7328300 0.6375054 63  1.149527  0.2547
ExtramuralEnglish                 0.0040212 0.0011902 63  3.378631  0.0013
CountryAustria                    0.0797471 0.0720313  5  1.107118  0.3186
Ctest                             0.4779070 0.1437999 63  3.323418  0.0015
Dyslexdyslex                     -0.0002126 0.0827628 63 -0.002569  0.9980
HISEI                             0.0002551 0.0012162 63  0.209748  0.8345
Genderboy                         0.0326671 0.0355001 63  0.920197  0.3610
L1not majority L                  0.0007397 0.0570483 63  0.012966  0.9897
Age                              -0.0159083 0.0471530 63 -0.337377  0.7370
ExtramuralEnglish:CountryAustria -0.0044630 0.0016311 63 -2.736118  0.0081
 Correlation:
                                 (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
ExtramuralEnglish                 0.014
CountryAustria                    0.392  0.531
Ctest                            -0.160 -0.116 -0.358
Dyslexdyslex                      0.311 -0.067  0.087  0.145
HISEI                            -0.087  0.113  0.210 -0.297 -0.043
Genderboy                        -0.126 -0.040  0.072 -0.073 -0.118  0.164
L1not majority L                  0.355 -0.113  0.168  0.084  0.213  0.014 -0.046
Age                              -0.991 -0.072 -0.458  0.143 -0.322 -0.012  0.094 -0.374
ExtramuralEnglish:CountryAustria  0.079 -0.691 -0.494 -0.104  0.062 -0.045 -0.058  0.017 -0.029

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7045966 -0.3582785  0.1155700  0.7055347  1.8487415

Number of Observations: 85
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> ## ONT - Schooltype
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> o4 <- lme(ONT ~ ExtramuralEnglish +  Schooltype,
+          random= ~ 1 | School/Class_neu,data=mdat)
> summary(o4)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC       BIC   logLik
 -66.14569 -47.30625 40.07284

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.491061e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06272123 0.1455585

Fixed effects: ONT ~ ExtramuralEnglish + Schooltype
                                Value  Std.Error DF   t-value p-value
(Intercept)                 0.7186820 0.03779140 98 19.017079  0.0000
ExtramuralEnglish           0.0017951 0.00065617 98  2.735719  0.0074
SchooltypeAT, Academic High 0.0661300 0.05192716  4  1.273514  0.2718
SchooltypeAT, Middle School 0.0173420 0.06131295  4  0.282843  0.7913
 Correlation:
                            (Intr) ExtrmE SAT,AH
ExtramuralEnglish           -0.536
SchooltypeAT, Academic High -0.631  0.209
SchooltypeAT, Middle School -0.469  0.055  0.331
```

```
Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.09418442 -0.44291997  0.09630705  0.73843110  1.37763539

Number of Observations: 113
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o5 <- lme(ONT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+          random= ~ 1 | School/Class_neu,data=mdat)
> summary(o5)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
 -2.061284 28.06606 14.03064

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.980652e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05948376 0.1490464

Fixed effects: ONT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF    t-value p-value
(Intercept)                  0.8886934 0.6565316 64  1.3536186  0.1806
ExtramuralEnglish            0.0016537 0.0008982 64  1.8412284  0.0702
SchooltypeAT, Academic High  0.0145580 0.0712716  4  0.2042603  0.8481
SchooltypeAT, Middle School  0.0001948 0.0785363  4  0.0024802  0.9981
```

```
Dyslexdyslex                 0.0234206 0.0856559 64  0.2734265  0.7854
HISEI                        0.0003981 0.0012678 64  0.3139851  0.7546
Genderboy                    0.0284669 0.0367669 64  0.7742520  0.4416
L1not majority L             0.0011496 0.0596337 64  0.0192784  0.9847
Age                         -0.0230162 0.0487084 64 -0.4725312  0.6382
 Correlation:
                            (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish            0.066
SchooltypeAT, Academic High  0.410  0.318
SchooltypeAT, Middle School  0.448  0.181  0.593
Ctest                       -0.166 -0.258 -0.475 -0.351
Dyslexdyslex                 0.304 -0.065  0.084  0.128  0.161
HISEI                       -0.059  0.072  0.187  0.207 -0.298 -0.008
Genderboy                   -0.111 -0.109  0.058  0.050 -0.093 -0.128  0.143
L1not majority L             0.343 -0.146  0.117  0.198  0.117  0.230  0.014 -0.062
Age                         -0.992 -0.095 -0.449 -0.490  0.152 -0.320 -0.038  0.084 -0.362

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6646275 -0.3969241  0.1074338  0.6845691  1.4786092

Number of Observations: 85
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o6 <- lme(ONT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+          random= ~ 1 | School/Class_neu,data=mdat)
> summary(o6)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  15.85386 50.21075 7.073069

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05593807

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 8.431135e-06 0.1463771

Fixed effects: ONT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                                Value Std.Error DF   t-value p-value
(Intercept)                                 0.7462746 0.6420794 62  1.162278  0.2496
ExtramuralEnglish                           0.0041958 0.0011979 62  3.502616  0.0009
SchooltypeAT, Academic High                 0.0627429 0.0894779  4  0.701211  0.5218
SchooltypeAT, Middle School                 0.0978173 0.0902558  4  1.083779  0.3394
Ctest                                       0.4818356 0.1463358 62  3.292672  0.0016
Dyslexdyslex                                0.0002391 0.0832745 62  0.002872  0.9977
HISEI                                       0.0001813 0.0012227 62  0.148297  0.8826
Genderboy                                   0.0344443 0.0355329 62  0.969365  0.3361
L1not majority L                            0.0076818 0.0580993 62  0.132219  0.8952
Age                                        -0.0172252 0.0475149 62 -0.362522  0.7182
ExtramuralEnglish:SchooltypeAT, Academic High -0.0031274 0.0028523 62 -1.096477  0.2771
ExtramuralEnglish:SchooltypeAT, Middle School -0.0050798 0.0017590 62 -2.887931  0.0053
```

```
 Correlation:
                                              (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntmL Age    EE:SAH
ExtramuralEnglish                              0.011
SchooltypeAT, Academic High                    0.268  0.437
SchooltypeAT, Middle School                    0.345  0.418  0.563
Ctest                                         -0.155 -0.107 -0.289 -0.236
Dyslexdyslex                                   0.316 -0.066  0.060  0.101  0.151
HISEI                                         -0.084  0.109  0.177  0.183 -0.272 -0.033
Genderboy                                     -0.123 -0.039  0.044  0.066 -0.075 -0.119  0.159
L1not majority L                               0.357 -0.112  0.055  0.197  0.090  0.208  0.009 -0.038
Age                                           -0.990 -0.069 -0.330 -0.412  0.133 -0.330 -0.016  0.091 -0.375
ExtramuralEnglish:SchooltypeAT, Academic High  0.080 -0.414 -0.480 -0.123 -0.133  0.029 -0.082  0.001  0.102 -0.043
ExtramuralEnglish:SchooltypeAT, Middle School  0.053 -0.639 -0.237 -0.476 -0.108  0.046 -0.036 -0.069 -0.043 -0.006  0.293

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.55635373 -0.39715510  0.06128743  0.71565744  1.82350455

Number of Observations: 85
Number of Groups:
               School Class_neu %in% School
                    7                    14
```

```
>
> ########################
> ########## EIT ########
> ########################
>
> #Stepwise introduction
>
> mdat <- na.omit(dat[c("EIT","ExtramuralEnglish","Class_neu","School")])
> e0 <- lme(EIT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e0) #EE
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -26.2722 -10.89634 18.1361

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.258818e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06772161 0.1987038

Fixed effects: EIT ~ ExtramuralEnglish
                      Value  Std.Error  DF   t-value p-value
(Intercept)       0.4916249 0.029794144 147 16.500722  0.0000
ExtramuralEnglish 0.0017851 0.000675642 147  2.642083  0.0091
 Correlation:
                  (Intr)
ExtramuralEnglish -0.549

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.60150332 -0.66577449 -0.05184258  0.58060101  2.24903612

Number of Observations: 162
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT","Ctest","Class_neu","School")])
> e0 <- lme(EIT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e0) #Ctest
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -66.65268 -50.97369 38.32634

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.337775e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06434381 0.1834006

Fixed effects: EIT ~ Ctest
                 Value  Std.Error  DF  t-value p-value
(Intercept) 0.3707951 0.03954765 157 9.375907       0
Ctest       0.5424350 0.10207094 157 5.314294       0
 Correlation:
      (Intr)
Ctest -0.814

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3759655 -0.6515776 -0.0733991  0.6181641  2.5543088

Number of Observations: 172
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT","country", "Class_neu","School")])
> e0 <- lme(EIT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e0) #nothing
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -45.29288 -29.16415 27.64644

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05504484

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02709429 0.1996412

Fixed effects: EIT ~ Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5624916 0.04073815 174 13.807491  0.0000
CountryAustria -0.0406220 0.05408533   5 -0.751072  0.4864
 Correlation:
               (Intr)
CountryAustria -0.753

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6513870 -0.6252330 -0.1224324  0.5951247  2.1908031

Number of Observations: 188
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> e0 <- lme(EIT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e0) # Ctest (might influence EE)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -39.98498 -18.95735 26.99249

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.955463e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03172049 0.1863692

Fixed effects: EIT ~ ExtramuralEnglish + Ctest + Country
                       Value  Std.Error  DF   t-value p-value
(Intercept)        0.3635155 0.04115058 137  8.833786  0.0000
ExtramuralEnglish  0.0006409 0.00067767 137  0.945797  0.3459
Ctest              0.6688016 0.12019774 137  5.564178  0.0000
CountryAustria    -0.1074925 0.04335358   5 -2.479437  0.0559
 Correlation:
                  (Intr) ExtrmE Ctest
ExtramuralEnglish -0.355
Ctest             -0.544 -0.195
CountryAustria    -0.256  0.260 -0.512

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.26341334 -0.62128613 -0.02842898  0.56210332  2.70200000

Number of Observations: 153
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> ## EIT - Country
>

> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country","Class_neu","School")])
> e1 <- lme(EIT ~ ExtramuralEnglish +  Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -20.19637 -1.78295 16.09819

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.479575e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07365348 0.1986122

Fixed effects: EIT ~ ExtramuralEnglish + Country
                       Value  Std.Error  DF   t-value p-value
(Intercept)        0.4884249 0.04352516 147 11.221667  0.0000
ExtramuralEnglish 0.0018112 0.00068604 147  2.640064  0.0092
CountryAustria    0.0047268 0.05305558   5  0.089091  0.9325
 Correlation:
                  (Intr) ExtrmE
ExtramuralEnglish -0.486
CountryAustria    -0.703  0.158

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.60393201 -0.67037174 -0.06502767  0.57955195  2.27794666

Number of Observations: 162
Number of Groups:
               School Class_neu %in% School
                    7                    14
```

```
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e2 <- lme(EIT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  6.097786 38.50355 8.951107

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.559519e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:   0.0702223 0.179585

Fixed effects: EIT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.8084912 0.6905783 98  1.170745  0.2445
```

```
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country","Class_neu","School")])
> e1 <- lme(EIT ~ ExtramuralEnglish +  Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -20.19637 -1.78295 16.09819

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.479575e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07363348 0.1986122

Fixed effects: EIT ~ ExtramuralEnglish + Country
                      Value  Std.Error  DF   t-value p-value
(Intercept)       0.4884249 0.04352516 147 11.221667  0.0000
ExtramuralEnglish 0.0018112 0.00068604 147  2.640064  0.0092
CountryAustria    0.0047268 0.05305558   5  0.089091  0.9325
 Correlation:
                  (Intr) ExtrmE
ExtramuralEnglish -0.486
CountryAustria    -0.703  0.158

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.60393201 -0.67037174 -0.06502767  0.57955195  2.27794666

Number of Observations: 162
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e2 <- lme(EIT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  6.097786 38.50355 8.951107

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.559519e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:   0.0702223 0.179585

Fixed effects: EIT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.8084912 0.6905783 98  1.170745  0.2445
```

```
ExtramuralEnglish  0.0007605 0.0008439 98  0.901142  0.3697
CountryAustria    -0.0285978 0.0716193  5 -0.399303  0.7062
Ctest              0.5576023 0.1498695 98  3.720585  0.0003
Dyslexdyslex       0.1133925 0.0902416 98  1.256543  0.2119
HISEI              0.0033492 0.0012854 98  2.605562  0.0106
Genderboy          0.0333404 0.0364667 98  0.914268  0.3628
L1not majority L   0.0588614 0.0595282 98  0.988798  0.3252
Age               -0.0489118 0.0513544 98 -0.952438  0.3432
 Correlation:
                  (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish  0.113
CountryAustria     0.480  0.235
Ctest             -0.157 -0.280 -0.438
Dyslexdyslex       0.206 -0.004  0.133  0.129
HISEI             -0.063  0.050  0.218 -0.312  0.028
Genderboy         -0.013 -0.138  0.108 -0.079 -0.032  0.076
L1not majority L   0.267 -0.072  0.210  0.042  0.049 -0.028  0.013
Age               -0.992 -0.133 -0.528  0.147 -0.226 -0.030 -0.011 -0.282

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.04369828 -0.54253005 -0.03226889  0.52677679  2.01592801

Number of Observations: 119
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e3 <- lme(EIT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  12.9481 47.93562 6.525951

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.981939e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04864294 0.1782053

Fixed effects: EIT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                      Value Std.Error DF   t-value p-value
(Intercept)                       0.6782200 0.6828499 97  0.993220  0.3231
ExtramuralEnglish                 0.0035026 0.0013633 97  2.569131  0.0117
CountryAustria                    0.0396562 0.0737352  5  0.787695  0.4666
Ctest                             0.5985394 0.1460905 97  4.097046  0.0001
Dyslexdyslex                      0.1070525 0.0878805 97  1.218159  0.2261
HISEI                             0.0035596 0.0012614 97  2.822056  0.0058
Genderboy                         0.0345066 0.0359436 97  0.960020  0.3394
L1not majority L                  0.0529244 0.0584544 97  0.905397  0.3675
Age                              -0.0458704 0.0506609 97 -0.905439  0.3675
ExtramuralEnglish:CountryAustria -0.0042040 0.0016482 97 -2.550609  0.0123
```

```
 Correlation:
                                  (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ExtramuralEnglish                  0.022
CountryAustria                     0.419  0.541
Ctest                             -0.155 -0.120 -0.377
Dyslexdyslex                       0.204  0.005  0.121  0.124
HISEI                             -0.077  0.082  0.230 -0.318  0.014
Genderboy                         -0.018 -0.070  0.106 -0.073 -0.027  0.082
L1not majority L                   0.277 -0.091  0.177  0.027  0.043 -0.022  0.016
Age                               -0.991 -0.076 -0.485  0.144 -0.223 -0.019 -0.008 -0.291
ExtramuralEnglish:CountryAustria  0.061 -0.796 -0.512 -0.058  0.001 -0.053 -0.020  0.056 -0.009

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.02805131 -0.58781024 -0.04056737  0.50253079  2.08449986

Number of Observations: 119
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> # EIT - Schooltype
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> e4 <- lme(EIT ~ ExtramuralEnglish +  Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e4)
```

```
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC  logLik
  -17.24419 4.193972 15.6221

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.465265e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.06173263 0.198984

Fixed effects: EIT ~ ExtramuralEnglish + Schooltype
                                Value  Std.Error  DF   t-value p-value
(Intercept)                 0.4886890 0.04083568 147 11.967205  0.0000
ExtramuralEnglish           0.0018191 0.00068476 147  2.656544  0.0088
SchooltypeAT, Academic High 0.0447479 0.05411180   4  0.826953  0.4547
SchooltypeAT, Middle School -0.0674170 0.06408165   4 -1.052048  0.3521
 Correlation:
                            (Intr) ExtrmE SAT,AH
ExtramuralEnglish           -0.513
SchooltypeAT, Academic High -0.643  0.169
SchooltypeAT, Middle School -0.522  0.102  0.372

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.69177434 -0.66146525 -0.05839388  0.61039157  2.34236210

Number of Observations: 162
```

```
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e5 <- lme(EIT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e5)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  10.60826 45.59578 7.69587

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.161027e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07610413 0.1790048

Fixed effects: EIT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.7932824 0.6897027 98  1.150180  0.2529
ExtramuralEnglish            0.0008123 0.0008463 98  0.959826  0.3395
SchooltypeAT, Academic High -0.0012817 0.0787451  4 -0.016276  0.9878
SchooltypeAT, Middle School -0.0695362 0.0891599  4 -0.779905  0.4790
Ctest                        0.5389340 0.1509831 98  3.569499  0.0006
Dyslexdyslex                 0.1124327 0.0904594 98  1.242907  0.2169
HISEI                        0.0032323 0.0012918 98  2.502153  0.0140
Genderboy                    0.0339017 0.0364196 98  0.930864  0.3542
L1not majority L             0.0549426 0.0596324 98  0.921356  0.3591
Age                         -0.0471438 0.0513280 98 -0.918482  0.3606
 Correlation:
                            (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish            0.109
SchooltypeAT, Academic High  0.421  0.237
SchooltypeAT, Middle School  0.403  0.148  0.560
Ctest                       -0.153 -0.286 -0.435 -0.286
Dyslexdyslex                 0.208 -0.010  0.109  0.128  0.133
HISEI                       -0.057  0.038  0.161  0.232 -0.295  0.034
Genderboy                   -0.013 -0.136  0.105  0.079 -0.081 -0.034  0.072
L1not majority L             0.266 -0.074  0.166  0.202  0.052  0.053 -0.023  0.010
Age                         -0.992 -0.127 -0.461 -0.452  0.142 -0.229 -0.038 -0.011 -0.282

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.11451669 -0.56713969 -0.01436503  0.50367019  1.99408622

Number of Observations: 119
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e6 <- lme(EIT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
```

```
> summary(e6)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  29.54741 69.63985 0.2262936

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.083901e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0618467 0.1768054

Fixed effects: EIT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                                 Value Std.Error DF   t-value p-value
(Intercept)                                  0.6439683 0.6810799 96  0.945511  0.3468
ExtramuralEnglish                            0.0034952 0.0013712 96  2.548989  0.0124
SchooltypeAT, Academic High                  0.1015499 0.0840625  4  1.208029  0.2936
SchooltypeAT, Middle School                  0.0087441 0.0921915  4  0.094847  0.9290
Ctest                                        0.5839405 0.1484186 96  3.934416  0.0002
Dyslexdyslex                                 0.1083422 0.0883506 96  1.226275  0.2231
HISEI                                        0.0034906 0.0012761 96  2.735387  0.0074
Genderboy                                    0.0329764 0.0359310 96  0.917769  0.3610
L1not majority L                             0.0425818 0.0590121 96  0.721577  0.4723
Age                                         -0.0429016 0.0505605 96 -0.848521  0.3983
ExtramuralEnglish:SchooltypeAT, Academic High -0.0052221 0.0020708 96 -2.521804  0.0133
ExtramuralEnglish:SchooltypeAT, Middle School -0.0033461 0.0018218 96 -1.836660  0.0694
 Correlation:
                                             (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML Age    EE:SAH
ExtramuralEnglish                             0.012
SchooltypeAT, Academic High                   0.353  0.490
SchooltypeAT, Middle School                   0.361  0.436  0.613
Ctest                                        -0.155 -0.101 -0.349 -0.243
Dyslexdyslex                                  0.206 -0.003  0.101  0.116  0.130
HISEI                                        -0.067  0.069  0.191  0.222 -0.285  0.028
Genderboy                                    -0.014 -0.069  0.086  0.096 -0.080 -0.032  0.068
L1not majority L                              0.275 -0.084  0.109  0.197  0.037  0.048 -0.030  0.021
Age                                          -0.991 -0.067 -0.413 -0.426  0.139 -0.227 -0.030 -0.010 -0.288
ExtramuralEnglish:SchooltypeAT, Academic High  0.071 -0.650 -0.493 -0.245 -0.096 -0.005 -0.097  0.028  0.107 -0.022
ExtramuralEnglish:SchooltypeAT, Middle School  0.050 -0.720 -0.313 -0.477 -0.061  0.007 -0.006 -0.049 -0.009 -0.005  0.490

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.07566827 -0.61193852 -0.03120976  0.56087365  2.11501556

Number of Observations: 119
Number of Groups:
               School Class_neu %in% School
                    7                    14
> |
```

```
> ##############################
> ############ ATGJT ########
> ##############################
>
> #stepwise introduction
>
> mdat <- na.omit(dat[c("ATGJT","ExtramuralEnglish","Class_neu","School")])
> a0 <- lme(ATGJT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a0) #EE
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -66.85227 -51.44525 38.42614

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 8.944027e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.06584134 0.174252

Fixed effects: ATGJT ~ ExtramuralEnglish
                       value  Std.Error  DF   t-value p-value
(Intercept)       0.4403697 0.027037649 146 16.287280   0e+00
ExtramuralEnglish 0.0022834 0.000599111 146  3.811264   2e-04
 Correlation:
                  (Intr)
ExtramuralEnglish -0.562

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.67653022 -0.78902506  0.03735309  0.66151732  2.50429806

Number of Observations: 163
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("ATGJT","Ctest","Class_neu","School")])
> a0 <- lme(ATGJT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a0) #Ctest
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -93.99518 -78.28687 51.99759

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1042994

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.03068481 0.166664
```

```
Fixed effects: ATGJT ~ Ctest
                 Value  Std.Error  DF  t-value p-value
(Intercept) 0.3383289 0.05060672 156 6.685455       0
Ctest       0.5404172 0.09636950 156 5.607761       0
 Correlation:
      (Intr)
Ctest -0.6

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.93425114 -0.79136835  0.04784106  0.69505094  2.39220988

Number of Observations: 173
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("ATGJT","Country", "Class_neu","School")])
> a0 <- lme(ATGJT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a0) #nothing
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -77.06239 -60.98771 43.53119

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04620637
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.03049974 0.1823395

Fixed effects: ATGJT ~ Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.5546035 0.03254717 170 17.03999   0.000
CountryAustria -0.0976658 0.04580667   6 -2.13213   0.077
 Correlation:
               (Intr)
CountryAustria -0.711

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9459248 -0.7370456 -0.0459190  0.7235402  2.3133813

Number of Observations: 186
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> a0 <- lme(ATGJT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a0) #EE & Ctest & Country
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC       BIC   logLik
  -74.08779 -53.06016 44.04389

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.452956e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02957944 0.1660025

Fixed effects: ATGJT ~ ExtramuralEnglish + Ctest + Country
                     Value  Std.Error  DF   t-value p-value
(Intercept)        0.3630727 0.036344453 135  9.989750  0.0000
ExtramuralEnglish  0.0013653 0.00059507 135  2.294444  0.0233
Ctest              0.5447742 0.10591855 135  5.143331  0.0000
CountryAustria    -0.1451648 0.03863056   6 -3.757772  0.0094
 Correlation:
                   (Intr) ExtrmE Ctest
ExtramuralEnglish -0.367
Ctest             -0.541 -0.212
CountryAustria    -0.250  0.286 -0.513

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.78865589 -0.85691001 -0.01362567  0.71945676  2.76280453

Number of Observations: 153
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> # ATGJT - country
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "country","Class_neu","School")])
> a1 <- lme(ATGJT ~ ExtramuralEnglish + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -61.59934 -43.1483 36.79967

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 9.946412e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06505547 0.1743009

Fixed effects: ATGJT ~ ExtramuralEnglish + Country
                     Value  Std.Error  DF   t-value p-value
(Intercept)        0.4656758 0.03614362 146 12.884037  0.0000
ExtramuralEnglish  0.0021771 0.00060769 146  3.582611  0.0005
CountryAustria    -0.0474768 0.04511852   6 -1.052269  0.3332
```

```
 Correlation:
                   (Intr) ExtrmE
ExtramuralEnglish -0.527
CountryAustria    -0.668  0.169

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.62684898 -0.82089810  0.05178971  0.64448391  2.54361253

Number of Observations: 163
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> a2 <- lme(ATGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -16.50867 16.00569 20.25433

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.998913e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.125511e-06 0.1684801

Fixed effects: ATGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       -0.6284677 0.5360193 97 -1.172472  0.2439
ExtramuralEnglish  0.0013623 0.0007340 97  1.855992  0.0665
CountryAustria    -0.1849808 0.0476872  6 -3.879041  0.0082
Ctest              0.5842477 0.1260223 97  4.636066  0.0000
Dyslexdyslex       0.0624616 0.0796205 97  0.784491  0.4347
HISEI              0.0014130 0.0011519 97  1.226720  0.2229
Genderboy          0.0035996 0.0330896 97  0.108784  0.9136
L1not majority L   0.0456239 0.0522236 97  0.873626  0.3845
Age                0.0666753 0.0392819 97  1.697355  0.0928
 Correlation:
                   (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish  0.129
CountryAustria     0.441  0.320
Ctest             -0.091 -0.276 -0.497
Dyslexdyslex       0.142  0.031  0.097  0.133
HISEI             -0.156  0.085  0.244 -0.296 -0.015
Genderboy          0.002 -0.147  0.129 -0.014  0.000  0.057
L1not majority L   0.185 -0.096  0.199  0.049  0.002 -0.019  0.042
Age               -0.990 -0.158 -0.495  0.079 -0.161  0.047 -0.033 -0.204

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.11156956 -0.72958435  0.09386288  0.64399439  2.56344374
```

```
Number of Observations: 120
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> a3 <- lme(ATGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -6.390126 28.71612 16.19506

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.306599e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.951293e-06 0.1668378

Fixed effects: ATGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                        Value Std.Error DF   t-value p-value
(Intercept)                         -0.6066279 0.5309348 96 -1.142566  0.2561
ExtramuralEnglish                    0.0029619 0.0011528 96  2.569371  0.0117
CountryAustria                      -0.1171396 0.0605802  6 -1.933627  0.1013
Ctest                                0.5744086 0.1249151 96  4.598390  0.0000
Dyslexdyslex                         0.0648137 0.0788553 96  0.821932  0.4132
HISEI                                0.0015685 0.0011440 96  1.371089  0.1735
Genderboy                            0.0059941 0.0327944 96  0.182779  0.8554
L1not majority L                     0.0427822 0.0517390 96  0.826885  0.4104
Age                                  0.0611304 0.0390224 96  1.566543  0.1205
ExtramuralEnglish:CountryAustria -0.0025173 0.0014081 96 -1.787765  0.0770
 Correlation:
                                    (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ExtramuralEnglish                    0.099
CountryAustria                       0.358  0.644
Ctest                               -0.092 -0.208 -0.415
Dyslexdyslex                         0.142  0.033  0.086  0.132
HISEI                               -0.154  0.112  0.237 -0.299 -0.014
Genderboy                            0.003 -0.061  0.126 -0.015  0.000  0.060
L1not majority L                     0.185 -0.084  0.136  0.050  0.001 -0.021  0.041
Age                                 -0.989 -0.161 -0.434  0.082 -0.162  0.041 -0.036 -0.201
ExtramuralEnglish:CountryAustria -0.023 -0.776 -0.626  0.044 -0.017 -0.076 -0.041  0.031  0.079

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.1239949 -0.7236677  0.1246641  0.5969365  2.5377839

Number of Observations: 120
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
```

```
> ## ATGJT - Schooltype
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> a4 <- lme(ATGJT ~ ExtramuralEnglish +  Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a4)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -57.50304 -36.02071 35.75152

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 9.127939e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06126296 0.1744753

Fixed effects: ATGJT ~ ExtramuralEnglish + Schooltype
                                  Value  Std.Error  DF   t-value p-value
(Intercept)                  0.4648629 0.03540799 146 13.123109  0.0000
ExtramuralEnglish            0.0022128 0.00060771 146  3.640815  0.0004
SchooltypeAT, Academic High -0.0176704 0.04969427   5 -0.355583  0.7367
SchooltypeAT, Middle School -0.0984234 0.05948926   5 -1.654474  0.1589
 Correlation:
                            (Intr) ExtrmE SAT,AH
ExtramuralEnglish           -0.536
SchooltypeAT, Academic High -0.600  0.173
SchooltypeAT, Middle School -0.476  0.097  0.319

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.67444306 -0.80320499  0.02753159  0.65690065  2.48690728

Number of Observations: 163
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> a5 <- lme(ATGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a5)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.20017 24.90607 18.10009

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.530778e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 1.486592e-05 0.169004

Fixed effects: ATGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF   t-value p-value
(Intercept)                -0.6412184 0.5381691 97 -1.191481  0.2364
ExtramuralEnglish           0.0013831 0.0007372 97  1.876171  0.0636
SchooltypeAT, Academic High -0.1752448 0.0509039  5 -3.442659  0.0184
SchooltypeAT, Middle School -0.1974032 0.0527396  5 -3.742978  0.0134
Ctest                       0.5738708 0.1277682 97  4.491499  0.0000
Dyslexdyslex                0.0613755 0.0798917 97  0.768235  0.4442
HISEI                       0.0013142 0.0011689 97  1.124330  0.2636
Genderboy                   0.0036694 0.0331927 97  0.110548  0.9122
L1not majority L            0.0423772 0.0527066 97  0.804021  0.4234
Age                         0.0682240 0.0395012 97  1.727137  0.0873
 Correlation:
                           (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish           0.127
SchooltypeAT, Academic High  0.400  0.318
SchooltypeAT, Middle School  0.417  0.269  0.708
Ctest                       -0.084 -0.281 -0.512 -0.385
Dyslexdyslex                 0.143  0.030  0.083  0.099  0.135
HISEI                       -0.148  0.076  0.175  0.283 -0.268 -0.012
Genderboy                    0.002 -0.147  0.123  0.115 -0.014  0.000  0.056
L1not majority L             0.189 -0.100  0.148  0.225  0.064  0.004 -0.002  0.042
Age                         -0.990 -0.154 -0.440 -0.477  0.068 -0.162  0.036 -0.033 -0.210

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.08722428 -0.72043337  0.03897122  0.63014121  2.50650069

Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> a6 <- lme(ATGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a6)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  12.56734 52.79931 8.716331

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.009040122

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.80604e-06 0.1679116

Fixed effects: ATGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                                  Value Std.Error DF   t-value p-value
(Intercept)                                  -0.6057418 0.5360295 95 -1.130053  0.2613
ExtramuralEnglish                             0.0029611 0.0011612 95  2.550008  0.0124
SchooltypeAT, Academic High                  -0.1163659 0.0662158  5 -1.757374  0.1392
SchooltypeAT, Middle School                  -0.1230502 0.0671440  5 -1.832631  0.1263
Ctest                                         0.5614488 0.1277509 95  4.394871  0.0000
Dyslexdyslex                                  0.0632993 0.0795239 95  0.795977  0.4280
HISEI                                         0.0014098 0.0011775 95  1.197336  0.2342
Genderboy                                     0.0074585 0.0331465 95  0.225016  0.8225
L1not majority L                              0.0425016 0.0528148 95  0.804729  0.4230
Age                                           0.0619330 0.0394392 95  1.570341  0.1197
ExtramuralEnglish:SchooltypeAT, Academic High -0.0020122 0.0018478 95 -1.088957  0.2789
ExtramuralEnglish:SchooltypeAT, Middle School -0.0027763 0.0015675 95 -1.771210  0.0797
 Correlation:
                                              (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML Age    EE:SAH
ExtramuralEnglish                              0.097
SchooltypeAT, Academic High                    0.309  0.600
SchooltypeAT, Middle School                    0.344  0.578  0.701
Ctest                                         -0.087 -0.206 -0.389 -0.336
Dyslexdyslex                                   0.143  0.033  0.081  0.084  0.137
HISEI                                         -0.148  0.109  0.215  0.236 -0.253 -0.005
Genderboy                                      0.006 -0.061  0.093  0.132 -0.023 -0.001  0.046
L1not majority L                               0.191 -0.086  0.062  0.181  0.055  0.000 -0.022  0.050
Age                                           -0.988 -0.159 -0.377 -0.420  0.071 -0.164  0.031 -0.037 -0.208
ExtramuralEnglish:SchooltypeAT, Academic High  0.002 -0.603 -0.614 -0.314 -0.025 -0.030 -0.150  0.025  0.097  0.054
ExtramuralEnglish:SchooltypeAT, Middle School -0.034 -0.696 -0.400 -0.611  0.068 -0.007 -0.013 -0.074 -0.025  0.078  0.425

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.07740210 -0.71296226  0.07469999  0.63841894  2.49007595

Number of Observations: 120
```

```
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
>
> ########################
> ######### WTGJT ######
> ######################
>
> #stepwise introduction
>
> mdat <- na.omit(dat[c("WTGJT","ExtramuralEnglish","Class_neu","School")])
> w0 <- lme(WTGJT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w0) #EE
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -62.66598 -47.16665 36.33299

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04413364

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 6.641301e-06 0.1813213

Fixed effects: WTGJT ~ ExtramuralEnglish
                      Value   Std.Error  DF   t-value p-value
(Intercept)       0.30383740 0.025815720 149 11.769472  0.0000
ExtramuralEnglish 0.00127195 0.000613033 149  2.074772  0.0397
 Correlation:
                  (Intr)
ExtramuralEnglish -0.568

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.8606937 -0.7465864 -0.1079622  0.7128417  3.0843621

Number of Observations: 166
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("WTGJT","Ctest","Class_neu","School")])
> w0 <- lme(WTGJT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w0) #Ctest
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -78.7504 -62.95512 44.3752

Random effects:
 Formula: ~1 | School
        (Intercept)
```

```
StdDev:  0.05481379

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 4.451106e-06 0.1802094

Fixed effects: WTGJT ~ Ctest
                Value  Std.Error  DF  t-value p-value
(Intercept) 0.2109401 0.03930609 159 5.366602       0
Ctest       0.4295867 0.09749922 159 4.406053       0
 Correlation:
      (Intr)
Ctest -0.787

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.01636329 -0.71228325 -0.03954349  0.65143115  2.84925754

Number of Observations: 176
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("WTGJT","ExtramuralEnglish", "Ctest", "Class_neu","School")])
> w0 <- lme(WTGJT ~ ExtramuralEnglish + Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w0) #Ctest, (EE not sign anymore)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -62.91368 -44.73105 37.45684

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01988454

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 4.329834e-06 0.1779251

Fixed effects: WTGJT ~ ExtramuralEnglish + Ctest
                      Value  Std.Error  DF  t-value p-value
(Intercept)       0.2022541 0.03646329 138 5.546785  0.0000
ExtramuralEnglish 0.0007666 0.00060385 138 1.269455  0.2064
Ctest             0.3521905 0.09434383 138 3.733053  0.0003
 Correlation:
                  (Intr) ExtrmE
ExtramuralEnglish -0.322
Ctest             -0.813 -0.069

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.983343259 -0.679816529 -0.003042246  0.592318228  3.115177870

Number of Observations: 156
Number of Groups:
               School Class_neu %in% School
```

```
Fixed effects: WTGJT ~ ExtramuralEnglish + Ctest + Country
                      Value  Std.Error  DF   t-value p-value
(Intercept)       0.2153288 0.03876494 138  5.554730  0.0000
ExtramuralEnglish 0.0005794 0.00063009 138  0.919556  0.3594
Ctest             0.4136244 0.10992460 138  3.762801  0.0002
CountryAustria   -0.0458560 0.04093362   6 -1.120254  0.3054
 Correlation:
                  (Intr) ExtrmE Ctest
ExtramuralEnglish -0.362
Ctest             -0.522 -0.205
CountryAustria    -0.300  0.269 -0.488

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.98144205 -0.67565467 -0.05995865  0.61182893  3.06985259

Number of Observations: 156
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> ## WTGJT ~ Country
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Country","Class_neu","School")])
> w1 <- lme(WTGJT ~ ExtramuralEnglish +  Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -56.57764 -38.01514 34.28882

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04780789

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 5.278196e-06 0.1813853

Fixed effects: WTGJT ~ ExtramuralEnglish + Country
                      Value  Std.Error  DF  t-value p-value
(Intercept)       0.28880786 0.03782104 149 7.636169  0.0000
ExtramuralEnglish 0.00133823 0.00062230 149 2.150458  0.0331
CountryAustria    0.02449676 0.04515104   6 0.542551  0.6070
 Correlation:
                  (Intr) ExtrmE
ExtramuralEnglish -0.493
CountryAustria    -0.709  0.151

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.88206536 -0.74198003 -0.09177027  0.71222991  3.11347319

Number of Observations: 166
Number of Groups:
               School Class_neu %in% School
```

```
Number of Observations: 166
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> w2 <- lme(WTGJT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -8.003079 24.61891 16.00154

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.604001e-06

 Formula: ~1 | Class_neu %in% School
         (Intercept)  Residual
StdDev: 3.070431e-06 0.1755184
```

```
Fixed effects: WTGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)       -0.9306667 0.5583726 98 -1.666749  0.0988
ExtramuralEnglish  0.0004482 0.0007645 98  0.586239  0.5591
CountryAustria    -0.1163012 0.0495588  6 -2.346729  0.0573
Ctest              0.4512892 0.1312833 98  3.437523  0.0009
Dyslexdyslex       0.0238909 0.0829461 98  0.288030  0.7739
HISEI              0.0005705 0.0011775 98  0.484536  0.6291
Genderboy         -0.0937423 0.0344464 98 -2.721399  0.0077
L1not majority L   0.0521474 0.0544045 98  0.958514  0.3402
Age                0.0849508 0.0408992 98  2.077078  0.0404
 Correlation:
                  (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish  0.129
CountryAustria     0.441  0.322
Ctest             -0.091 -0.276 -0.499
Dyslexdyslex       0.142  0.032  0.097  0.133
HISEI             -0.161  0.090  0.236 -0.304 -0.016
Genderboy          0.003 -0.148  0.132 -0.013  0.000  0.066
L1not majority L   0.185 -0.096  0.199  0.049  0.002 -0.018  0.042
Age               -0.991 -0.159 -0.494  0.079 -0.161  0.055 -0.034 -0.205

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.97043090 -0.64559525 -0.02924479  0.61903453  3.19964766

Number of Observations: 121
Number of Groups:
             School Class_neu %in% School
                  8                    16

>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> w3 <- lme(WTGJT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w3)
```

```
             School Class_neu %in% School
                  8                    16

>
> mdat <- na.omit(dat[c("WTGJT","Country", "Class_neu","School")])
> w0 <- lme(WTGJT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w0) #nothing
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -64.13275 -47.97721 37.06638

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04748202

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 6.205269e-06  0.19098

Fixed effects: WTGJT ~ Country
                 Value  Std.Error  DF   t-value p-value
(Intercept)     0.3481926 0.03177665 173 10.957497  0.0000
CountryAustria -0.0048798 0.04397279   6 -0.110973  0.9153
 Correlation:
               (Intr)
CountryAustria -0.723

Standardized Within-Group Residuals:
      Min        Q1       Med        Q3       Max
-1.9029199 -0.6812604 -0.1618010  0.6868877  2.7915608

Number of Observations: 189
Number of Groups:
             School Class_neu %in% School
                  8                    16

>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> w0 <- lme(WTGJT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w0) # only Ctest -> Ctest correlates (albeit weakly) with EE, which is why EE loses significance, apparently/perhaps Ctest stronger related to
 WTGJT, keep in mind that EE by itself was sign.
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -57.59662 -36.42946 35.79831

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02518227

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 4.627898e-06 0.177379
```

```
> summary(w3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  3.048375 38.27227 11.47581

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.225447e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.827804e-06 0.1746176

Fixed effects: WTGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                    Value Std.Error DF   t-value p-value
(Intercept)                     -0.9490124 0.5556474 97 -1.707940  0.0908
ExtramuralEnglish               -0.0009272 0.0012062 97 -0.768716  0.4439
CountryAustria                  -0.1743752 0.0631936  6 -2.759381  0.0329
Ctest                            0.4598059 0.1307381 97  3.517000  0.0007
Dyslexdyslex                     0.0218879 0.0825317 97  0.265205  0.7914
HISEI                            0.0004518 0.0011742 97  0.384742  0.7013
Genderboy                       -0.0958847 0.0343006 97 -2.795423  0.0062
L1not majority L                 0.0545704 0.0541504 97  1.007756  0.3161
Age                              0.0896265 0.0408136 97  2.195997  0.0305
ExtramuralEnglish:CountryAustria 0.0021631 0.0014723 97  1.469172  0.1450
 Correlation:
                                (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ExtramuralEnglish                0.099
CountryAustria                   0.358  0.644
Ctest                           -0.092 -0.209 -0.417
Dyslexdyslex                     0.142  0.033  0.086  0.132
HISEI                           -0.159  0.110  0.226 -0.306 -0.015
Genderboy                        0.004 -0.060  0.130 -0.015  0.001  0.069
L1not majority L                 0.185 -0.084  0.137  0.050  0.001 -0.020  0.041
Age                             -0.989 -0.161 -0.433  0.082 -0.162  0.049 -0.038 -0.201
ExtramuralEnglish:CountryAustria -0.022 -0.776 -0.626  0.044 -0.017 -0.069 -0.043  0.030  0.078

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0728890 -0.6362662 -0.0348484  0.6289365  3.4347129

Number of Observations: 121
Number of Groups:
             School Class_neu %in% School
                  8                    16

>
> ## WTGJT - Schooltype
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> w4 <- lme(WTGJT ~ ExtramuralEnglish +  Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w4)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -51.50792 -29.89474 32.75396
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05172616

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.985489e-06 0.1812939

Fixed effects: WTGJT ~ ExtramuralEnglish + Schooltype
                                    Value  Std.Error  DF   t-value p-value
(Intercept)                     0.28816492 0.03911770 149  7.366612  0.0000
ExtramuralEnglish               0.00137042 0.00062391 149  2.196488  0.0296
SchooltypeAT, Academic High     0.04797709 0.05618845   5  0.853861  0.4322
SchooltypeAT, Middle School    -0.00229196 0.05778518   5 -0.039663  0.9699
 Correlation:
                                (Intr) ExtrmE SAT,AH
ExtramuralEnglish               -0.478
SchooltypeAT, Academic High     -0.607  0.146
SchooltypeAT, Middle School     -0.566  0.090  0.377

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9229686 -0.7785067 -0.1062826  0.6708733  3.1110676

Number of Observations: 166
Number of Groups:
             School Class_neu %in% School
                  8                    16
```

```
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> w5 <- lme(WTGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w5)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -1.591866 33.63203 13.79593

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.212019e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.668722e-06 0.1762036

Fixed effects: WTGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF   t-value p-value
(Intercept)                -0.9219685 0.5610692 98 -1.643235  0.1035
ExtramuralEnglish           0.0004339 0.0007685 98  0.564585  0.5736
SchooltypeAT, Academic High -0.1227863 0.0528905  5 -2.321519  0.0679
SchooltypeAT, Middle School -0.1078814 0.0549386  5 -1.963672  0.1068
Ctest                       0.4582871 0.1332111 98  3.440307  0.0009
Dyslexdyslex                0.0246267 0.0832949 98  0.295657  0.7681
HISEI                       0.0006413 0.0011982 98  0.535208  0.5937
Genderboy                  -0.0938137 0.0345814 98 -2.712836  0.0079
L1not majority L            0.0543259 0.0549486 98  0.988667  0.3253
Age                         0.0838834 0.0411650 98  2.037737  0.0443
 Correlation:
                           (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish           0.127
SchooltypeAT, Academic High  0.400  0.320
SchooltypeAT, Middle School  0.417  0.270  0.708
Ctest                       -0.084 -0.281 -0.514 -0.386
Dyslexdyslex                 0.143  0.030  0.083  0.099  0.135
HISEI                       -0.152  0.080  0.163  0.280 -0.273 -0.012
Genderboy                    0.002 -0.147  0.126  0.117 -0.014  0.000  0.064
L1not majority L             0.189 -0.101  0.149  0.226  0.064  0.004  0.000  0.041
Age                         -0.990 -0.155 -0.439 -0.476  0.068 -0.162  0.042 -0.034 -0.211

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.98590418 -0.64368217 -0.05198242  0.57009518  3.19829414

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> w6 <- lme(WTGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w6)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  21.69343 62.06365 4.153285

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.638973e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.750511e-06 0.1757469

Fixed effects: WTGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                                 Value Std.Error DF   t-value p-value
(Intercept)                                -0.9532759 0.5600490 96 -1.702130  0.0920
ExtramuralEnglish                          -0.0009234 0.0012142 96 -0.760561  0.4488
SchooltypeAT, Academic High                -0.1672433 0.0682901  5 -2.449011  0.0580
SchooltypeAT, Middle School                -0.1765273 0.0696283  5 -2.535280  0.0522
Ctest                                       0.4737934 0.1334530 96  3.550264  0.0006
Dyslexdyslex                                0.0239675 0.0831165 96  0.288360  0.7737
HISEI                                       0.0006181 0.0012074 96  0.511908  0.6099
Genderboy                                  -0.0979443 0.0346460 96 -2.827004  0.0057
L1not majority L                            0.0520686 0.0552041 96  0.943202  0.3479
Age                                         0.0890823 0.0411942 96  2.162497  0.0331
ExtramuralEnglish:SchooltypeAT, Academic High  0.0013063 0.0019241 96  0.678886  0.4988
ExtramuralEnglish:SchooltypeAT, Middle School  0.0026286 0.0016372 96  1.605496  0.1117
```

```
 Correlation:
                                                (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntmL Age    EE:SAH
ExtramuralEnglish                                0.098
SchooltypeAT, Academic High                      0.314  0.605
SchooltypeAT, Middle School                      0.349  0.582  0.709
Ctest                                           -0.087 -0.206 -0.395 -0.343
Dyslexdyslex                                     0.142  0.033  0.081  0.082  0.136
HISEI                                           -0.153  0.107  0.199  0.234 -0.261 -0.008
Genderboy                                        0.006 -0.061  0.099  0.134 -0.023 -0.002  0.056
L1not majority L                                 0.190 -0.085  0.068  0.185  0.055  0.001 -0.016  0.049
Age                                             -0.989 -0.159 -0.380 -0.423  0.072 -0.163  0.038 -0.038 -0.208
ExtramuralEnglish:SchooltypeAT, Academic High    0.002 -0.604 -0.614 -0.314 -0.023 -0.029 -0.134  0.021  0.095  0.052
ExtramuralEnglish:SchooltypeAT, Middle School -0.035 -0.698 -0.408 -0.614  0.072 -0.005 -0.013 -0.074 -0.025  0.079  0.427

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.08296738 -0.64982633 -0.05975035  0.54017715  3.42050902

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    8                   16
> |
```

```
> ######################
> ######## UGJT #######
> ######################
>
> #stepwise introduction
>
> mdat <- na.omit(dat[c("UGJT","ExtramuralEnglish","Class_neu","School")])
> u0 <- lme(UGJT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  31.77818 47.398 -10.88909

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1050318

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1612012 0.2254097

Fixed effects: UGJT ~ ExtramuralEnglish
                        Value  Std.Error  DF  t-value p-value
(Intercept)       0.4718363 0.06312401 153 7.474752  0.0000
ExtramuralEnglish 0.0011016 0.00080540 153 1.367718  0.1734
 Correlation:
                  (Intr)
ExtramuralEnglish -0.326

Standardized Within-Group Residuals:
      Min        Q1       Med        Q3       Max
-2.7149685 -0.6699095  0.1332886  0.6478696  1.9523569

Number of Observations: 170
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT","Ctest","Class_neu","School")])
> u0 <- lme(UGJT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -23.27091 -7.680939 16.63545

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.001346189

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1175736 0.2020972
```

```
Fixed effects: UGJT ~ Ctest
                Value  Std.Error  DF  t-value p-value
(Intercept) 0.2212077 0.05095139 152 4.341544       0
Ctest       0.9195653 0.11857245 152 7.755303       0
 Correlation:
      (Intr)
Ctest -0.731

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.94639376 -0.63229807  0.06666074  0.66806911  2.58841595

Number of Observations: 169
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("UGJT","Country", "Class_neu","School")])
> u0 <- lme(UGJT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  34.75509 50.85687 -12.37755

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0808596

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.127077 0.2381238

Fixed effects: UGJT ~ Country
                Value  Std.Error  DF  t-value p-value
(Intercept)    0.4576122 0.06521295 171 7.017198  0.0000
CountryAustria 0.1248277 0.09602003   6 1.300017  0.2413
 Correlation:
               (Intr)
CountryAustria -0.679

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3994758 -0.7045327  0.1030244  0.6448450  1.8973442

Number of Observations: 187
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> u0 <- lme(UGJT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u0)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC       BIC   logLik
  -2.20708 18.96008 8.10354

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.038055e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.139496 0.1997209

Fixed effects: UGJT ~ ExtramuralEnglish + Ctest + Country
                          Value  Std.Error  DF   t-value p-value
(Intercept)           0.2115091 0.06410053 138  3.299647  0.0012
ExtramuralEnglish -0.0002140 0.00078089 138 -0.274004  0.7845
Ctest                 0.8565059 0.13608424 138  6.293939  0.0000
CountryAustria        0.0494961 0.08557415   6  0.578400  0.5840
 Correlation:
                      (Intr) ExtrmE Ctest
ExtramuralEnglish -0.267
Ctest                 -0.376 -0.276
CountryAustria        -0.470  0.203 -0.294

Standardized Within-Group Residuals:
          Min           Q1          Med           Q3          Max
-3.8043496027 -0.6082820563  0.0001313368  0.6503932063  2.7086988167

Number of Observations: 156
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> ## UGJT - Country
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Country","Class_neu","School")])
> u1 <- lme(UGJT ~ ExtramuralEnglish + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  34.06692 52.77488 -11.03346

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04163925

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:   0.1706549 0.225418

Fixed effects: UGJT ~ ExtramuralEnglish + Country
                          Value  Std.Error  DF  t-value p-value
(Intercept)           0.3872197 0.07080273 153 5.468994  0.0000
ExtramuralEnglish 0.0011877 0.00080279 153 1.479361  0.1435
```

```
CountryAustria    0.1765983 0.10148996   6 1.740057  0.1325
 Correlation:
                      (Intr) ExtrmE
ExtramuralEnglish -0.363
CountryAustria    -0.644  0.106

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7735864 -0.6500120  0.1354574  0.6588381  1.9744089

Number of Observations: 170
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> u2 <- lme(UGJT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  40.82719 73.44917 -8.413394

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1170563

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1473454 0.1975893

Fixed effects: UGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                            Value Std.Error DF   t-value p-value
(Intercept)           0.6541796 0.7195793 98  0.909114  0.3655
ExtramuralEnglish -0.0007003 0.0009905 98 -0.706957  0.4813
CountryAustria        0.0609427 0.1297080  6  0.469845  0.6551
Ctest                 0.6720259 0.1674669 98  4.012887  0.0001
Dyslexdyslex         -0.0917634 0.1028930 98 -0.891834  0.3747
HISEI                 0.0021907 0.0014250 98  1.537325  0.1274
Genderboy             0.0596314 0.0403195 98  1.478971  0.1424
L1not majority L      0.1611793 0.0674201 98  2.390672  0.0187
Age                  -0.0369284 0.0521829 98 -0.707672  0.4808
 Correlation:
                      (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.093
CountryAustria     0.117  0.155
Ctest              -0.155 -0.339 -0.245
Dyslexdyslex        0.179 -0.048  0.039  0.150
HISEI              -0.088 -0.019  0.116 -0.238  0.055
Genderboy           0.019 -0.138  0.074 -0.032 -0.024  0.057
L1not majority L    0.230 -0.001  0.062  0.036  0.041 -0.061 -0.007
Age                -0.986 -0.111 -0.206  0.139 -0.203 -0.012 -0.047 -0.241

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.47550665 -0.58995327  0.05738157  0.66363730  1.89032753
```

```
Number of Observations: 121
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> u3 <- lme(UGJT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  35.28218 70.50608 -4.641091

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07728284

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.147361e-05 0.1966337
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.147361e-05 0.1966337

Fixed effects: UGJT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.1132917 0.6622375 97  0.171074  0.8645
ExtramuralEnglish            0.0059076 0.0015805 97  3.737683  0.0003
CountryAustria               0.2954788 0.0938317  6  3.149028  0.0198
Ctest                        0.7305635 0.1540132 97  4.743513  0.0000
DyslexdyslexDyslex          -0.1567576 0.0955904 97 -1.639889  0.1043
HISEI                        0.0022235 0.0013559 97  1.639886  0.1043
Genderboy                    0.0716659 0.0389979 97  1.837688  0.0692
L1not majority L             0.1737604 0.0641362 97  2.709239  0.0080
Age                         -0.0136374 0.0483567 97 -0.282016  0.7785
ExtramuralEnglish:CountryAustria -0.0091461 0.0018563 97 -4.927151  0.0000
 Correlation:
```

```
                             (Intr) ExtrmE CntryA Ctest  DyslxdHISEI  GndrbyL1ntmL Age
ExtramuralEnglish             0.070
CountryAustria                0.216  0.554
Ctest                        -0.094 -0.226 -0.310
DyslexdyslexDyslex            0.165  0.021  0.078  0.149
HISEI                        -0.153  0.046  0.169 -0.224  0.015
Genderboy                     0.011 -0.091  0.083 -0.012  0.015  0.078
L1not majority L              0.227  0.040  0.133  0.011 -0.009 -0.038  0.003
Age                          -0.987 -0.131 -0.306  0.078 -0.189  0.044 -0.042 -0.242
ExtramuralEnglish:CountryAustria  0.003 -0.803 -0.544  0.031 -0.027 -0.053  0.000 -0.052  0.058

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.56780028 -0.50289235 -0.01702064  0.60785389  1.89410374

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> ## UGJT - Schooltype
>
```

```
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> u4 <- lme(UGJT ~ ExtramuralEnglish +  Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u4)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  37.25529 59.0392 -11.62764

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05208804

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1724307 0.2253594

Fixed effects: UGJT ~ ExtramuralEnglish + Schooltype
                                 Value  Std.Error  DF  t-value p-value
(Intercept)                  0.3880826 0.07314977 153 5.305315  0.0000
ExtramuralEnglish            0.0011996 0.00080805 153 1.484548  0.1397
SchooltypeAT, Academic High  0.2199919 0.12025233   5 1.829419  0.1269
SchooltypeAT, Middle School  0.0931296 0.14893143   5 0.625319  0.5592
 Correlation:
                             (Intr) ExtrmE SAT,AH
ExtramuralEnglish            -0.351
SchooltypeAT, Academic High -0.568  0.100
SchooltypeAT, Middle School -0.450  0.057  0.268

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7950448 -0.6456720  0.1374614  0.6727585  1.9773654

Number of Observations: 170
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> u5 <- lme(UGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u5)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  44.13302 79.35691 -9.066511

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:    0.143939

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1548148 0.1966265
```

```
Fixed effects: UGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.7600739 0.7232697 98  1.047988  0.2972
ExtramuralEnglish           -0.0007235 0.0009896 98 -0.731137  0.4664
SchooltypeAT, Academic High  0.0893269 0.1690059  5  0.528543  0.6197
SchooltypeAT, Middle School  0.0116391 0.1860193  5  0.062569  0.9525
Ctest                        0.6644413 0.1676119 98  3.964166  0.0001
DyslexdyslexDyslex          -0.0852858 0.1028338 98 -0.829356  0.4089
HISEI                        0.0021714 0.0014230 98  1.525922  0.1303
Genderboy                    0.0592283 0.0401732 98  1.474324  0.1436
L1not majority L             0.1642938 0.0673268 98  2.440245  0.0165
Age                         -0.0439469 0.0524596 98 -0.837728  0.4042
 Correlation:
                             (Intr) ExtrmE SAT,AH SAT,MS Ctest  DyslxdHISEI  GndrbyL1ntmL
ExtramuralEnglish            0.087
SchooltypeAT, Academic High  0.064  0.140
SchooltypeAT, Middle School  0.070  0.081  0.350
Ctest                       -0.156 -0.341 -0.217 -0.135
DyslexdyslexDyslex           0.184 -0.052  0.020  0.039  0.151
HISEI                       -0.084 -0.022  0.066  0.113 -0.235  0.058
Genderboy                    0.019 -0.136  0.059  0.049 -0.034 -0.025  0.057
L1not majority L             0.234 -0.004  0.034  0.054  0.038  0.046 -0.060 -0.007
Age                         -0.984 -0.105 -0.146 -0.152  0.140 -0.208 -0.016 -0.048 -0.245

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.47885222 -0.58850873  0.03949894  0.67469704  1.87791658

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> u6 <- lme(UGJT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u6)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  49.19243 89.56265 -9.596216

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.09644249

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.879327e-05 0.1940003

Fixed effects: UGJT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                            Value Std.Error DF   t-value p-value
(Intercept)                            0.1802378 0.6662673 96  0.270519  0.7873
ExtramuralEnglish                      0.0059278 0.0015718 96  3.771327  0.0003
SchooltypeAT, Academic High            0.3591005 0.1162027  5  3.090294  0.0272
SchooltypeAT, Middle School            0.2244938 0.1179357  5  1.903527  0.1153
Ctest                                  0.7204371 0.1539961 96  4.678282  0.0000
DyslexdyslexDyslex                    -0.1520218 0.0948168 96 -1.603322  0.1121
HISEI                                  0.0022999 0.0013558 96  1.696316  0.0931
Genderboy                              0.0674345 0.0386164 96  1.746266  0.0840
L1not majority L                       0.1646196 0.0641461 96  2.566322  0.0118
Age                                   -0.0181163 0.0485041 96 -0.373500  0.7096
ExtramuralEnglish:SchooltypeAT, Academic High -0.0112509 0.0022567 96 -4.985487  0.0000
ExtramuralEnglish:SchooltypeAT, Middle School -0.0075359 0.0020423 96 -3.689850  0.0004
 Correlation:
                                       (Intr) ExtrmE SAT,AH SAT,MS Ctest  DyslxdHISEI  GndrbyL1ntmL Age    EE:SAH
ExtramuralEnglish                       0.053
SchooltypeAT, Academic High             0.135  0.453
SchooltypeAT, Middle School             0.159  0.432  0.518
Ctest                                  -0.094 -0.223 -0.279 -0.195
DyslexdyslexDyslex                      0.172  0.018  0.053  0.073  0.154
HISEI                                  -0.149  0.040  0.112  0.159 -0.197  0.023
Genderboy                               0.014 -0.088  0.054  0.078 -0.016  0.015  0.068
L1not majority L                        0.237  0.036  0.062  0.137  0.011 -0.006 -0.048  0.012
Age                                    -0.986 -0.113 -0.213 -0.248  0.075 -0.197  0.040 -0.044 -0.251
ExtramuralEnglish:SchooltypeAT, Academic High  0.033 -0.654 -0.450 -0.270 -0.006 -0.030 -0.105  0.044  0.031  0.024
ExtramuralEnglish:SchooltypeAT, Middle School  0.003 -0.726 -0.309 -0.473  0.030 -0.021 -0.008 -0.034 -0.097  0.050  0.496

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.70539727 -0.59318069 -0.02110354  0.59998742  1.91843831

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    8                    16
```

```
>
> ########################
> ######### MKT ########
> ########################
>
> #stepwise introduction
>
> mdat <- na.omit(dat[c("MKT","ExtramuralEnglish","Class_neu","School")])
> m0 <- lme(MKT ~ ExtramuralEnglish,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -103.7117 -88.30464 56.85583

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.2056334

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07809476 0.1449999

Fixed effects: MKT ~ ExtramuralEnglish
                        Value  Std.Error  DF  t-value p-value
(Intercept)         0.5148613 0.07815783 146 6.587456  0.0000
ExtramuralEnglish 0.0003404 0.00055510 146 0.613300  0.5406
 Correlation:
                  (Intr)
ExtramuralEnglish -0.179

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0648903 -0.5823836  0.1317998  0.6496585  2.8683813

Number of Observations: 163
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT","Ctest","Class_neu","School")])
> m0 <- lme(MKT ~ Ctest,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -151.0155 -135.4556 80.50777

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1697312

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.903309e-06 0.1361488

Fixed effects: MKT ~ Ctest
                Value  Std.Error  DF  t-value p-value
(Intercept) 0.3798506 0.06621178 151 5.736903       0
Ctest       0.4688213 0.08107046 151 5.782888       0
 Correlation:
      (Intr)
Ctest -0.381

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.09678758 -0.58868991  0.09300068  0.70341477  2.40828117

Number of Observations: 168
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT","Ctest","Country", "Class_neu","School")])
> m0 <- lme(MKT ~ Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -137.277 -121.7171 73.63852

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.05182298

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.185978e-06 0.1479628

Fixed effects: MKT ~ Country
                Value  Std.Error  DF  t-value p-value
(Intercept)    0.3257426 0.03260791 152 9.989680   0e+00
CountryAustria 0.3906411 0.04433826   6 8.810474   1e-04
 Correlation:
               (Intr)
CountryAustria -0.735

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7195086 -0.6219175  0.1033460  0.6346455  2.8472944

Number of Observations: 168
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Country", "Ctest", "Class_neu","School")])
> m0 <- lme(MKT ~ ExtramuralEnglish +  Ctest + Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m0)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -146.1392 -125.1587 80.06959

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02468543

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03740083 0.1274225

Fixed effects: MKT ~ ExtramuralEnglish + Ctest + Country
                         Value  Std.Error  DF   t-value p-value
(Intercept)          0.2204614 0.03347118 134  6.586604  0.0000
ExtramuralEnglish -0.0003113 0.00050786 134 -0.612883  0.5410
Ctest                0.4629495 0.08425835 134  5.494405  0.0000
CountryAustria       0.3364098 0.03870422   6  8.691814  0.0001
 Correlation:
                  (Intr) ExtrmE Ctest
ExtramuralEnglish -0.345
Ctest             -0.458 -0.221
CountryAustria    -0.394  0.247 -0.399

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3512608 -0.6529839  0.1124450  0.7096898  2.5352141

Number of Observations: 152
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> ## MKT - Country
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Country","Class_neu","School")])
> m1 <- lme(MKT ~ ExtramuralEnglish +  Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -115.0047 -96.55369 63.50236

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.784586e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07125472 0.1455523

Fixed effects: MKT ~ ExtramuralEnglish + Country
                         Value  Std.Error  DF  t-value p-value
(Intercept)          0.3141410 0.03465116 146 9.065814  0.0000
ExtramuralEnglish 0.0003852 0.00054890 146 0.701835  0.4839
CountryAustria       0.4118270 0.04494879   6 9.162137  0.0001
 Correlation:
                  (Intr) ExtrmE
ExtramuralEnglish -0.507
CountryAustria    -0.659  0.170

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0325447 -0.6311215  0.1627937  0.6405343  3.2654194

Number of Observations: 163
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m2 <- lme(MKT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -81.25912 -48.96294 52.62956

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02959374
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.06237508 0.1167514

Fixed effects: MKT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)        0.1694778 0.4037963 95  0.419711  0.6756
ExtramuralEnglish -0.0007701 0.0006237 95 -1.234745  0.2200
CountryAustria     0.3384482 0.0526032  6  6.433983  0.0007
Ctest              0.3715100 0.0964928 95  3.850131  0.0002
Dyslexdyslex      -0.0221028 0.0593756 95 -0.372253  0.7105
HISEI              0.0009677 0.0008445 95  1.145827  0.2547
Genderboy         -0.0107386 0.0241822 95 -0.444069  0.6580
L1not majority L  -0.0498450 0.0391946 95 -1.271730  0.2066
Age                0.0044712 0.0295145 95  0.151492  0.8799
 Correlation:
                  (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish  0.104
CountryAustria     0.247  0.231
Ctest             -0.142 -0.306 -0.344
Dyslexdyslex       0.162 -0.022  0.062  0.150
HISEI             -0.103  0.033  0.159 -0.234  0.048
Genderboy          0.017 -0.197  0.090 -0.024 -0.018  0.052
L1not majority L   0.214 -0.008  0.101  0.031  0.021 -0.052 -0.001
Age               -0.988 -0.130 -0.313  0.124 -0.186 -0.005 -0.043 -0.226

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.2562928 -0.6712329  0.0985814  0.7437112  2.2921759

Number of Observations: 118
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m3 <- lme(MKT ~ ExtramuralEnglish +  Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -75.65006 -40.78235 50.82503

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.03612159

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.03890597 0.1153319

Fixed effects: MKT ~ ExtramuralEnglish + Country + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Country
                                      Value Std.Error DF   t-value p-value
(Intercept)                        0.1375853 0.3921244 94  0.350871  0.7265
ExtramuralEnglish                  0.0014683 0.0009506 94  1.544658  0.1258
CountryAustria                     0.4222673 0.0564472  6  7.480744  0.0003
Ctest                              0.3780851 0.0929417 94  4.067982  0.0001
Dyslexdyslex                      -0.0311965 0.0574403 94 -0.543112  0.5883
HISEI                              0.0009868 0.0008232 94  1.198615  0.2337
Genderboy                         -0.0049607 0.0237187 94 -0.209147  0.8348
L1not majority L                  -0.0400886 0.0382962 94 -1.046804  0.2979
Age                                0.0016423 0.0286633 94  0.057296  0.9544
ExtramuralEnglish:CountryAustria -0.0034642 0.0011661 94 -2.970764  0.0038
 Correlation:
                                  (Intr) ExtrmE CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ExtramuralEnglish                  0.052
CountryAustria                     0.211  0.547
Ctest                             -0.121 -0.195 -0.302
Dyslexdyslex                       0.161 -0.007  0.058  0.150
HISEI                             -0.123  0.025  0.141 -0.229  0.036
Genderboy                          0.012 -0.083  0.109 -0.018 -0.007  0.054
L1not majority L                   0.214  0.051  0.135  0.023  0.006 -0.048  0.007
Age                               -0.987 -0.114 -0.298  0.102 -0.185  0.013 -0.042 -0.230
ExtramuralEnglish:CountryAustria  0.023 -0.770 -0.540  0.000  0.004  0.005 -0.059 -0.075  0.034

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.29423161 -0.69076897  0.07110401  0.74612824  2.04359256

Number of Observations: 118
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> ## MKT - Schooltype
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Schooltype","Class_neu","School")])
> m4 <- lme(MKT ~ ExtramuralEnglish +  Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m4)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -113.5025 -92.02022 63.75127

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.158612e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.04673546 0.1469241

Fixed effects: MKT ~ ExtramuralEnglish + Schooltype
                                 Value  Std.Error  DF   t-value p-value
(Intercept)                 0.3079507 0.02971525 146 10.363387  0.0000
ExtramuralEnglish           0.0004297 0.00054649 146  0.786199  0.4330
SchooltypeAT, Academic High 0.4615993 0.03987618   5 11.575815  0.0001
SchooltypeAT, Middle School 0.3368623 0.04724095   5  7.130727  0.0008
 Correlation:
                            (Intr) ExtrmE SAT,AH
ExtramuralEnglish           -0.575
```

```
SchooltypeAT, Academic High -0.620  0.210
SchooltypeAT, Middle School -0.485  0.110  0.337

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0760677 -0.5196541  0.1167355  0.6536516  3.6107797

Number of Observations: 163
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m5 <- lme(MKT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m5)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -80.44005 -45.57234 53.22002

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.848663e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0210635 0.1203831

Fixed effects: MKT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.0690815 0.3873607 95  0.178339  0.8588
ExtramuralEnglish           -0.0005270 0.0006063 95 -0.869262  0.3869
SchooltypeAT, Academic High  0.3901269 0.0391630  5  9.961622  0.0002
SchooltypeAT, Middle School  0.2693382 0.0415151  5  6.487721  0.0013
Ctest                        0.3667016 0.0932717 95  3.931543  0.0002
Dyslexdyslex                -0.0351039 0.0578164 95 -0.607161  0.5452
HISEI                        0.0009204 0.0008478 95  1.085665  0.2804
Genderboy                   -0.0077884 0.0244247 95 -0.318873  0.7505
L1not majority L            -0.0600108 0.0388383 95 -1.545147  0.1256
Age                          0.0113290 0.0284514 95  0.398188  0.6914
 Correlation:
                            (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish            0.124
SchooltypeAT, Academic High  0.373  0.335
SchooltypeAT, Middle School  0.378  0.225  0.634
Ctest                       -0.094 -0.284 -0.493 -0.347
Dyslexdyslex                 0.143  0.013  0.074  0.094  0.144
HISEI                       -0.142  0.069  0.148  0.261 -0.232  0.015
Genderboy                    0.004 -0.213  0.094  0.113 -0.017 -0.006  0.057
L1not majority L             0.199 -0.024  0.134  0.196  0.027 -0.006 -0.024  0.007
Age                         -0.989 -0.153 -0.413 -0.437  0.075 -0.166  0.027 -0.032 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.2008190 -0.6486678  0.1306588  0.7668086  2.5417098

Number of Observations: 118
```

```
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m6 <- lme(MKT ~ ExtramuralEnglish +  Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m6)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -63.21338 -23.2618 46.60669

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.66308e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.320605e-06 0.1173496
```

```
Fixed effects: MKT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schooltype
                                                 Value Std.Error DF   t-value p-value
(Intercept)                                  0.0998243 0.3738861 93  0.266991  0.7901
ExtramuralEnglish                            0.0016806 0.0009136 93  1.839513  0.0690
SchooltypeAT, Academic High                  0.4835152 0.0489169  5  9.884430  0.0002
SchooltypeAT, Middle School                  0.3616815 0.0483925  5  7.473916  0.0007
Ctest                                        0.3494387 0.0893956 93  3.908902  0.0002
Dyslexdyslex                                -0.0359662 0.0555688 93 -0.647237  0.5191
HISEI                                        0.0010107 0.0008217 93  1.230020  0.2218
Genderboy                                   -0.0046345 0.0236784 93 -0.195726  0.8453
L1not majority L                            -0.0544103 0.0378235 93 -1.438533  0.1536
Age                                          0.0043504 0.0275534 93  0.157889  0.8749
ExtramuralEnglish:SchooltypeAT, Academic High -0.0038059 0.0016811 93 -2.263910  0.0259
ExtramuralEnglish:SchooltypeAT, Middle School -0.0033748 0.0011761 93 -2.869455  0.0051
 Correlation:
                                            (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntmL Age    EE:SAH
ExtramuralEnglish                            0.109
SchooltypeAT, Academic High                  0.296  0.601
SchooltypeAT, Middle School                  0.350  0.611  0.687
Ctest                                       -0.086 -0.240 -0.391 -0.371
Dyslexdyslex                                 0.142  0.011  0.064  0.066  0.139
HISEI                                       -0.153  0.059  0.152  0.199 -0.233  0.004
Genderboy                                    0.003 -0.108  0.091  0.114 -0.023 -0.003  0.059
L1not majority L                             0.206  0.041  0.109  0.235  0.007 -0.011 -0.022  0.012
Age                                         -0.988 -0.168 -0.358 -0.423  0.072 -0.163  0.036 -0.032 -0.225
ExtramuralEnglish:SchooltypeAT, Academic High  0.008 -0.494 -0.655 -0.270 -0.010 -0.012 -0.071 -0.018  0.036  0.034
ExtramuralEnglish:SchooltypeAT, Middle School -0.051 -0.741 -0.437 -0.647  0.121  0.013  0.023 -0.037 -0.109  0.094  0.376

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.29473536 -0.64374649  0.08496893  0.74544073  2.24279295

Number of Observations: 118
Number of Groups:
              School Class_neu %in% School
                   8                  16
```

4 Linear Mixed Models (Individual EE activities)

```
> ##########################################################################################################################
> ########################################## Individual Activity Models ####################################################
> ##########################################################################################################################
>
> ########################
> ##### Read ############
> ########################
>
> mdat <- na.omit(dat[c("ONT", "Read_wkly", "Country","Class_neu","School")])
> or1 <- lme(ONT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(or1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -80.04052 -63.46747 46.02026

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.248713e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.03907464  0.14827

Fixed effects: ONT ~ Read_wkly + Country
                Value  Std.Error  DF   t-value p-value
(Intercept)    0.7661743 0.02751735 105 27.843323  0.0000
Read_wkly      0.0046912 0.00156390 105  2.999716  0.0034
CountryAustria 0.0182126 0.03560276   5  0.511551  0.6307
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.398
CountryAustria -0.713  0.157

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.1753760 -0.4114335  0.1461896  0.7920651  1.3310388

Number of Observations: 120
Number of Groups:
              School Class_neu %in% School
                   7                  14
>
> mdat <- na.omit(dat[c("ONT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> or2 <- lme(ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(or2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -13.40747 15.0259 18.70373

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.613117e-06
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06471374 0.1455357

Fixed effects: ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.6506110 0.6367241 67  1.0218100  0.3105
Read_wkly         0.0048424 0.0023444 67  2.0655083  0.0427
CountryAustria   -0.0059207 0.0634084  5 -0.0933743  0.9292
Ctest             0.3608505 0.1441478 67  2.5033377  0.0147
Dyslexdyslex     -0.0053841 0.0851859 67 -0.0632040  0.9498
HISEI             0.0003374 0.0012344 67  0.2733243  0.7854
Genderboy         0.0390063 0.0349206 67  1.1170003  0.2680
L1not majority L -0.0117918 0.0558971 67 -0.2109561  0.8336
Age              -0.0024574 0.0470895 67 -0.0521856  0.9585
 Correlation:
                 (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Read_wkly        -0.102
CountryAustria    0.419  0.222
Ctest            -0.106 -0.416 -0.430
Dyslexdyslex      0.320 -0.217  0.093  0.200
HISEI            -0.061 -0.021  0.199 -0.267  0.011
Genderboy        -0.115 -0.003  0.060 -0.049 -0.120  0.141
L1not majority L  0.371 -0.244  0.198  0.075  0.239  0.044 -0.030
Age              -0.992  0.108 -0.460  0.085 -0.338 -0.036  0.081 -0.393

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.77721116 -0.39892911  0.07021864  0.72136494  1.39524979

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                  14
>
> mdat <- na.omit(dat[c("ONT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> or3 <- lme(ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(or3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.456271 27.18094 14.72814

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.382329e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07342609 0.1440119

Fixed effects: ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                                Value Std.Error DF    t-value p-value
(Intercept)                 0.7002879 0.6343163 66  1.1040043  0.2736
Read_wkly                   0.0065140 0.0027544 66  2.3649529  0.0210
```

```
CountryAustria              0.0216463 0.0696124  5  0.3109545  0.7684
Ctest                       0.3595087 0.1434878 66  2.5055012  0.0147
Dyslexdyslex               -0.0086477 0.0849578 66 -0.1017884  0.9192
HISEI                       0.0005647 0.0012375 66  0.4563080  0.6497
Genderboy                   0.0437065 0.0350390 66  1.2473680  0.2167
L1not majority L           -0.0182051 0.0558788 66 -0.3257968  0.7456
Age                        -0.0082399 0.0470533 66 -0.1751175  0.8615
Read_wkly:CountryAustria   -0.0046664 0.0045083 66 -1.0350758  0.3044
 Correlation:
                           (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                  -0.050
CountryAustria              0.399  0.339
Ctest                      -0.109 -0.342 -0.385
Dyslexdyslex                0.315 -0.222  0.064  0.198
HISEI                      -0.047  0.048  0.220 -0.261  0.010
Genderboy                  -0.103  0.074  0.100 -0.047 -0.131  0.150
L1not majority L            0.357 -0.267  0.138  0.074  0.244  0.030 -0.047
Age                        -0.991  0.038 -0.449  0.087 -0.330 -0.053  0.065 -0.374
Read_wkly:CountryAustria   -0.071 -0.534 -0.318 -0.016  0.070 -0.124 -0.143  0.116  0.103

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.75738191 -0.43531507  0.08291229  0.70578151  1.35719078

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                  14
```

```
>
> mdat <- na.omit(dat[c("EIT", "Read_wkly", "Country","Class_neu","School")])
> er1 <- lme(EIT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(er1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -34.12038 -15.41242 23.06019

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.680769e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06955893 0.1932481

Fixed effects: EIT ~ Read_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5134445 0.03735672 155 13.744367  0.0000
Read_wkly       0.0065425 0.00163758 155  3.995215  0.0001
CountryAustria -0.0083576 0.04969402   5 -0.168182  0.8730
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.331
CountryAustria -0.716  0.139

Standardized Within-Group Residuals:
```

```
Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.6728440 -0.6609110 -0.1260243  0.6058195  2.2817116

Number of Observations: 170
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("EIT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> er2 <- lme(EIT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(er2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  3.442311 36.27669 10.27884

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.075522e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.08641977 0.1780096
```

```
Fixed effects: EIT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      value Std.Error  DF   t-value p-value
(Intercept)       0.7499572 0.6750150 102  1.111023  0.2692
Read_wkly         0.0029518 0.0020162 102  1.464053  0.1463
CountryAustria   -0.0257482 0.0738407   5 -0.348700  0.7415
Ctest             0.4891073 0.1459282 102  3.351699  0.0011
Dyslexdyslex      0.1003796 0.0908515 102  1.104875  0.2718
HISEI             0.0033277 0.0012777 102  2.604505  0.0106
Genderboy         0.0463089 0.0352876 102  1.312327  0.1924
L1not majority L  0.0421826 0.0568993 102  0.741355  0.4602
Age              -0.0427773 0.0499973 102 -0.855592  0.3942
 Correlation:
                  (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Read_wkly          0.033
CountryAustria     0.413  0.221
Ctest             -0.121 -0.364 -0.379
Dyslexdyslex       0.204 -0.087  0.109  0.158
HISEI             -0.070 -0.028  0.187 -0.275  0.040
Genderboy         -0.017  0.040  0.109 -0.080 -0.041  0.064
L1not majority L  0.271 -0.060  0.218 -0.011  0.048 -0.017  0.024
Age               -0.992 -0.032 -0.462  0.105 -0.227 -0.025 -0.010 -0.287

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.09466639 -0.59271330 -0.03582433  0.50147633  2.07075118

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> mdat <- na.omit(dat[c("EIT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> er3 <- lme(EIT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(er3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  12.94118 48.39722 6.529411

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.558492e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.09142626 0.1767971

Fixed effects: EIT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                                 value Std.Error  DF   t-value p-value
(Intercept)                  0.8337056 0.6740459 101  1.236868  0.2190
Read_wkly                    0.0045650 0.0023463 101  1.945598  0.0545
CountryAustria               0.0045665 0.0785946   5  0.058102  0.9559
Ctest                        0.5033203 0.1459422 101  3.448765  0.0008
Dyslexdyslex                 0.1053222 0.0906331 101  1.162073  0.2479
HISEI                        0.0036194 0.0012905 101  2.804575  0.0060
Genderboy                    0.0496855 0.0352244 101  1.410542  0.1615
L1not majority L             0.0368861 0.0567376 101  0.650117  0.5171
Age                         -0.0515775 0.0501447 101 -1.028573  0.3061
Read_wkly:CountryAustria    -0.0053297 0.0041253 101 -1.291950  0.1993
 Correlation:
                            (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                    0.076
CountryAustria               0.408  0.323
Ctest                       -0.114 -0.267 -0.329
Dyslexdyslex                 0.207 -0.062  0.110  0.160
HISEI                       -0.051  0.065  0.220 -0.254  0.047
Genderboy                   -0.009  0.077  0.126 -0.073 -0.040  0.075
L1not majority L             0.262 -0.086  0.183 -0.015  0.047 -0.029  0.018
Age                         -0.991 -0.095 -0.466  0.093 -0.229 -0.048 -0.021 -0.274
Read_wkly:CountryAustria    -0.092 -0.519 -0.283 -0.084 -0.027 -0.171 -0.083  0.067  0.130

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.06481394 -0.59315509 -0.03797981  0.48966043  2.08132592

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("ATGJT", "Read_wkly", "Country","Class_neu","School")])
> ar1 <- lme(ATGJT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ar1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
```

```
  -73.22074 -54.40595 42.61037

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.364839e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.06219191  0.17256

Fixed effects: ATGJT ~ Read_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5116792 0.03054308 156 16.752708  0.0000
Read_wkly       0.0066464 0.00154457 156  4.303054  0.0000
CountryAustria -0.0756126 0.04262959   6 -1.773711  0.1265
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.337
CountryAustria -0.674  0.116

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.93969799 -0.71747135 -0.03350319  0.64011733  2.52906267

Number of Observations: 173
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "Read_wkly", "country","Class_neu","school", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ar2 <- lme(ATGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ar2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -17.6507 15.28849 20.82535

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.775692e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.04006644 0.167733

Fixed effects: ATGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      value Std.Error  DF   t-value p-value
(Intercept)      -0.6804922 0.5378711 101 -1.265158  0.2087
Read_wkly         0.0023802 0.0018667 101  1.275084  0.2052
CountryAustria   -0.2019053 0.0507734   6 -3.976597  0.0073
Ctest             0.5688007 0.1281687 101  4.437907  0.0000
Dyslexdyslex      0.0557455 0.0813381 101  0.685355  0.4947
HISEI             0.0012703 0.0011736 101  1.082353  0.2817
Genderboy         0.0172061 0.0324091 101  0.530903  0.5967
L1not majority L  0.0350847 0.0511570 101  0.685823  0.4944
```

```
Age                  0.0735884 0.0392282 101  1.875905  0.0636
 Correlation:
                    (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Read_wkly            0.037
CountryAustria       0.366  0.299
Ctest               -0.076 -0.381 -0.448
Dyslexdyslex         0.138 -0.078  0.061  0.171
HISEI               -0.149 -0.038  0.201 -0.242  0.012
Genderboy            0.013  0.052  0.152 -0.040 -0.011  0.049
L1not majority L     0.195 -0.060  0.199  0.001  0.002 -0.022  0.041
Age                 -0.990 -0.036 -0.416  0.054 -0.160  0.040 -0.048 -0.213

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.11134716 -0.67008159  0.07240328  0.62819424  2.51230521

Number of Observations: 124
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ar3 <- lme(ATGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ar3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.441799 29.12878 16.2209

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.977072e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0411987 0.1682598

Fixed effects: ATGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                -0.6665625 0.5417733 100 -1.230335  0.2215
Read_wkly                   0.0026811 0.0021763 100  1.231942  0.2209
CountryAustria             -0.1963663 0.0550746   6 -3.565458  0.0118
Ctest                       0.5708723 0.1290018 100  4.425305  0.0000
Dyslexdyslex                0.0567899 0.0817021 100  0.695084  0.4886
HISEI                       0.0013354 0.0011991 100  1.113641  0.2681
Genderboy                   0.0179776 0.0326922 100  0.549904  0.5836
L1not majority L            0.0338254 0.0514902 100  0.656929  0.5127
Age                         0.0720613 0.0396973 100  1.815272  0.0725
Read_wkly:CountryAustria   -0.0010320 0.0038613 100 -0.267277  0.7898
 Correlation:
                           (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                   0.072
CountryAustria              0.366  0.425
Ctest                      -0.071 -0.296 -0.391
Dyslexdyslex                0.139 -0.060  0.062  0.172
HISEI                      -0.131  0.062  0.251 -0.226  0.016
```

```
Genderboy                   0.0179776 0.0326922 100  0.549904  0.5836
L1not majority L            0.0338254 0.0514902 100  0.656929  0.5127
Age                         0.0720613 0.0396973 100  1.815272  0.0725
Read_wkly:CountryAustria   -0.0010320 0.0038613 100 -0.267277  0.7898
 Correlation:
                           (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                   0.072
CountryAustria              0.366  0.425
Ctest                      -0.071 -0.296 -0.391
Dyslexdyslex                0.139 -0.060  0.062  0.172
HISEI                      -0.131  0.062  0.251 -0.226  0.016
Genderboy                   0.021  0.096  0.177 -0.034 -0.010  0.065
L1not majority L            0.188 -0.088  0.157 -0.003  0.001 -0.035  0.034
Age                        -0.989 -0.094 -0.427  0.047 -0.161  0.015 -0.059 -0.202
Read_wkly:CountryAustria   -0.078 -0.509 -0.367 -0.062 -0.015 -0.184 -0.100  0.071  0.124

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.10724337 -0.65080010  0.05601448  0.61975073  2.49321994

Number of Observations: 124
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Read_wkly", "Country","Class_neu","School")])
> wr1 <- lme(WTGJT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wr1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -63.68955 -44.7698 37.84477

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04539088

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.816763e-06 0.1816813

Fixed effects: WTGJT ~ Read_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)    0.30119984 0.03257232 159 9.247111  0.0000
Read_wkly      0.00560312 0.00160572 159 3.489473  0.0006
CountryAustria 0.01865497 0.04287064   6 0.435146  0.6787
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.299
CountryAustria -0.722  0.100

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9500852 -0.7634109 -0.1318002  0.7368985  3.0834517

Number of Observations: 176
```

```
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wr2 <- lme(WTGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wr2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -14.07254 18.97054 19.03627

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.500232e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.995819e-06 0.1740324

Fixed effects: WTGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      -0.9153583 0.5470745 102 -1.673187  0.0974
Read_wkly         0.0031443 0.0019027 102  1.652690  0.1015
CountryAustria   -0.1067223 0.0471134   6 -2.265221  0.0641
Ctest             0.4192376 0.1284638 102  3.263470  0.0015
Dyslexdyslex      0.0124562 0.0822038 102  0.151529  0.8799
HISEI             0.0003708 0.0011616 102  0.319242  0.7502
Genderboy        -0.0907311 0.0332203 102 -2.731194  0.0074
L1not majority L  0.0668041 0.0520162 102  1.284295  0.2019
Age               0.0845946 0.0398611 102  2.122237  0.0362
 Correlation:
                 (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Read_wkly         0.039
CountryAustria    0.413  0.333
Ctest            -0.060 -0.367 -0.496
Dyslexdyslex      0.134 -0.063  0.059  0.165
HISEI            -0.176 -0.019  0.211 -0.277 -0.018
Genderboy         0.011  0.050  0.169 -0.033  0.001  0.079
L1not majority L  0.197 -0.063  0.238 -0.007  0.001 -0.005  0.038
Age              -0.991 -0.042 -0.460  0.043 -0.152  0.071 -0.049 -0.218

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.00646067 -0.65345087 -0.01472831  0.62850143  3.27268246

Number of Observations: 125
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wr3 <- lme(WTGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wr3)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC      BIC    logLik
  -3.162933 32.52118 14.58147

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.496803e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.949012e-06 0.1745389

Fixed effects: WTGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)               -0.9409122 0.5504790 101 -1.709261  0.0905
Read_wkly                  0.0024855 0.0022285 101  1.115345  0.2673
CountryAustria            -0.1182567 0.0513662   6 -2.302229  0.0609
Ctest                      0.4158156 0.1289762 101  3.223972  0.0017
Dyslexdyslex               0.0121750 0.0824445 101  0.147675  0.8829
HISEI                      0.0002626 0.0011802 101  0.222500  0.8244
Genderboy                 -0.0928201 0.0335162 101 -2.769413  0.0067
L1not majority L           0.0685589 0.0522575 101  1.311944  0.1925
Age                        0.0874206 0.0402806 101  2.170289  0.0323
Read_wkly:CountryAustria   0.0022556 0.0039397 101  0.572532  0.5682
```

```
 Correlation:
                              (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                      0.075
CountryAustria                 0.411  0.465
Ctest                         -0.056 -0.290 -0.438
Dyslexdyslex                   0.134 -0.051  0.056  0.165
HISEI                         -0.160  0.067  0.255 -0.265 -0.017
Genderboy                      0.020  0.098  0.197 -0.028  0.001  0.095
L1not majority L               0.192 -0.084  0.196 -0.010  0.000 -0.014  0.032
Age                           -0.990 -0.099 -0.468  0.037 -0.152  0.049 -0.061 -0.208
Read_wkly:CountryAustria      -0.081 -0.517 -0.392 -0.046 -0.006 -0.160 -0.109  0.059  0.123

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.011770073 -0.652051341  0.006866811  0.601522206  3.260144213

Number of observations: 125
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Read_wkly", "Country","Class_neu","School")])
> ur1 <- lme(UGJT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ur1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  27.59823 46.65513 -7.799115

Random effects:
 Formula: ~1 | School
        (Intercept)
```

```
StdDev:  0.05774593

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:   0.1465856 0.224274

Fixed effects: UGJT ~ Read_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.4044671 0.06380004 163 6.339606  0.0000
Read_wkly       0.0074652 0.00202336 163 3.689517  0.0003
CountryAustria 0.1549366 0.09442103   6 1.640912  0.1519
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.215
CountryAustria -0.661  0.075

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.38740635 -0.62825731  0.06210123  0.61256725  2.05164053

Number of observations: 180
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ur2 <- lme(UGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ur2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  39.03372 72.07681 -7.516862
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.09190494

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1300969 0.2010025

Fixed effects: UGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)       0.3893088 0.7088025 102  0.549249  0.5840
Read_wkly         0.0025160 0.0022875 102  1.099914  0.2740
CountryAustria    0.0746178 0.1115972   6  0.668635  0.5286
Ctest             0.6114298 0.1629079 102  3.753225  0.0003
Dyslexdyslex     -0.1229989 0.1041009 102 -1.181535  0.2401
HISEI             0.0019466 0.0014370 102  1.354657  0.1785
Genderboy         0.0518621 0.0398418 102  1.301702  0.1960
L1not majority L  0.1425499 0.0652660 102  2.184137  0.0312
Age              -0.0176093 0.0513772 102 -0.342746  0.7325
 Correlation:
                  (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Read_wkly          0.010
CountryAustria     0.139  0.167
```

```
Ctest            -0.108 -0.382 -0.255
Dyslexdyslex      0.177 -0.105  0.041  0.169
HISEI            -0.103 -0.032  0.126 -0.223  0.055
Genderboy         0.016  0.048  0.098 -0.048 -0.027  0.045
L1not majority L  0.227 -0.068  0.085 -0.006  0.029 -0.047  0.016
Age              -0.987 -0.009 -0.216  0.084 -0.202 -0.001 -0.049 -0.237

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-4.00521954 -0.52923005  0.08034847  0.61808966  1.91097666

Number of Observations: 125
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ur3 <- lme(UGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ur3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  41.93836 77.62248 -7.969179

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.08874596

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1409404 0.1933948

Fixed effects: UGJT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                 0.5431424 0.6879760 101  0.789479  0.4317
Read_wkly                   0.0063603 0.0025689 101  2.475849  0.0150
CountryAustria              0.1440054 0.1113072   6  1.248885  0.2582
Ctest                       0.6497221 0.1584129 101  4.101447  0.0001
Dyslexdyslex               -0.1106119 0.1007606 101 -1.097770  0.2749
HISEI                       0.0027262 0.0014120 101  1.930727  0.0563
Genderboy                   0.0617534 0.0386505 101  1.597738  0.1132
L1not majority L            0.1262137 0.0632733 101  1.994738  0.0488
Age                        -0.0354172 0.0500398 101 -0.707781  0.4807
Read_wkly:CountryAustria   -0.0130701 0.0045220 101 -2.890372  0.0047
 Correlation:
                           (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Read_wkly                   0.038
CountryAustria              0.137  0.238
Ctest                      -0.108 -0.280 -0.222
Dyslexdyslex                0.180 -0.082  0.042  0.168
HISEI                      -0.085  0.069  0.154 -0.204  0.060
Genderboy                   0.022  0.095  0.114 -0.039 -0.029  0.062
L1not majority L            0.221 -0.108  0.059 -0.014  0.031 -0.064  0.006
Age                        -0.986 -0.061 -0.223  0.080 -0.205 -0.025 -0.059 -0.226
Read_wkly:CountryAustria   -0.058 -0.513 -0.203 -0.089 -0.017 -0.186 -0.106  0.095  0.104
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8511337 -0.5525670  0.0113194  0.6256134  1.8932812

Number of Observations: 125
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "Read_wkly", "Country","Class_neu","School")])
> mr1 <- lme(MKT ~ Read_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mr1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -127.0628 -108.248 69.53139

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.005620847

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06561369 0.1457392

Fixed effects: MKT ~ Read_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.2949541 0.02932868 156 10.056847  0.0000
Read_wkly       0.0035769 0.00136252 156  2.625196  0.0095
CountryAustria 0.4268057 0.04180883   6 10.208504  0.0001
 Correlation:
               (Intr) Rd_wkl
Read_wkly      -0.325
CountryAustria -0.669  0.130

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9881178 -0.6047678  0.1365872  0.6019221  3.6230340

Number of Observations: 173
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
>
> mdat <- na.omit(dat[c("MKT", "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mr2 <- lme(MKT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mr2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -84.75929 -52.03064 54.37965

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04995847

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03392097 0.1206886

Fixed effects: MKT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error DF   t-value p-value
(Intercept)      0.2559682 0.4096961 99  0.624776  0.5336
Read_wkly        0.0010256 0.0014149 99  0.724863  0.4702
CountryAustria   0.3387761 0.0525495  6  6.446797  0.0007
Ctest            0.3764834 0.0936781 99  4.018906  0.0001
Dyslexdyslex    -0.0324374 0.0602049 99 -0.538784  0.5912
HISEI            0.0009677 0.0008574 99  1.128654  0.2618
Genderboy       -0.0192331 0.0238063 99 -0.807902  0.4211
Linot majority L -0.0238028 0.0385356 99 -0.617684  0.5382
Age             -0.0035764 0.0297628 99 -0.120163  0.9046
 Correlation:
                (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby LintmL
Read_wkly       -0.002
CountryAustria   0.196  0.211
Ctest           -0.071 -0.357 -0.306
Dyslexdyslex     0.168 -0.099  0.052  0.179
HISEI           -0.132 -0.018  0.151 -0.210  0.036
Genderboy        0.022  0.040  0.121 -0.049 -0.001  0.063
Linot majority L  0.227 -0.080  0.104 -0.013  0.002 -0.041  0.018
Age             -0.988 -0.001 -0.266  0.047 -0.193  0.022 -0.057 -0.236

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.29496549 -0.65429789  0.09298028  0.80752005  2.33982095

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "Read_wkly", "Country","class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mr3 <- lme(MKT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mr3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -74.03618 -38.69569 50.01809

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04909066

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03359799 0.1208452

Fixed effects: MKT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                     Value Std.Error DF   t-value p-value
```

```
Fixed effects: MKT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)                0.2933399 0.4117118 98  0.712488  0.4779
Read_wkly                  0.0016810 0.0015791 98  1.064532  0.2897
CountryAustria             0.3531228 0.0541823  6  6.517284  0.0006
Ctest                      0.3849267 0.0941046 98  4.090414  0.0001
Dyslexdyslex              -0.0311649 0.0602570 98 -0.517199  0.6062
HISEI                      0.0011101 0.0008703 98  1.275580  0.2051
Genderboy                 -0.0156023 0.0241273 98 -0.646666  0.5194
Linot majority L          -0.0261146 0.0386481 98 -0.680876  0.4976
Age                       -0.0075909 0.0300763 98 -0.252389  0.8013
Read_wkly:CountryAustria -0.0030805 0.0032566 98 -0.945927  0.3465
 Correlation:
                          (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby LintmL Age
Read_wkly                  0.043
CountryAustria             0.219  0.305
Ctest                     -0.061 -0.279 -0.271
Dyslexdyslex               0.169 -0.078  0.056  0.181
HISEI                     -0.113  0.058  0.190 -0.191  0.039
Genderboy                  0.037  0.104  0.159 -0.034  0.002  0.088
Linot majority L           0.218 -0.100  0.083 -0.018  0.000 -0.051  0.008
Age                       -0.988 -0.065 -0.296  0.034 -0.194 -0.002 -0.078 -0.223
Read_wkly:CountryAustria -0.101 -0.442 -0.275 -0.089 -0.023 -0.166 -0.156  0.065  0.145

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.29942187 -0.67593038  0.04041965  0.76480473  2.28742459

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
StdDev:   0.0823005

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1315337 0.1988279
```

```
> ########################
> ###### Write #############
> ########################
>
> mdat <- na.omit(dat[c("ONT", "Write_wkly", "Country","Class_neu","School")])
> ow1 <- lme(ONT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ow1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -78.45961 -61.78487 45.22981

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.249897e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03153848 0.1520662

Fixed effects: ONT ~ Write_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.7841000 0.02544410 107 30.792365  0.0000
Write_wkly      0.0043841 0.00246680 107  1.777259  0.0784
CountryAustria  0.0098547 0.03321348   5  0.296707  0.7786
 Correlation:
                (Intr) Wrt_wk
Write_wkly      -0.348
CountryAustria -0.713  0.112

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2135937 -0.4252062  0.1606227  0.7145345  1.3125850

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    7                   14
> mdat <- na.omit(dat[c("ONT", "Write_wkly", "Country","class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ow2 <- lme(ONT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ow2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -10.84135 17.59203 17.42067

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.173708e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04713925 0.1517513
```

```
Fixed effects: ONT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.8786926 0.6759739 67  1.2998914  0.1981
Write_wkly        0.0023053 0.0033625 67  0.6855882  0.4953
CountryAustria   -0.0307064 0.0611368  5 -0.5022579  0.6368
Ctest             0.4500221 0.1432711 67  3.1410527  0.0025
Dyslexdyslex      0.0269879 0.0858569 67  0.3143359  0.7542
HISEI             0.0002675 0.0012714 67  0.2103905  0.8340
Genderboy         0.0438969 0.0364793 67  1.2033374  0.2331
L1not majority L  0.0040163 0.0579053 67  0.0693596  0.9449
Age              -0.0188716 0.0499888 67 -0.3775174  0.7070
 Correlation:
                 (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Write_wkly        0.253
CountryAustria    0.542  0.314
Ctest            -0.225 -0.343 -0.478
Dyslexdyslex      0.311  0.066  0.169  0.097
HISEI            -0.061  0.045  0.226 -0.305 -0.008
Genderboy        -0.077  0.142  0.109 -0.098 -0.105  0.160
L1not majority L  0.281 -0.251  0.201  0.056  0.176  0.029 -0.065
Age              -0.993 -0.257 -0.580  0.209 -0.326 -0.033  0.043 -0.300

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8209807 -0.3569550  0.1055885  0.6858534  1.3610095

Number of observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("ONT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ow3 <- lme(ONT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ow3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -0.7111534 29.92606 13.35558

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.139254e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0476434 0.1526296

Fixed effects: ONT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                                Value Std.Error DF   t-value p-value
(Intercept)                 0.8381768 0.7014747 66  1.1948781  0.2364
Write_wkly                  0.0027631 0.0038756 66  0.7129494  0.4784
CountryAustria             -0.0282741 0.0622975  5 -0.4538559  0.6690
Ctest                       0.4464881 0.1448522 66  3.0823693  0.0030
Dyslexdyslex                0.0247372 0.0869326 66  0.2845559  0.7769
HISEI                       0.0002458 0.0012828 66  0.1916442  0.8486
Genderboy                   0.0441181 0.0367061 66  1.2019274  0.2337
L1not majority L            0.0032695 0.0583305 66  0.0560519  0.9555
Age                        -0.0158176 0.0519512 66 -0.3044703  0.7617
Write_wkly:CountryAustria -0.0015911 0.0066735 66 -0.2384229  0.8123
 Correlation:
                          (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Write_wkly                 0.094
CountryAustria             0.481  0.346
Ctest                     -0.193 -0.347 -0.485
Dyslexdyslex               0.327  0.001  0.148  0.107
HISEI                     -0.040  0.002  0.211 -0.295  0.001
Genderboy                 -0.081  0.136  0.111 -0.100 -0.108  0.157
L1not majority L           0.285 -0.245  0.190  0.061  0.180  0.033 -0.067
Age                       -0.993 -0.094 -0.515  0.176 -0.342 -0.051  0.048 -0.303
Write_wkly:CountryAustria  0.246 -0.488 -0.154  0.100  0.114  0.077 -0.026  0.053 -0.251

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7960867 -0.3552898  0.1030696  0.6680645  1.3414000

Number of observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("EIT", "Write_wkly", "Country","Class_neu","School")])
> ew1 <- lme(EIT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ew1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -23.49619 -4.716802 17.7481

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01795991

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06321185 0.2010643

Fixed effects: EIT ~ Write_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5437763 0.03716162 157 14.632736  0.0000
Write_wkly      0.0050371 0.00235390 157  2.139884  0.0339
CountryAustria -0.0254639 0.04956371   5 -0.513761  0.6293
 Correlation:
                (Intr) Wrt_wk
Write_wkly      -0.270
CountryAustria -0.723  0.103

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.55550884 -0.64581778 -0.08548185  0.63420478  2.19787467

Number of observations: 172
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("EIT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ew2 <- lme(EIT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ew2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  3.45621 36.29059 10.2719

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.057398e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.08801394 0.1781673

Fixed effects: EIT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)       0.9516660 0.6987250 102  1.362004  0.1762
Write_wkly        0.0032797 0.0025101 102  1.306592  0.1943
CountryAustria   -0.0229565 0.0753823   5 -0.304534  0.7730
Ctest             0.5169466 0.1413942 102  3.656067  0.0004
Dyslexdyslex      0.1222547 0.0909829 102  1.343711  0.1820
HISEI             0.0034981 0.0012822 102  2.728261  0.0075
Genderboy         0.0513777 0.0357392 102  1.437572  0.1536
L1not majority L  0.0400858 0.0571269 102  0.701698  0.4845
Age              -0.0587109 0.0519338 102 -1.130494  0.2609
 Correlation:
                 (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Write_wkly        0.256
CountryAustria    0.452  0.267
Ctest            -0.179 -0.270 -0.375
Dyslexdyslex      0.222  0.081  0.148  0.109
HISEI            -0.048  0.070  0.207 -0.312  0.044
Genderboy         0.022  0.155  0.139 -0.109 -0.025  0.075
L1not majority L  0.239 -0.094  0.201 -0.008  0.035 -0.025  0.011
Age              -0.992 -0.268 -0.502  0.165 -0.243 -0.044 -0.050 -0.252

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.04268223 -0.58819381 -0.01734061  0.50617412  2.06838320

Number of Observations: 123
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("EIT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ew3 <- lme(EIT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ew3)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
      AIC      BIC  logLik
  13.47688 48.93292 6.26156

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.454019e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.08918441 0.1786015

Fixed effects: EIT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)                1.0573867 0.7265743 101  1.455304  0.1487
Write_wkly                 0.0028156 0.0026665 101  1.055895  0.2933
CountryAustria            -0.0256546 0.0761163   5 -0.337044  0.7498
Ctest                      0.5122794 0.1420505 101  3.606319  0.0005
Dyslexdyslex               0.1264597 0.0915394 101  1.381479  0.1702
HISEI                      0.0035322 0.0012871 101  2.744263  0.0072
Genderboy                  0.0519252 0.0358524 101  1.448304  0.1506
L1not majority L           0.0391849 0.0573037 101  0.683812  0.4957
Age                       -0.0665053 0.0539641 101 -1.232398  0.2207
Write_wkly:CountryAustria  0.0033864 0.0062548 101  0.541404  0.5894
 Correlation:
                          (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Write_wkly                 0.145
CountryAustria             0.413  0.275
Ctest                     -0.187 -0.236 -0.367
Dyslexdyslex               0.234  0.050  0.141  0.104
HISEI                     -0.034  0.050  0.202 -0.314  0.048
Genderboy                  0.030  0.136  0.136 -0.110 -0.023  0.076
L1not majority L           0.223 -0.080  0.201 -0.006  0.033 -0.027  0.010
Age                       -0.993 -0.158 -0.462  0.174 -0.255 -0.055 -0.056 -0.236
Write_wkly:CountryAustria  0.265 -0.330 -0.073 -0.057  0.078  0.046  0.031 -0.026 -0.263

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.015177654 -0.545426878 -0.007499307  0.500852586  2.036156576

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     7                   14
>
> mdat <- na.omit(dat[c("ATGJT", "Write_wkly", "Country","Class_neu","School")])
> aw1 <- lme(ATGJT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(aw1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -67.01813 -48.16815 39.50906

Random effects:
 Formula: ~1 | School
```

```
        (Intercept)
StdDev: 2.034688e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06193412 0.1765308

Fixed effects: ATGJT ~ Write_wkly + Country
                   Value  Std.Error  DF   t-value p-value
(Intercept)     0.5290687 0.03025527 157 17.486831  0.0000
Write_wkly      0.0065244 0.00207866 157  3.138738  0.0020
CountryAustria -0.0830158 0.04278481   6 -1.940311  0.1004
 Correlation:
                (Intr) Wrt_wk
Write_wkly      -0.282
CountryAustria -0.677  0.094

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.82032333 -0.82581274 -0.05755324  0.66654813  2.42030309

Number of Observations: 174
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> aw2 <- lme(ATGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(aw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -19.49951 13.43968 21.74975

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.994209e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0482439 0.1655192

Fixed effects: ATGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                    Value Std.Error  DF   t-value p-value
(Intercept)     -0.4897514 0.5457202 101 -0.897440  0.3716
Write_wkly       0.0040375 0.0022478 101  1.796199  0.0755
CountryAustria  -0.1941231 0.0522836   6 -3.712888  0.0099
Ctest            0.5760229 0.1220082 101  4.720560  0.0000
Dyslexdyslex     0.0812477 0.0809667 101  1.003470  0.3180
HISEI            0.0014792 0.0011680 101  1.266487  0.2083
Genderboy        0.0246191 0.0325796 101  0.755658  0.4516
L1not majority L 0.0265620 0.0510434 101  0.520381  0.6039
Age              0.0582415 0.0399417 101  1.458162  0.1479
 Correlation:
                (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Write_wkly       0.201
```

```
CountryAustria   0.389  0.283
Ctest           -0.120 -0.254 -0.408
Dyslexdyslex     0.157  0.078  0.107  0.127
HISEI           -0.128  0.049  0.221 -0.276  0.021
Genderboy        0.048  0.178  0.181 -0.068  0.003  0.053
L1not majority L 0.169 -0.115  0.171  0.009 -0.010 -0.034  0.023
Age             -0.990 -0.217 -0.442  0.102 -0.179  0.020 -0.083 -0.184

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.10399221 -0.63773210 -0.05145564  0.66397215  2.48700017

Number of Observations: 124
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> aw3 <- lme(ATGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(aw3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -9.14053 26.43005 17.57026

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.384324e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04984978 0.1659215
```

```
Fixed effects: ATGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)               -0.4349021 0.5614838 100 -0.774559  0.4404
Write_wkly                 0.0037050 0.0024115 100  1.536377  0.1276
CountryAustria            -0.1979361 0.0537392   6 -3.683646  0.0103
Ctest                      0.5765130 0.1225167 100  4.705586  0.0000
Dyslexdyslex               0.0839625 0.0813914 100  1.031588  0.3048
HISEI                      0.0014987 0.0011726 100  1.278070  0.2042
Genderboy                  0.0247384 0.0326849 100  0.756875  0.4509
L1not majority L           0.0250539 0.0512997 100  0.488384  0.6263
Age                        0.0542529 0.0410640 100  1.321178  0.1895
Write_wkly:CountryAustria  0.0023035 0.0056284 100  0.409262  0.6832
 Correlation:
                          (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Write_wkly                 0.106
CountryAustria             0.330  0.324
Ctest                     -0.120 -0.237 -0.397
Dyslexdyslex               0.164  0.053  0.095  0.126
HISEI                     -0.119  0.038  0.212 -0.275  0.023
Genderboy                  0.051  0.160  0.174 -0.068  0.004  0.053
L1not majority L           0.153 -0.088  0.176  0.010 -0.012 -0.036  0.022
Age                       -0.991 -0.122 -0.382  0.102 -0.187  0.013 -0.085 -0.167
Write_wkly:CountryAustria  0.219 -0.354 -0.183 -0.005  0.053  0.022  0.018 -0.055 -0.216
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.09286095 -0.66349579 -0.04206035  0.68267046  2.47042919

Number of Observations: 124
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Write_wkly", "Country","Class_neu","School")])
> ww1 <- lme(WTGJT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ww1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -68.79992 -49.84559 40.39996

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04837952

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 9.304689e-06 0.179322

Fixed effects: WTGJT ~ Write_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)    0.30515844 0.03292563 160 9.268112  0.0000
Write_wkly     0.00823290 0.00208859 160 3.941849  0.0001
CountryAustria 0.01589718 0.04414552   6 0.360109  0.7311
 Correlation:
               (Intr) Wrt_wk
Write_wkly     -0.232
CountryAustria -0.722  0.072

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9390555 -0.6998198 -0.1166919  0.7004562  3.2635321

Number of Observations: 177
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ww2 <- lme(WTGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ww2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -15.74121 17.30188 19.8706

Random effects:
 Formula: ~1 | School
        (Intercept)
```

```
StdDev: 1.443728e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)   Residual
StdDev: 3.109977e-06 0.1730643

Fixed effects: WTGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)      -0.7348916 0.5540539 102 -1.326390  0.1877
Write_wkly        0.0045995 0.0022817 102  2.015794  0.0465
CountryAustria   -0.1026581 0.0466157   6 -2.202221  0.0699
Ctest             0.4407969 0.1220755 102  3.610855  0.0005
Dyslexdyslex      0.0381713 0.0820318 102  0.465323  0.6427
HISEI             0.0005395 0.0011568 102  0.466374  0.6419
Genderboy        -0.0815092 0.0335228 102 -2.431454  0.0168
Linot majority L  0.0603543 0.0519588 102  1.161580  0.2481
Age               0.0700516 0.0405223 102  1.728719  0.0869
 Correlation:
                  (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby Lintml
Write_wkly         0.193
CountryAustria     0.457  0.319
Ctest             -0.091 -0.229 -0.466
Dyslexdyslex       0.154  0.104  0.113  0.124
HISEI             -0.161  0.057  0.236 -0.309 -0.013
Genderboy          0.043  0.177  0.208 -0.056  0.022  0.089
Linot majority L  -0.173 -0.113  0.223 -0.006 -0.015 -0.012  0.021
Age               -0.991 -0.212 -0.506  0.076 -0.173  0.056 -0.082 -0.191

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.97771932 -0.63637836 -0.07027993  0.61338253  3.36692203

Number of Observations: 125
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ww3 <- lme(WTGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ww3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.513223 29.17089 16.25661

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.470003e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 3.20836e-06 0.172844

Fixed effects: WTGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                -0.6132471 0.5635717 101 -1.088144  0.2791
```

```
(Intercept)                -0.6132471 0.5635717 101 -1.088144  0.2791
Write_wkly                  0.0035580 0.0024556 101  1.448900  0.1505
CountryAustria             -0.1145804 0.0477198   6 -2.401109  0.0532
Ctest                       0.4460129 0.1220062 101  3.655659  0.0004
Dyslexdyslex                0.0429670 0.0820356 101  0.523761  0.6016
HISEI                       0.0005746 0.0011558 101  0.497117  0.6202
Genderboy                  -0.0812941 0.0334807 101 -2.428092  0.0169
Linot majority L            0.0568089 0.0519860 101  1.092772  0.2771
Age                         0.0612144 0.0412085 101  1.485479  0.1405
Write_wkly:CountryAustria  0.0064023 0.0056241 101  1.138385  0.2577
 Correlation:
                           (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby Lintml Age
Write_wkly                  0.105
CountryAustria              0.396  0.371
Ctest                      -0.082 -0.227 -0.463
Dyslexdyslex                0.160  0.077  0.099  0.126
HISEI                      -0.153  0.043  0.225 -0.308 -0.012
Genderboy                   0.043  0.162  0.201 -0.056  0.022  0.089
Linot majority L            0.159 -0.083  0.230 -0.008 -0.018 -0.014  0.020
Age                        -0.992 -0.123 -0.444  0.068 -0.179  0.050 -0.082 -0.175
Write_wkly:CountryAustria  0.190 -0.373 -0.219  0.038  0.051  0.027  0.006 -0.060 -0.188

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.97833575 -0.61911942 -0.07528969  0.66704350  3.38695932

Number of Observations: 125
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Write_wkly", "Country","Class_neu","School")])
> uw1 <- lme(UGJT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(uw1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  33.68078 52.77149 -10.84039

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06352018

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.143266 0.2289937

Fixed effects: UGJT ~ Write_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)    0.4269138 0.06419310 164 6.650463  0.0000
Write_wkly     0.0072307 0.00272657 164 2.651948  0.0088
CountryAustria 0.1442163 0.09516152   6 1.515490  0.1804
 Correlation:
               (Intr) Wrt_wk
Write_wkly     -0.167
CountryAustria -0.665  0.053
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6254557 -0.6673540  0.1342112  0.6334857  1.8972256

Number of Observations: 181
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uw2 <- lme(UGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(uw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  37.4087 70.45178 -6.70435

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev:   0.1098596

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1343589 0.1985987

Fixed effects: UGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)       0.7066143 0.7238620 102  0.976173  0.3313
Write_wkly        0.0044226 0.0028026 102  1.578070  0.1176
CountryAustria    0.0781827 0.1207378   6  0.647541  0.5413
Ctest             0.6090223 0.1352684 102  3.922384  0.0002
Dyslexdyslex     -0.0980134 0.1027570 102 -0.953837  0.3424
HISEI             0.0021301 0.0014245 102  1.495298  0.1379
Genderboy         0.0600616 0.0399855 102  1.502085  0.1362
L1not majority L  0.1377662 0.0650484 102  2.117901  0.0366
Age              -0.0414630 0.0525461 102 -0.789077  0.4319
 Correlation:
                  (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Write_wkly         0.206
CountryAustria     0.137  0.147
Ctest             -0.165 -0.275 -0.223
Dyslexdyslex       0.188  0.042  0.060  0.122
HISEI             -0.084  0.061  0.131 -0.261  0.056
Genderboy          0.051  0.174  0.107 -0.079 -0.015  0.056
L1not majority L  0.199 -0.128  0.066  0.002  0.019 -0.057 -0.003
Age               -0.987 -0.221 -0.221  0.146 -0.213 -0.017 -0.084 -0.206

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.87217698 -0.52182308  0.08335625  0.67466632  1.95061081

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                    16
```

```
> mdat <- na.omit(dat[c("UGJT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uw3 <- lme(UGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(uw3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  45.09284 80.77696 -9.546421

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev:   0.0823005

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1315337 0.1988279

Fixed effects: UGJT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                 0.2766850 0.7397330 101  0.374034  0.7092
Write_wkly                  0.0059247 0.0029774 101  1.989875  0.0493
CountryAustria              0.1012187 0.1081801   6  0.935650  0.3856
Ctest                       0.6268266 0.1552026 101  4.038763  0.0001
Dyslexdyslex               -0.1158606 0.1027989 101 -1.127062  0.2624
HISEI                       0.0020748 0.0014246 101  1.456409  0.1484
Genderboy                   0.0579087 0.0400138 101  1.447218  0.1509
L1not majority L            0.1376832 0.0650021 101  2.118133  0.0366
Age                        -0.0110605 0.0537943 101 -0.205607  0.8375
Write_wkly:CountryAustria -0.0110906 0.0070138 101 -1.581246  0.1169
 Correlation:
                           (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Write_wkly                  0.100
CountryAustria              0.146  0.190
Ctest                      -0.170 -0.242 -0.245
Dyslexdyslex                0.195  0.017  0.060  0.119
HISEI                      -0.076  0.048  0.140 -0.263  0.057
Genderboy                   0.059  0.152  0.116 -0.080 -0.013  0.058
L1not majority L            0.175 -0.107  0.081  0.004  0.013 -0.058 -0.005
Age                        -0.989 -0.114 -0.218  0.151 -0.219 -0.023 -0.092 -0.182
Write_wkly:CountryAustria  0.259 -0.340 -0.098 -0.047  0.072  0.031  0.035 -0.044 -0.257

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.47120816 -0.53822372  0.02247398  0.63692089  1.83749848

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("MKT", "Write_wkly", "Country","Class_neu","School")])
> mw1 <- lme(MKT ~ Write_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mw1)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC      BIC    logLik
  -122.0209 -103.1709 67.01043

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev: 1.584494e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06399802 0.1489072

Fixed effects: MKT ~ Write_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.3109354 0.02837389 157 10.958505  0.0000
Write_wkly      0.0020635 0.00177261 157  1.164125  0.2461
CountryAustria 0.4197230 0.04096531   6 10.245814  0.0001
 Correlation:
                (Intr) Wrt_wk
Write_wkly      -0.257
CountryAustria -0.670  0.089

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.99112351 -0.60596773  0.09404446  0.61466345  3.48719103

Number of Observations: 174
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("MKT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mw2 <- lme(MKT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -84.79718 -52.06853 54.39859

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev:  0.05101604

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03125758 0.1210444

Fixed effects: MKT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.2964589 0.4186804 99  0.708079  0.4806
Write_wkly        0.0007967 0.0016773 99  0.474994  0.6358
CountryAustria    0.1347483 0.0523996  6  2.388377  0.0007
Ctest             0.3905180 0.0903473 99  4.322410  0.0000
Dyslexdyslex     -0.0272430 0.0600735 99 -0.453494  0.6512
```

```
HISEI            0.0010070 0.0008602 99  1.170746  0.2445
Genderboy       -0.0176888 0.0241964 99 -0.731051  0.4665
L1not majority L -0.0238818 0.0387717 99 -0.615961  0.5393
Age             -0.0066984 0.0305143 99 -0.219517  0.8267
 Correlation:
                (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Write_wkly       0.195
CountryAustria   0.230  0.190
Ctest           -0.119 -0.248 -0.287
Dyslexdyslex     0.178  0.063  0.085  0.135
HISEI           -0.119  0.060  0.167 -0.238  0.037
Genderboy        0.055  0.173  0.145 -0.078  0.015  0.075
L1not majority L  0.199 -0.121  0.098 -0.013 -0.015 -0.049  0.000
Age             -0.989 -0.211 -0.301  0.098 -0.203  0.011 -0.091 -0.205

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.2871176 -0.6710342  0.1301296  0.7897754  2.3253053

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("MKT", "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mw3 <- lme(MKT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Write_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mw3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -74.19152 -38.85103 50.09576

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04905897

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03369391 0.1212857

Fixed effects: MKT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Write_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.2239216 0.4324622 98  0.517783  0.6058
Write_wkly                   0.0011633 0.0017860 98  0.651339  0.5164
CountryAustria               0.3403078 0.0524424  6  6.489169  0.0006
Ctest                        0.3898837 0.0907365 98  4.296879  0.0000
Dyslexdyslex                -0.0295950 0.0604852 98 -0.489293  0.6257
HISEI                        0.0009737 0.0008646 98  1.126130  0.2629
Genderboy                   -0.0182278 0.0242707 98 -0.751023  0.4544
L1not majority L            -0.0223823 0.0389504 98 -0.574635  0.5669
Age                         -0.0013622 0.0315647 98 -0.043156  0.9657
Write_wkly:CountryAustria -0.0028190 0.0044153 98 -0.638455  0.5247
 Correlation:
                            (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Write_wkly                   0.096
CountryAustria               0.194  0.227
Ctest                       -0.114 -0.239 -0.290
Dyslexdyslex                 0.191  0.032  0.074  0.135
HISEI                       -0.097  0.036  0.158 -0.238  0.043
Genderboy                    0.059  0.156  0.142 -0.078  0.015  0.075
L1not majority L             0.175 -0.093  0.107 -0.013 -0.019 -0.054 -0.001
Age                         -0.989 -0.109 -0.259  0.093 -0.216 -0.007 -0.094 -0.181
Write_wkly:CountryAustria  0.247 -0.336 -0.135  0.015  0.082  0.066  0.022 -0.063 -0.251

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3075948 -0.6525422  0.1118388  0.7593905  2.2956465

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                    16
```

```
> ########################
> ####### L1sten ############
> ########################
>
>
> mdat <- na.omit(dat[c("ONT", "List_wkly", "Country","Class_neu","School")])
> ol1 <- lme(ONT ~ List_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ol1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -77.28515 -60.66104 44.64258

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01274641

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.952438e-05 0.1545276

Fixed effects: ONT ~ List_wkly + Country
                  Value  Std.Error  DF  t-value p-value
(Intercept)    0.7895622 0.023356511 106 33.80480  0.0000
List_wkly      0.0043177 0.003100025 106  1.39279  0.1666
CountryAustria 0.0091793 0.030215114   5  0.30380  0.7735
 Correlation:
               (Intr) Lst_wk
List_wkly      -0.282
CountryAustria -0.744  0.115

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2361659 -0.3981067  0.1985769  0.7028679  1.3624602

Number of Observations: 121
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ONT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ol2 <- lme(ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ol2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -12.17542 16.10508 18.08771

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.675087e-06
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.217556e-06 0.1543392

Fixed effects: ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error DF   t-value p-value
(Intercept)       0.7069807 0.6540470 66  1.080933  0.2837
List_wkly         0.0041265 0.0033553 66  1.229840  0.2231
CountryAustria   -0.0503565 0.0515179  5 -0.977456  0.3732
Ctest             0.4955863 0.1338589 66  3.702303  0.0004
Dyslexdyslex      0.0209401 0.0854949 66  0.244928  0.8073
HISEI            -0.0000574 0.0012600 66 -0.045562  0.9638
Genderboy         0.0336074 0.0365941 66  0.918384  0.3618
L1not majority L  0.0031827 0.0575171 66  0.055335  0.9560
Age              -0.0050139 0.0482348 66 -0.103948  0.9175
 Correlation:
                  (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
List_wkly         -0.070
CountryAustria     0.566  0.057
Ctest             -0.120 -0.049 -0.454
Dyslexdyslex       0.300  0.013  0.165  0.140
HISEI             -0.102  0.031  0.230 -0.326 -0.049
Genderboy         -0.125 -0.005  0.067 -0.064 -0.112  0.187
L1not majority L  0.391 -0.218  0.356 -0.022  0.206  0.039 -0.041
Age               -0.993  0.061 -0.602  0.103 -0.313  0.007  0.089 -0.413

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0540235 -0.3190356  0.0896256  0.7054833  1.5934444

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
> mdat <- na.omit(dat[c("ONT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ol3 <- lme(ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ol3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -3.167925 27.30155 14.58396

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.312366e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 3.82269e-06 0.154475

Fixed effects: ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)               0.7415080 0.6556766 65  1.130905  0.2623
List_wkly                 0.0060979 0.0039726 65  1.534995  0.1296
CountryAustria           -0.0406295 0.0526156  5 -0.772195  0.4749
Ctest                     0.5170098 0.1339470 65  3.860324  0.0003
Dyslexdyslex              0.0230999 0.0856017 65  0.269853  0.7881
HISEI                     0.0000365 0.0012652 65  0.028820  0.9771
Genderboy                 0.0406674 0.0374064 65  1.087176  0.2810
L1not majority L         -0.0004349 0.0576993 65 -0.007537  0.9940
Age                      -0.0089114 0.0484592 65 -0.183896  0.8547
List_wkly:CountryAustria -0.0072424 0.0077963 65 -0.928958  0.3563
 Correlation:
                         (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
List_wkly                -0.029
CountryAustria            0.566  0.153
Ctest                    -0.109  0.050 -0.405
Dyslexdyslex              0.301  0.026  0.167  0.142
HISEI                    -0.097  0.069  0.241 -0.306 -0.047
Genderboy                -0.111 -0.104  0.105 -0.028 -0.104  0.199
L1not majority L          0.386 -0.220  0.335 -0.033  0.204  0.034 -0.054
Age                      -0.992  0.005 -0.605  0.087 -0.314  0.000  0.069 -0.405
List_wkly:CountryAustria -0.057 -0.534 -0.199 -0.170 -0.027 -0.080 -0.203  0.067  0.087

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0023012 -0.3236952  0.1005939  0.6673252  1.6442762

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("EIT", "List_wkly", "Country","Class_neu","School")])
> e11 <- lme(EIT ~ List_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(e11)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -22.64264 -3.898857 17.32132

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05720934

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.545746e-05 0.2043629

Fixed effects: EIT ~ List_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5490060 0.04247344 156 12.925867  0.0000
List_wkly       0.0025558 0.00370954 156  0.688971  0.4919
CountryAustria -0.0340922 0.05465061   5 -0.623822  0.5601
 Correlation:
                (Intr) Lst_wk
List_wkly      -0.180
CountryAustria -0.763  0.058

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.52896750 -0.62647067 -0.07506698  0.59945177  2.23551773

Number of Observations: 171
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("EIT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e12 <- lme(EIT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(e12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  0.5156749 33.24433 11.74216

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.817997e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07090175 0.1783454

Fixed effects: EIT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)       0.6960415 0.6738626 101  1.032913  0.3041
List_wkly        -0.0015465 0.0037304 101 -0.414567  0.6793
CountryAustria   -0.0524204 0.0667036   5 -0.785871  0.4675
Ctest             0.6101039 0.1366091 101  4.466056  0.0000
Dyslexdyslex      0.1111413 0.0896287 101  1.240019  0.2178
HISEI             0.0032088 0.0012727 101  2.521259  0.0133
Genderboy         0.0355766 0.0354118 101  1.004652  0.3175
L1not majority L  0.0646828 0.0574883 101  1.125147  0.2632
Age              -0.0390784 0.0498902 101 -0.783287  0.4353
 Correlation:
                  (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
List_wkly         -0.032
CountryAustria     0.450  0.048
Ctest             -0.110 -0.110 -0.354
Dyslexdyslex       0.204  0.021  0.138  0.137
HISEI             -0.075  0.006  0.211 -0.314  0.028
Genderboy         -0.018  0.002  0.106 -0.082 -0.037  0.077
L1not majority L  0.277 -0.146  0.250 -0.012  0.038 -0.020  0.013
Age               -0.992  0.028 -0.498  0.094 -0.225 -0.019 -0.009 -0.293

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.10915364 -0.56212331 -0.03157751  0.51084867  1.99543069

Number of Observations: 122
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> mdat <- na.omit(dat[c("EIT", "List_wkly", "country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> el3 <- lme(EIT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(el3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  9.847549 45.18803 8.076226

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.146429e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06748765 0.1793234

Fixed effects: EIT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)               0.7134557 0.6774535 100  1.053143  0.2948
List_wkly                 0.0002111 0.0046256 100  0.045648  0.9637
CountryAustria           -0.0464359 0.0666702   5 -0.696502  0.5172
Ctest                     0.6317198 0.1410068 100  4.480066  0.0000
Dyslexdyslex              0.1141394 0.0901002 100  1.266806  0.2082
HISEI                     0.0032947 0.0012838 100  2.566455  0.0118
Genderboy                 0.0390133 0.0359102 100  1.086413  0.2799
L1not majority L          0.0611119 0.0579809 100  1.054001  0.2944
Age                      -0.0414285 0.0302513 100 -0.824426  0.4117
List_wkly:CountryAustria -0.0053705 0.0083414 100 -0.643833  0.5212
 Correlation:
                         (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
List_wkly                -0.001
CountryAustria            0.459  0.134
Ctest                    -0.096  0.053 -0.308
Dyslexdyslex              0.206  0.064  0.149  0.151
HISEI                    -0.072  0.066  0.226 -0.280  0.033
Genderboy                -0.013  0.083  0.127 -0.045 -0.025  0.092
L1not majority L          0.272 -0.175  0.236 -0.037  0.029 -0.028  0.000
Age                      -0.992 -0.022 -0.510  0.072 -0.229 -0.025 -0.019 -0.284
List_wkly:CountryAustria -0.041 -0.587 -0.159 -0.238 -0.077 -0.102 -0.139  0.097  0.076

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.08609945 -0.57590727 -0.02297446  0.53841166  1.97595837

Number of Observations: 122
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("ATGJT", "List_wkly", "Country","Class_neu","School")])
> al1 <- lme(ATGJT ~ List_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(al1)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC       BIC   logLik
  -59.34311 -40.56372 35.67156

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04413149

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0294768 0.1824616

Fixed effects: ATGJT ~ List_wkly + Country
                 Value  Std.Error  DF   t-value p-value
(Intercept)  0.5396948 0.03336087 155 16.177480  0.0000
List_wkly    0.0047644 0.00326807 155  1.457875  0.1469
CountryAustria -0.0908020 0.04545341   6 -1.997694  0.0927
 Correlation:
             (Intr) Lst_wk
List_wkly    -0.213
CountryAustria -0.717  0.074

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.86022454 -0.82907367 -0.06501884  0.73856862  2.34689482

Number of Observations: 172
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> al2 <- lme(ATGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(al2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC logLik
  -20.71801 12.11637 22.359

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.204398e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.009844415 0.1687267

Fixed effects: ATGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)      -0.7668802 0.5308641 100 -1.444589  0.1517
List_wkly         0.0038678 0.0032239 100  1.199695  0.2331
CountryAustria   -0.2144041 0.0438363   6 -4.891017  0.0027
Ctest             0.6455707 0.1165120 100  5.540809  0.0000
Dyslexdyslex      0.0627826 0.0800005 100  0.784778  0.4344
HISEI             0.0011345 0.0011514 100  0.985249  0.3269
Genderboy         0.0079530 0.0324276 100  0.245254  0.8068
```

```
L1not majority L  0.0436644 0.0509378 100  0.857209  0.3934
Age               0.0793038 0.0387025 100  2.049063  0.0431
 Correlation:
                  (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly         0.008
CountryAustria    0.418  0.088
Ctest            -0.051 -0.012 -0.414
Dyslexdyslex      0.137  0.077  0.093  0.155
HISEI            -0.167 -0.033  0.236 -0.297 -0.019
Genderboy         0.010 -0.044  0.145 -0.024 -0.005  0.071
L1not majority L  0.196 -0.132  0.257 -0.026 -0.011 -0.006  0.042
Age              -0.991 -0.016 -0.469  0.031 -0.156  0.060 -0.045 -0.215

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.11819045 -0.76488706  0.06559687  0.65944284  2.49077380

Number of Observations: 123
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> al3 <- lme(ATGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(al3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.42382 24.03222 18.71191

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 8.136457e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.01165423 0.1688664

Fixed effects: ATGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)              -0.7364694 0.5327580 99 -1.382371  0.1700
List_wkly                 0.0056750 0.0039001 99  1.455117  0.1488
CountryAustria           -0.2062953 0.0450768  6 -4.576527  0.0038
Ctest                     0.6698548 0.1202895 99  5.568689  0.0000
Dyslexdyslex              0.0679214 0.0803313 99  0.845516  0.3999
HISEI                     0.0011823 0.0011548 99  1.023770  0.3084
Genderboy                 0.0114867 0.0327454 99  0.350789  0.7265
L1not majority L          0.0403665 0.0511511 99  0.789162  0.4319
Age                       0.0759730 0.0389522 99  1.950415  0.0540
List_wkly:CountryAustria -0.0061199 0.0073709 99 -0.830276  0.4084
 Correlation:
                         (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
List_wkly                 0.044
CountryAustria            0.420  0.192
Ctest                    -0.034  0.126 -0.339
Dyslexdyslex              0.141  0.103  0.107  0.167
```

```
HISEI                    -0.163  0.000  0.240 -0.275 -0.014
Genderboy                 0.018  0.037  0.169  0.008  0.004  0.076
L1not majority L          0.190 -0.150  0.233 -0.042 -0.017 -0.010  0.032
Age                      -0.990 -0.069 -0.476  0.006 -0.162  0.054 -0.057 -0.206
List_wkly:CountryAustria -0.066 -0.561 -0.216 -0.242 -0.072 -0.049 -0.130  0.073  0.100

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.1129943 -0.7016873  0.0720292  0.6790402  2.4569190

Number of Observations: 123
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "List_wkly", "Country","Class_neu","School")])
> wl1 <- lme(WTGJT ~ List_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wl1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -56.43374 -37.54877 34.21687

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.03818326

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.649768e-06 0.1866614

Fixed effects: WTGJT ~ List_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.3239309 0.03000484 158 10.795954  0.0000
List_wkly       0.0029697 0.00322055 158  0.922097  0.3579
CountryAustria -0.0119514 0.03971651   6 -0.300917  0.7736
 Correlation:
                (Intr) Lst_wk
List_wkly       -0.236
CountryAustria -0.732  0.078

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9040756 -0.7009655 -0.1161119  0.6822041  2.9543856

Number of Observations: 175
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wl2 <- lme(WTGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wl2)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC      BIC   logLik
  -11.36152 21.57767 17.68076

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.57374e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.148913e-06 0.1764785

Fixed effects: WTGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      -0.9488312 0.5544134 101 -1.711414  0.0901
List_wkly         0.0022040 0.0033672 101  0.654550  0.5142
CountryAustria   -0.1294707 0.0453112   6 -2.857369  0.0289
Ctest             0.4981172 0.1213604 101  4.097693  0.0001
Dyslexdyslex      0.0258901 0.0835257 101  0.309966  0.7572
HISEI             0.0003829 0.0011783 101  0.324970  0.7459
Genderboy        -0.0951064 0.0338616 101 -2.808681  0.0060
L1not majority L  0.0680983 0.0531872 101  1.280352  0.2034
Age               0.0869112 0.0403928 101  2.151651  0.0338
 Correlation:
                 (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
List_wkly         0.009
CountryAustria    0.422  0.091
Ctest            -0.050 -0.011 -0.419
Dyslexdyslex      0.136  0.078  0.093  0.155
HISEI            -0.175 -0.027  0.226 -0.304 -0.022
Genderboy         0.010 -0.045  0.150 -0.024 -0.004  0.082
L1not majority L  0.196 -0.133  0.262 -0.027 -0.012 -0.003  0.042
Age              -0.991 -0.017 -0.472  0.030 -0.156  0.070 -0.046 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.03662290 -0.61968743 -0.04573314  0.60505988  3.09313081

Number of Observations: 124
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wl3 <- lme(WTGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wl3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -1.955513 33.61507 13.97776

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.537968e-06

 Formula: ~1 | Class_neu %in% School
```

```
        (Intercept)  Residual
StdDev: 3.221124e-06 0.1768666

Fixed effects: WTGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)               -0.9747391 0.5568493 100 -1.750454  0.0831
List_wkly                  0.0005915 0.0040781 100  0.145052  0.8850
CountryAustria            -0.1364565 0.0444817   6 -2.935702  0.0261
Ctest                      0.4771792 0.1254035 100  3.805150  0.0002
Dyslexdyslex               0.0217514 0.0839154 100  0.259206  0.7960
HISEI                      0.0003537 0.0011816 100  0.299342  0.7653
Genderboy                 -0.0983220 0.0342419 100 -2.871397  0.0050
L1not majority L           0.0708183 0.0534439 100  1.325095  0.1882
Age                        0.0897264 0.0406786 100  2.205742  0.0297
List_wkly:CountryAustria  0.0054072 0.0076785 100  0.704199  0.4829
 Correlation:
                          (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
List_wkly                  0.044
CountryAustria             0.426  0.193
Ctest                     -0.032  0.124 -0.347
Dyslexdyslex               0.140  0.104  0.106  0.166
HISEI                     -0.172 -0.003  0.228 -0.287 -0.019
Genderboy                  0.019  0.038  0.174  0.009  0.005  0.086
L1not majority L           0.191 -0.151  0.239 -0.043 -0.017 -0.005  0.032
Age                       -0.991 -0.069 -0.480  0.006 -0.161  0.066 -0.059 -0.207
List_wkly:CountryAustria -0.066 -0.561 -0.213 -0.237 -0.070 -0.035 -0.133  0.072  0.098
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.06890910 -0.63423557 -0.04205595  0.60161267  3.22369023

Number of Observations: 124
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("UGJT", "List_wkly", "Country","Class_neu","School")])
> ul1 <- lme(UGJT ~ List_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ul1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  41.07416 60.09707 -14.53708

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07066319

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.133303 0.2358226

Fixed effects: UGJT ~ List_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.4555519 0.06420087 162 7.095727  0.0000
List_wkly       0.0002232 0.00345260 162 0.064934  0.9674
```

```
CountryAustria 0.1292011 0.09430358   6 1.370055  0.2197
 Correlation:
               (Intr) Lst_wk
List_wkly      -0.140
CountryAustria -0.671  0.025

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.5697262 -0.7085188  0.1060812  0.6385648  1.7398521

Number of Observations: 179
Number of Groups:
               School class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ul2 <- lme(UGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ul2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC     BIC    logLik
  39.39542 72.3346 -7.697709

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.09947531

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1269716 0.2030375
```

```
Fixed effects: UGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                       Value Std.Error  DF   t-value p-value
(Intercept)        0.3972067 0.7175447 101  0.553564  0.5811
List_wkly         -0.0011030 0.0062511 101 -0.176443  0.8603
CountryAustria     0.0506435 0.1129769   6  0.448264  0.6697
Ctest              0.6869117 0.1560546 101  4.401740  0.0000
Dyslexdyslex      -0.1116346 0.1044725 101 -1.068555  0.2878
HISEI              0.0020187 0.0014728 101  1.370592  0.1735
Genderboy          0.0507250 0.0408094 101  1.242974  0.2168
L1not majority L   0.1488301 0.0661001 101  2.251588  0.0265
Age               -0.0182131 0.0519907 101 -0.350315  0.7268
 Correlation:
                  (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
List_wkly         -0.009
CountryAustria     0.132  0.070
Ctest             -0.111 -0.191 -0.215
Dyslexdyslex       0.179 -0.004  0.058  0.140
HISEI             -0.098 -0.168  0.118 -0.218  0.050
Genderboy          0.021 -0.133  0.080 -0.019 -0.022  0.075
L1not majority L   0.224  0.025  0.095 -0.026  0.022 -0.058  0.005
Age               -0.987  0.023 -0.211  0.084 -0.205 -0.006 -0.055 -0.234

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.61314766 -0.57089670  0.04645885  0.56745104  2.07163728
```

```
Number of Observations: 124
Number of Groups:
               School class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("UGJT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ul3 <- lme(UGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ul3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  38.07329 73.64387 -6.036647

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.072677e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1133535 0.1991854

Fixed effects: UGJT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                                  Value Std.Error  DF   t-value p-value
(Intercept)                   0.2503984 0.6764842 100  0.370147  0.7121
List_wkly                     0.0258192 0.0097287 100  2.653935  0.0093
CountryAustria                0.1367386 0.0821968   6  1.663550  0.1473
Ctest                         0.8156864 0.1552645 100  5.253529  0.0000
Dyslexdyslex                 -0.0984678 0.1016069 100 -0.969106  0.3348
HISEI                         0.0018217 0.0014354 100  1.269125  0.2073
Genderboy                     0.0527826 0.0398408 100  1.324839  0.1882
L1not majority L              0.1418993 0.0641956 100  2.210420  0.0294
Age                          -0.0151398 0.0494709 100 -0.306035  0.7602
List_wkly:CountryAustria     -0.0414820 0.0123621 100 -3.355578  0.0011
 Correlation:
                             (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
List_wkly                     0.095
CountryAustria                0.272  0.236
Ctest                        -0.085  0.073 -0.221
Dyslexdyslex                  0.167  0.086  0.101  0.162
HISEI                        -0.120 -0.136  0.135 -0.229  0.036
Genderboy                     0.018 -0.070  0.109 -0.011 -0.024  0.077
L1not majority L              0.208  0.055  0.155 -0.022  0.016 -0.061  0.005
Age                          -0.989 -0.112 -0.334  0.048 -0.195  0.015 -0.054 -0.220
List_wkly:CountryAustria -0.099 -0.788 -0.239 -0.229 -0.101  0.045 -0.022 -0.036  0.133

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.92976233 -0.51790178  0.01381008  0.60617763  1.85340365

Number of Observations: 124
Number of Groups:
               School class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "List_wkly", "Country","Class_neu","School")])
> ml1 <- lme(MKT ~ List_wkly + Country,
```

```
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ml1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -122.4373 -103.6579 67.21865

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.0001033782

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05899324 0.1491742

Fixed effects: MKT ~ List_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.3257088 0.02707120 155 12.031560  0.0000
List_wkly      -0.0008642 0.00361217 155 -0.239238  0.8112
CountryAustria  0.4099554 0.03888058   6 10.543963  0.0000
 Correlation:
               (Intr) Lst_wk
List_wkly      -0.222
CountryAustria -0.673  0.050

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.93645327 -0.61052032  0.08694511  0.62562387  3.44661563

Number of Observations: 172
Number of Groups:
               School class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ml2 <- lme(MKT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ml2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -84.70163 -52.07964 54.35082

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0464009

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03604854 0.1211489

Fixed effects: MKT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                       Value Std.Error DF   t-value p-value
(Intercept)        0.2546617 0.4100336 98  0.621075  0.5360
List_wkly          0.0015982 0.0037955 98  0.421064  0.6746
CountryAustria     0.3336961 0.0502441  6  6.641504  0.0006
```

```
Ctest                0.3897263 0.0890277 98  4.377584  0.0000
Dyslexdyslex        -0.0274751 0.0602079 98 -0.456338  0.6492
HISEI                0.0009542 0.0008719 98  1.094434  0.2764
Genderboy           -0.0195553 0.0244337 98 -0.800340  0.4254
L1not majority L    -0.0238698 0.0386806 98 -0.617100  0.5386
Age                 -0.0032932 0.0298063 98 -0.110486  0.9123
 Correlation:
                    (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly           -0.020
CountryAustria       0.211  0.062
Ctest               -0.078 -0.110 -0.263
Dyslexdyslex         0.166  0.026  0.077  0.152
HISEI               -0.126 -0.155  0.150 -0.213  0.030
Genderboy            0.028 -0.173  0.104 -0.029 -0.006  0.092
L1not majority L     0.221  0.025  0.130 -0.037 -0.004 -0.049  0.008
Age                 -0.988  0.031 -0.279  0.050 -0.191  0.016 -0.064 -0.231

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.32208468 -0.65097103  0.09391875  0.76289329  2.33332562

Number of Observations: 121
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("MKT", "List_wkly", "Country","Class_neu","School", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m13 <- lme(MKT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(m13)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -80.7681 -45.54421 53.38405

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.176857e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05121923 0.1184438

Fixed effects: MKT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                                  Value Std.Error DF   t-value p-value
(Intercept)                  0.3285524 0.3946445 97  0.832528  0.4072
List_wkly                    0.0123042 0.0055689 97  2.209453  0.0295
CountryAustria               0.3789642 0.0427425  6  8.866223  0.0001
Ctest                        0.4419358 0.0904540 97  4.885751  0.0000
Dyslexdyslex                -0.0061585 0.0594295 97 -0.103627  0.9177
HISEI                        0.0008804 0.0008567 97  1.027652  0.3067
Genderboy                   -0.0169785 0.0239892 97 -0.707756  0.4808
L1not majority L            -0.0213781 0.0378513 97 -0.564793  0.5735
Age                         -0.0117484 0.0288880 97 -0.406688  0.6851
List_wkly:CountryAustria -0.0191318 0.0075023 97 -2.550127  0.0123
 Correlation:
```

```
                           (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
List_wkly                   0.099
CountryAustria              0.320  0.240
Ctest                      -0.068  0.088 -0.248
Dyslexdyslex                0.160  0.091  0.107  0.166
HISEI                      -0.134 -0.147  0.141 -0.232  0.027
Genderboy                   0.027 -0.076  0.128 -0.015 -0.020  0.080
L1not majority L            0.208  0.064  0.181 -0.024  0.008 -0.055  0.010
Age                        -0.989 -0.113 -0.377  0.032 -0.187  0.026 -0.063 -0.221
List_wkly:CountryAustria -0.119 -0.745 -0.253 -0.221 -0.095  0.071 -0.056 -0.052  0.147

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.17984089 -0.65506960  0.04153486  0.75239762  2.20069368

Number of Observations: 121
Number of Groups:
                School Class_neu %in% School
                     8                   16
```

```
> ########################
> ###### Sing #############
> ########################
>
> mdat <- na.omit(dat[c("ONT", "Sing_wkly", "Country","Class_neu","School")])
> os11 <- lme(ONT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(os11)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -75.24034 -58.5656 43.62017

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.737609e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02562483 0.1544828

Fixed effects: ONT ~ Sing_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.7949920 0.02467437 107 32.21935  0.0000
Sing_wkly       0.0011354 0.00182249 107  0.62300  0.5346
CountryAustria 0.0036818 0.03174191   5  0.11599  0.9122
 Correlation:
                (Intr) Sng_wk
Sing_wkly       -0.351
CountryAustria -0.696  0.041

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2474251 -0.4412193  0.1593752  0.7351189  1.2716784

Number of Observations: 122
Number of Groups:
                School Class_neu %in% School
                     7                   14
> mdat <- na.omit(dat[c("ONT", "Sing_wkly", "Country","Class_neu","School", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> os12 <- lme(ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(os12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.40271 18.03067 17.20135

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.851593e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.432389e-06 0.1561479
```

```
Fixed effects: ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.6265154 0.6687799 67  0.936804  0.3522
Sing_wkly        -0.0020341 0.0023217 67 -0.876094  0.3841
CountryAustria   -0.0717576 0.0537773  5 -1.334346  0.2396
Ctest             0.5141496 0.1392661 67  3.691851  0.0004
Dyslexdyslex      0.0066637 0.0862766 67  0.077237  0.9387
HISEI            -0.0001068 0.0012761 67 -0.083651  0.9336
Genderboy         0.0312230 0.0385651 67  0.809618  0.4210
L1not majority L  0.0151915 0.0567338 67  0.267769  0.7897
Age               0.0026876 0.0494722 67  0.054326  0.9568
 Correlation:
                  (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.166
CountryAustria     0.588  0.262
Ctest             -0.167 -0.260 -0.501
Dyslexdyslex       0.301  0.038  0.164  0.118
HISEI             -0.085  0.069  0.243 -0.329 -0.043
Genderboy         -0.062  0.315  0.155 -0.127 -0.084  0.196
L1not majority L  0.365 -0.076  0.340 -0.022  0.205  0.046 -0.053
Age               -0.993 -0.181 -0.623  0.154 -0.314 -0.010  0.021 -0.387

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2179483 -0.3838879  0.1473170  0.7152342  1.5342928

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                   14
>
> mdat <- na.omit(dat[c("ONT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> os13 <- lme(ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(os13)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -2.785022 27.85219 14.39251

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.345527e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06480547 0.1464217

Fixed effects: ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                                  Value Std.Error DF   t-value p-value
(Intercept)                  0.6484045 0.6476950 66  1.001095  0.3204
Sing_wkly                    0.0022506 0.0028582 66  0.787421  0.4339
CountryAustria              -0.0030743 0.0663999  5 -0.046300  0.9649
Ctest                        0.4572913 0.1382670 66  3.307307  0.0015
Dyslexdyslex                 0.0174104 0.0839735 66  0.207332  0.8364
HISEI                        0.0000691 0.0012523 66  0.055144  0.9562
```

```
Genderboy                    0.0269416 0.0377011 66  0.714610  0.4774
L1not majority L             0.0168812 0.0548575 66  0.307729  0.7593
Age                         -0.0013917 0.0480728 66 -0.028951  0.9770
Sing_wkly:CountryAustria -0.0100541 0.0048965 66 -2.053337  0.0440
 Correlation:
                           (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
Sing_wkly                   0.099
CountryAustria              0.436  0.335
Ctest                      -0.187 -0.300 -0.438
Dyslexdyslex                0.308 -0.040  0.116  0.128
HISEI                      -0.043 -0.003  0.178 -0.288  0.017
Genderboy                  -0.042  0.243  0.105 -0.127 -0.103  0.165
L1not majority L            0.335 -0.098  0.220  0.002  0.195  0.034 -0.066
Age                        -0.992 -0.108 -0.475  0.173 -0.325 -0.055  0.003 -0.352
Sing_wkly:CountryAustria  0.079 -0.509 -0.268  0.136  0.088  0.115  0.108  0.011 -0.091
```

```
Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.79683638 -0.36046227  0.07238184  0.66050279  1.54474690

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "Sing_wkly", "Country","Class_neu","School")])
> es11 <- lme(EIT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(es11)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -18.21291 0.5308697 15.10646

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.0001029835

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06262275 0.2044157

Fixed effects: EIT ~ Sing_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5581513 0.03585017 156 15.568999  0.0000
Sing_wkly       0.0012775 0.00227079 156  0.562567  0.5745
CountryAustria -0.0329541 0.04740988   5 -0.695089  0.5180
 Correlation:
               (Intr) Sng_wk
Sing_wkly      -0.286
CountryAustria -0.705  0.038

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.5171022 -0.6313164 -0.0945630  0.6080818  2.1646523

Number of Observations: 171
```

```
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> es12 <- lme(EIT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(es12)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  5.04066 37.76931 9.47967

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.083143e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06500032 0.1824825

Fixed effects: EIT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      0.6818491 0.7016272 101  0.971811  0.3335
Sing_wkly       -0.0020992 0.0028411 101 -0.738873  0.4617
CountryAustria  -0.0582576 0.0683479   5 -0.852367  0.4329
Ctest            0.5889349 0.1423320 101  4.137753  0.0001
Dyslexdyslex     0.1026812 0.0911968 101  1.125930  0.2629
HISEI            0.0033545 0.0013007 101  2.579046  0.0113
Genderboy        0.0391381 0.0381106 101  1.026960  0.3069
L1not majority L  0.0563748 0.0580715 101  0.970782  0.3340
Age             -0.0372775 0.0521913 101 -0.714248  0.4767
 Correlation:
                (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Sing_wkly        0.168
CountryAustria   0.497  0.231
Ctest           -0.155 -0.258 -0.411
Dyslexdyslex     0.210  0.042  0.148  0.120
HISEI           -0.059  0.073  0.234 -0.324  0.030
Genderboy        0.044  0.329  0.188 -0.152 -0.013  0.099
L1not majority L  0.271 -0.067  0.257 -0.029  0.036 -0.012  0.009
Age             -0.993 -0.187 -0.545  0.145 -0.230 -0.035 -0.077 -0.285

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.03103724 -0.58903441 -0.01924686  0.50553541  2.16905576

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("EIT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> es13 <- lme(EIT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(es13)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
      AIC      BIC    logLik
  15.51467 50.85516 5.242664

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.000624e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06407874 0.1834141

Fixed effects: EIT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)               0.6873677 0.7060387 100  0.973555  0.3326
Sing_wkly                -0.0025781 0.0033539 100 -0.768708  0.4439
CountryAustria           -0.0633553 0.0707121   5 -0.895962  0.4113
Ctest                     0.5935239 0.1436689 100  4.131193  0.0001
Dyslexdyslex              0.1031975 0.0916905 100  1.125498  0.2631
HISEI                     0.0033797 0.0013116 100  2.576725  0.0114
Genderboy                 0.0397699 0.0384306 100  1.034851  0.3032
L1not majority L          0.0562604 0.0583460 100  0.964254  0.3372
Age                      -0.0377351 0.0525375 100 -0.718251  0.4743
Sing_wkly:CountryAustria  0.0013429 0.0056155 100  0.239149  0.8115
 Correlation:
                         (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Sing_wkly                 0.114
CountryAustria            0.468  0.327
Ctest                    -0.148 -0.272 -0.423
Dyslexdyslex              0.213  0.009  0.130  0.124
HISEI                    -0.054  0.015  0.203 -0.312  0.033
Genderboy                 0.049  0.232  0.159 -0.141 -0.008  0.106
L1not majority L          0.270 -0.047  0.255 -0.032  0.035 -0.013  0.007
Age                      -0.993 -0.126 -0.512  0.137 -0.233 -0.039 -0.082 -0.284
Sing_wkly:CountryAustria  0.055 -0.527 -0.259  0.103  0.052  0.089  0.088 -0.019 -0.062

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.026060078 -0.586887284 -0.009437357  0.510694032  2.158333241

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    7                    14
>
> mdat <- na.omit(dat[c("ATGJT", "Sing_wkly", "Country","Class_neu","School")])
> as11 <- lme(ATGJT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(as11)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -56.00809 -37.2287 34.00404

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.036378e-05
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.063192 0.1818482

Fixed effects: ATGJT ~ Sing_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5463543 0.03124250 155 17.487536  0.0000
Sing_wkly       0.0016949 0.00211251 155  0.802337  0.4236
CountryAustria -0.0920544 0.04386259   6 -2.098699  0.0806
 Correlation:
               (Intr) Sng_wk
Sing_wkly      -0.271
CountryAustria -0.667  0.026

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.88254935 -0.73024565 -0.04290164  0.73414066  2.35591847

Number of Observations: 172
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> as12 <- lme(ATGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(as12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -18.02341 14.91578 21.0117

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.211933e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03840717 0.1680663
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03840717 0.1680663

Fixed effects: ATGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)      -0.7413366 0.5415294 101 -1.368968  0.1740
Sing_wkly        -0.0018318 0.0024773 101 -0.739436  0.4614
CountryAustria   -0.2267425 0.0487782   6 -4.648441  0.0035
Ctest             0.6601107 0.1209540 101  5.457537  0.0000
Dyslexdyslex      0.0623408 0.0811845 101  0.767890  0.4443
HISEI             0.0012376 0.0011714 101  1.056536  0.2932
Genderboy         0.0129619 0.0340677 101  0.380474  0.7044
L1not majority L  0.0451552 0.0513693 101  0.879030  0.3815
Age               0.0782253 0.0396046 101  1.975156  0.0510
 Correlation:
                  (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Sing_wkly          0.117
CountryAustria     0.389  0.197
Ctest             -0.085 -0.234 -0.396
Dyslexdyslex       0.145  0.035  0.095  0.144
```

```
HISEI             -0.144  0.060  0.223 -0.277  0.009
Genderboy          0.055  0.306  0.221 -0.103  0.009  0.078
L1not majority L  0.185 -0.096  0.206  0.006 -0.005 -0.032  0.024
Age               -0.990 -0.136 -0.443  0.067 -0.167  0.035 -0.096 -0.201

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.19086724 -0.68629400  0.07310261  0.62078371  2.43855652

Number of Observations: 124
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> as13 <- lme(ATGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(as13)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -7.399471 28.17111 16.69974

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.764845e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04262831 0.1681917

Fixed effects: ATGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                -0.7401769 0.5451604 100 -1.357723  0.1776
Sing_wkly                  -0.0012473 0.0029518 100 -0.422573  0.6735
CountryAustria             -0.2206485 0.0523549   6 -4.214480  0.0056
Ctest                       0.6539832 0.1227529 100  5.327638  0.0000
Dyslexdyslex                0.0636604 0.0817137 100  0.779067  0.4378
HISEI                       0.0012214 0.0011840 100  1.031620  0.3047
Genderboy                   0.0116933 0.0343036 100  0.340878  0.7339
L1not majority L            0.0446030 0.0515840 100  0.864668  0.3893
Age                         0.0782217 0.0399139 100  1.959760  0.0528
Sing_wkly:CountryAustria -0.0017250 0.0050863 100 -0.339150  0.7352
 Correlation:
                           (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Sing_wkly                   0.065
CountryAustria              0.342  0.320
Ctest                      -0.079 -0.271 -0.408
Dyslexdyslex                0.149 -0.004  0.072  0.151
HISEI                      -0.133 -0.010  0.173 -0.255  0.019
Genderboy                   0.061  0.216  0.181 -0.093  0.011  0.084
L1not majority L            0.183 -0.072  0.196  0.004 -0.006 -0.037  0.021
Age                        -0.990 -0.073 -0.389  0.058 -0.172  0.022 -0.102 -0.198
Sing_wkly:CountryAustria  0.065 -0.531 -0.305  0.135  0.060  0.112  0.084 -0.020 -0.079

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
```

```
Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.15477344 -0.67697694  0.05843853  0.60807268  2.41161971

Number of Observations: 124
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Sing_wkly", "Country","Class_neu","School")])
> ws11 <- lme(WTGJT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ws11)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -55.65242 -36.76745 33.82621

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05189216

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.713413e-06 0.1855021

Fixed effects: WTGJT ~ Sing_wkly + Country
                Value  Std.Error  DF  t-value p-value
(Intercept)    0.3252550 0.03488984 158 9.322340  0.0000
Sing_wkly      0.0030068 0.00205300 158 1.464566  0.1450
CountryAustria 0.0027626 0.04672156   6 0.059128  0.9548
 Correlation:
               (Intr) Sng_wk
Sing_wkly      -0.220
CountryAustria -0.713  0.011

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9137236 -0.6992513 -0.1295392  0.6918194  3.0197188

Number of Observations: 175
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ws12 <- lme(WTGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ws12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.546427 23.49665 16.77321

Random effects:
 Formula: ~1 | School
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.986589e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.096565e-06 0.1778253

Fixed effects: WTGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)      -1.0101503 0.5616667 102 -1.798487  0.0751
Sing_wkly        -0.0008280 0.0024895 102 -0.332601  0.7401
CountryAustria   -0.1439657 0.0461150   6 -3.121883  0.0205
Ctest             0.5330629 0.1240675 102  4.296555  0.0000
Dyslexdyslex      0.0192852 0.0839811 102  0.229637  0.8188
HISEI             0.0002412 0.0011864 102  0.203305  0.8393
Genderboy         -0.0881980 0.0354564 102 -2.487506  0.0145
L1not majority L  0.0706601 0.0532628 102  1.326630  0.1876
Age               0.0920517 0.0410335 102  2.243331  0.0270
 Correlation:
                  (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Sing_wkly          0.113
CountryAustria     0.434  0.202
Ctest             -0.064 -0.214 -0.435
Dyslexdyslex       0.142  0.050  0.095  0.142
HISEI             -0.170  0.070  0.231 -0.306 -0.016
Genderboy          0.051  0.290  0.239 -0.088  0.024  0.106
L1not majority L  0.187 -0.089  0.250 -0.005 -0.006 -0.016  0.027
Age               -0.991 -0.133 -0.485  0.049 -0.161  0.064 -0.095 -0.206

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.05098237 -0.63582291 -0.07999933  0.59334356  3.26486641

Number of Observations: 125
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ws13 <- lme(WTGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ws13)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  0.9801154 36.66423 12.50994

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.117997e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 3.815416e-06  0.17848
```

```
Fixed effects: WTGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                -0.9984873 0.5645360 101 -1.768687  0.0800
Sing_wkly                  -0.0014449 0.0029618 101 -0.487839  0.6267
CountryAustria             -0.1504981 0.0492531   6 -3.055604  0.0224
Ctest                       0.5416330 0.1264691 101  4.282731  0.0000
Dyslexdyslex                0.0213928 0.0844653 101  0.253273  0.8006
HISEI                       0.0002971 0.0011995 101  0.247703  0.8049
Genderboy                  -0.0871754 0.0356845 101 -2.442950  0.0163
L1not majority L            0.0700898 0.0534791 101  1.310600  0.1930
Age                         0.0909146 0.0412887 101  2.201922  0.0299
Sing_wkly:CountryAustria    0.0020236 0.0052167 101  0.387906  0.6989
 Correlation:
                           (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Sing_wkly                   0.066
CountryAustria              0.389  0.343
Ctest                      -0.054 -0.272 -0.463
Dyslexdyslex                0.145  0.008  0.067  0.151
HISEI                      -0.162 -0.006  0.175 -0.278 -0.008
Genderboy                   0.055  0.205  0.199 -0.073  0.028  0.114
L1not majority L            0.186 -0.060  0.244 -0.009 -0.008 -0.019  0.025
Age                        -0.991 -0.074 -0.431  0.035 -0.165  0.055 -0.100 -0.203
Sing_wkly:CountryAustria    0.053 -0.537 -0.342  0.175  0.064  0.120  0.074 -0.027 -0.071

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0516007 -0.6748040 -0.0506332  0.5860274  3.2479111

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "Sing_wkly", "Country","Class_neu","School")])
> usi1 <- lme(UGJT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(usi1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  39.44687 58.46977 -13.72343

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07977179

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1437987 0.2324553

Fixed effects: UGJT ~ Sing_wkly + Country
                   Value  Std.Error  DF  t-value p-value
(Intercept)    0.4473492 0.06951402 162 6.435381  0.0000
Sing_wkly      0.0026632 0.00263740 162 1.009768  0.3141
CountryAustria 0.1272995 0.10200178   6 1.248013  0.2585
```

```
Ctest                       0.5416330 0.1264691 101  4.282731  0.0000
Dyslexdyslex                0.0213928 0.0844653 101  0.253273  0.8006
HISEI                       0.0002971 0.0011995 101  0.247703  0.8049
Genderboy                  -0.0871754 0.0356845 101 -2.442950  0.0163
L1not majority L            0.0700898 0.0534791 101  1.310600  0.1930
Age                         0.0909146 0.0412887 101  2.201922  0.0299
Sing_wkly:CountryAustria    0.0020236 0.0052167 101  0.387906  0.6989
 Correlation:
                           (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Sing_wkly                   0.066
CountryAustria              0.389  0.343
Ctest                      -0.054 -0.272 -0.463
Dyslexdyslex                0.145  0.008  0.067  0.151
HISEI                      -0.162 -0.006  0.175 -0.278 -0.008
Genderboy                   0.055  0.205  0.199 -0.073  0.028  0.114
L1not majority L            0.186 -0.060  0.244 -0.009 -0.008 -0.019  0.025
Age                        -0.991 -0.074 -0.431  0.035 -0.165  0.055 -0.100 -0.203
Sing_wkly:CountryAustria    0.053 -0.537 -0.342  0.175  0.064  0.120  0.074 -0.027 -0.071

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0516007 -0.6748040 -0.0506332  0.5860274  3.2479111

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "Sing_wkly", "Country","Class_neu","School")])
> usi1 <- lme(UGJT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(usi1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  39.44687 58.46977 -13.72343

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07977179

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1437987 0.2324553

Fixed effects: UGJT ~ Sing_wkly + Country
                   Value  Std.Error  DF  t-value p-value
(Intercept)    0.4473492 0.06951402 162 6.435381  0.0000
Sing_wkly      0.0026632 0.00263740 162 1.009768  0.3141
CountryAustria 0.1272995 0.10200178   6 1.248013  0.2585
 Correlation:
               (Intr) Sng_wk
Sing_wkly      -0.151
CountryAustria -0.667  0.007
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.5954939 -0.7496277  0.1085208  0.6069078  1.8683959

Number of Observations: 179
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> usi2 <- lme(UGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(usi2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC    logLik
  34.40983 67.45291 -5.204913

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1208925

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1270591 0.1961217

Fixed effects: UGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      0.6186597 0.7100241 102  0.871322  0.3856
Sing_wkly       -0.0021007 0.0032896 102 -0.638592  0.5245
CountryAustria   0.0517172 0.1222338   6  0.423100  0.6870
Ctest            0.6837957 0.1510581 102  4.526706  0.0000
Dyslexdyslex    -0.1008029 0.1012838 102 -0.995252  0.3220
HISEI            0.0020445 0.0013977 102  1.462788  0.1466
Genderboy        0.0478060 0.0412564 102  1.158754  0.2493
L1not majority L 0.1667768 0.0641414 102  2.600143  0.0107
Age             -0.0338273 0.0515508 102 -0.656194  0.5132
 Correlation:
                (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Sing_wkly        0.130
CountryAustria   0.121  0.094
Ctest           -0.157 -0.259 -0.191
Dyslexdyslex     0.183 -0.007  0.054  0.135
HISEI           -0.082  0.045  0.115 -0.247  0.055
Genderboy        0.061  0.332  0.116 -0.126 -0.022  0.066
L1not majority L 0.226 -0.090  0.077 -0.015  0.026 -0.051 -0.007
Age             -0.986 -0.147 -0.208  0.135 -0.208 -0.019 -0.098 -0.233

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.7496837 -0.5887776  0.0808400  0.6409813  1.9249195

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                    16
```

```
>
> mdat <- na.omit(dat[c("UGJT", "Sing_wkly", "Country","class_neu","School", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> usi3 <- lme(UGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(usi3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  43.93597 79.62009 -8.967986

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1162156

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:    0.135143 0.1957379

Fixed effects: UGJT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                  0.5694816 0.7116920 101  0.800180  0.4255
Sing_wkly                   -0.0000560 0.0039857 101 -0.014045  0.9888
CountryAustria               0.0715645 0.1239672   6  0.577286  0.5847
Ctest                        0.6704772 0.1516992 101  4.419781  0.0000
Dyslexdyslex                -0.1037821 0.1015841 101 -1.021637  0.3094
HISEI                        0.0019808 0.0014000 101  1.414909  0.1602
Genderboy                    0.0431870 0.0414772 101  1.041222  0.3003
L1not majority L             0.1675645 0.0641085 101  2.613764  0.0103
Age                         -0.0301597 0.0517086 101 -0.583263  0.5610
Sing_wkly:CountryAustria    -0.0055966 0.0063348 101 -0.883468  0.3791
 Correlation:
                            (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
Sing_wkly                    0.065
CountryAustria               0.108  0.169
Ctest                       -0.152 -0.262 -0.203
Dyslexdyslex                 0.187 -0.045  0.042  0.139
HISEI                       -0.074  0.001  0.102 -0.241  0.061
Genderboy                    0.069  0.217  0.098 -0.116 -0.017  0.073
L1not majority L             0.223 -0.064  0.079 -0.016  0.027 -0.052 -0.010
Age                         -0.986 -0.077 -0.192  0.130 -0.212 -0.026 -0.107 -0.230
Sing_wkly:CountryAustria    0.077 -0.559 -0.161  0.087  0.068  0.067  0.104 -0.023 -0.082

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.66473473 -0.57102080  0.07282571  0.58097742  1.89323207

Number of Observations: 125
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "Sing_wkly", "Country","class_neu","School")])
> ms11 <- lme(MKT ~ Sing_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ms11)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC       BIC   logLik
  -120.5522 -101.7728 66.27608

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.03257799

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06081233 0.1483403

Fixed effects: MKT ~ Sing_wkly + Country
                 Value  Std.Error  DF  t-value p-value
(Intercept)  0.3246017 0.03259216 155 9.959501  0.0000
Sing_wkly    0.0024850 0.00165769 155 1.499077  0.1359
CountryAustria 0.3964129 0.04630100   6 8.561648  0.0001
 Correlation:
             (Intr) Sng_wk
Sing_wkly    -0.210
CountryAustria -0.675  0.011

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0406735 -0.5564832  0.1095510  0.6285009  3.1828821

Number of Observations: 172
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
>
> mdat <- na.omit(dat[c("MKT", "Sing_wkly", "Country","class_neu","School", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ms12 <- lme(MKT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ms12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -84.16741 -51.43876 54.08371

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05260779

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04174784 0.1202541

Fixed effects: MKT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                  Value Std.Error DF   t-value p-value
(Intercept)  0.2866057 0.4161670 99  0.688680  0.4926
Sing_wkly    0.0008978 0.0018790 99  0.477826  0.6338
CountryAustria  0.3239557 0.0543629  6  5.959130  0.0010
Ctest        0.3998253 0.0904047 99  4.422615  0.0000
Dyslexdyslex -0.0257599 0.0602046 99 -0.427873  0.6697
HISEI        0.0008636 0.0008566 99  1.008101  0.3159
```

```
Genderboy    -0.0167293 0.0250866 99 -0.666863  0.5064
L1not majority L -0.0246240 0.0386658 99 -0.636843  0.5257
Age          -0.0049875 0.0303185 99 -0.164503  0.8697
 Correlation:
             (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly     0.121
CountryAustria  0.207  0.115
Ctest        -0.121 -0.254 -0.250
Dyslexdyslex  0.172  0.006  0.073  0.146
HISEI        -0.113  0.036  0.147 -0.226  0.041
Genderboy     0.061  0.314  0.154 -0.124  0.001  0.077
L1not majority L  0.222 -0.075  0.110 -0.023  0.000 -0.045  0.004
Age          -0.988 -0.136 -0.278  0.097 -0.197  0.005 -0.100 -0.230

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.2967772 -0.6719046  0.1386800  0.7579151  2.3948507

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "Sing_wkly", "Country","class_neu","School", "ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> msi3 <- lme(MKT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(msi3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -74.70114 -39.36065 50.35057

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0468178

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04955893 0.1192783

Fixed effects: MKT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.2314828 0.4142005 98  0.558866  0.5775
Sing_wkly                    0.0025657 0.0022468 98  1.141938  0.2563
CountryAustria               0.3435955 0.0547705  6  6.273364  0.0008
Ctest                        0.3857566 0.0908392 98  4.246586  0.0000
Dyslexdyslex                -0.0289175 0.0602441 98 -0.480005  0.6323
HISEI                        0.0007363 0.0008572 98  0.858964  0.3925
Genderboy                   -0.0208830 0.0251063 98 -0.831782  0.4076
L1not majority L            -0.0229547 0.0384780 98 -0.596568  0.5522
Age                         -0.0005251 0.0302255 98 -0.017373  0.9862
Sing_wkly:CountryAustria    -0.0052135 0.0037933 98 -1.374390  0.1725
```

```
 Correlation:
                            (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
Sing_wkly                    0.064
CountryAustria               0.194  0.219
Ctest                       -0.118 -0.274 -0.274
Dyslexdyslex                 0.174 -0.035  0.055  0.152
HISEI                       -0.099 -0.020  0.121 -0.214  0.052
Genderboy                    0.069  0.216  0.132 -0.112  0.002  0.085
L1not majority L             0.215 -0.049  0.116 -0.025  0.002 -0.051 -0.002
Age                         -0.988 -0.071 -0.258  0.092 -0.200 -0.009 -0.109 -0.222
Sing_wkly:CountryAustria  0.071 -0.537 -0.219  0.119  0.073  0.103  0.095 -0.038 -0.084

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.42106900 -0.67024401  0.07794882  0.80177035  2.31459209

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
> ########################
> ###### ListMu ############
> ########################
>
> mdat <- na.omit(dat[c("ONT", "ListMu_wkly", "Country","Class_neu","School")])
> olm1 <- lme(ONT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(olm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -71.84236 -55.26932 41.92118

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.282503e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02214193 0.1556634

Fixed effects: ONT ~ ListMu_wkly + Country
                    Value   Std.Error  DF  t-value p-value
(Intercept)     0.7942254 0.024908471 105 31.88575  0.0000
ListMu_wkly     0.0004312 0.001441223 105  0.29917  0.7654
CountryAustria 0.0056533 0.031389373   5  0.18010  0.8641
 Correlation:
                (Intr) LstM_w
ListMu_wkly     -0.378
CountryAustria -0.653 -0.071

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2275079 -0.4216168  0.1610389  0.7331345  1.2792658

Number of Observations: 120
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("ONT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> olm2 <- lme(ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(olm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.228102 19.20527 16.61405

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.003272e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02581456 0.1550444
```

```
Fixed effects: ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      value Std.Error DF    t-value p-value
(Intercept)       0.7384857 0.6601767 67  1.118618  0.2673
ListMu_wkly      -0.0006741 0.0016884 67 -0.399251  0.6910
CountryAustria   -0.0558852 0.0542918  5 -1.029350  0.3505
Ctest             0.4976104 0.1402016 67  3.549248  0.0007
Dyslexdyslex      0.0160981 0.0864831 67  0.186142  0.8529
HISEI            -0.0000181 0.0012921 67 -0.013983  0.9889
Genderboy         0.0374761 0.0378477 67  0.990183  0.3256
L1not majority L  0.0133683 0.0567073 67  0.235743  0.8144
Age              -0.0065649 0.0487380 67 -0.134697  0.8933
 Correlation:
                  (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
ListMu_wkly       -0.001
CountryAustria     0.546  0.102
Ctest             -0.133 -0.270 -0.456
Dyslexdyslex       0.301 -0.060  0.153  0.142
HISEI             -0.089  0.152  0.243 -0.342 -0.041
Genderboy         -0.116  0.259  0.099 -0.117 -0.119  0.205
L1not majority L  0.378 -0.053  0.340 -0.023  0.207  0.037 -0.043
Age               -0.992 -0.022 -0.584  0.122 -0.314 -0.010  0.074 -0.400

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0673133 -0.3975198  0.1157918  0.7336784  1.5037114

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> mdat <- na.omit(dat[c("ONT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> olm3 <- lme(ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(olm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -0.02574636 30.61147 13.01287

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.566745e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06014034 0.1486141

Fixed effects: ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                 value Std.Error DF    t-value p-value
(Intercept)                  0.8620959 0.6471314 66  1.3321807  0.1874
ListMu_wkly                  0.0041677 0.0033302 66  1.2514850  0.2152
CountryAustria               0.0178153 0.0709941  5  0.2509413  0.8118
Ctest                        0.4378259 0.1424943 66  3.0725846  0.0031
Dyslexdyslex                 0.0330317 0.0847984 66  0.3895325  0.6981
HISEI                        0.0003985 0.0012742 66  0.3127183  0.7555
Genderboy                    0.0419913 0.0368991 66  1.1380053  0.2592
L1not majority L             0.0142924 0.0554242 66  0.2578740  0.7973
Age                         -0.0200685 0.0479434 66 -0.4185867  0.6769
ListMu_wkly:CountryAustria -0.0059762 0.0036968 66 -1.6165812  0.1107
 Correlation:
                           (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
ListMu_wkly                 0.064
CountryAustria              0.442  0.480
Ctest                      -0.168 -0.341 -0.463
Dyslexdyslex                0.306 -0.021  0.130  0.129
HISEI                      -0.062  0.129  0.225 -0.333 -0.007
Genderboy                  -0.107  0.201  0.121 -0.134 -0.131  0.183
L1not majority L            0.357 -0.064  0.216 -0.002  0.200  0.025 -0.053
Age                        -0.991 -0.100 -0.494  0.162 -0.321 -0.039  0.065 -0.375
ListMu_wkly:CountryAustria -0.079 -0.867 -0.500  0.250 -0.011 -0.057 -0.088  0.029  0.106

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.78138490 -0.37240200  0.08099399  0.68720960  1.38625253

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> mdat <- na.omit(dat[c("EIT", "ListMu_wkly", "Country","Class_neu","School")])
> elm1 <- lme(EIT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(elm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -18.76389 -0.05592721 15.38195

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.159549e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06168359 0.2035065

Fixed effects: EIT ~ ListMu_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5436248 0.03616235 155 15.032898  0.0000
ListMu_wkly     0.0026167 0.00152970 155  1.710626  0.0892
CountryAustria -0.0341918 0.04699731   5 -0.727527  0.4995
 Correlation:
                (Intr) LstM_w
ListMu_wkly     -0.328
CountryAustria -0.686 -0.003

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.5457143 -0.6219629 -0.1075536  0.6155439  2.1212848

Number of Observations: 170
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
>
> mdat <- na.omit(dat[c("EIT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> elm2 <- lme(EIT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(elm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  5.914959 38.74934 9.042521

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.02797e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.07947635 0.1806676

Fixed effects: EIT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)       0.7221864 0.6860933 102  1.052607  0.2950
ListMu_wkly       0.0002875 0.0016407 102  0.175257  0.8612
CountryAustria   -0.0493436 0.0712002   5 -0.695835  0.5175
Ctest             0.5605709 0.1427437 102  3.927113  0.0002
Dyslexdyslex      0.1085954 0.0912958 102  1.189490  0.2370
HISEI             0.0033995 0.0013030 102  2.608925  0.0104
Genderboy         0.0461689 0.0365269 102  1.263968  0.2091
L1not majority L  0.0480128 0.0575145 102  0.834795  0.4058
Age              -0.0408767 0.0509377 102 -0.802484  0.4241
 Correlation:
                  (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
ListMu_wkly        0.087
CountryAustria     0.442  0.174
Ctest             -0.134 -0.274 -0.372
Dyslexdyslex       0.205 -0.008  0.131  0.134
HISEI             -0.060  0.130  0.223 -0.330  0.033
Genderboy          0.000  0.212  0.139 -0.124 -0.036  0.094
L1not majority L  0.277  0.032  0.251 -0.045  0.040 -0.012  0.033
Age               -0.992 -0.112 -0.493  0.125 -0.226 -0.037 -0.032 -0.293

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.01856434 -0.58257269 -0.02723899  0.52122806  2.08795592

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("EIT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> elm3 <- lme(EIT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(elm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  17.54607 53.00211 4.226966

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.559549e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07768868 0.1817284

Fixed effects: EIT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                 0.7031490 0.6945537 101  1.012375  0.3138
ListMu_wkly                -0.0001083 0.0024696 101 -0.043848  0.9651
CountryAustria             -0.0569097 0.0777093   5 -0.732341  0.4968
Ctest                       0.5637505 0.1439429 101  3.916488  0.0002
Dyslexdyslex                0.1062491 0.0919315 101  1.155742  0.2505
HISEI                       0.0033779 0.0013122 101  2.574167  0.0115
Genderboy                   0.0459762 0.0367403 101  1.251385  0.2137
L1not majority L            0.0473197 0.0579448 101  0.816634  0.4161
Age                        -0.0391273 0.0517421 101 -0.756197  0.4513
ListMu_wkly:CountryAustria  0.0006599 0.0031755 101  0.207797  0.8358
 Correlation:
                           (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
ListMu_wkly                 0.145
CountryAustria              0.453  0.413
Ctest                      -0.143 -0.248 -0.378
Dyslexdyslex                0.212  0.051  0.151  0.126
HISEI                      -0.052  0.133  0.232 -0.334  0.036
Genderboy                   0.004  0.168  0.142 -0.126 -0.033  0.097
L1not majority L            0.283  0.073  0.259 -0.052  0.044 -0.007  0.035
Age                        -0.992 -0.180 -0.508  0.135 -0.233 -0.045 -0.037 -0.300
ListMu_wkly:CountryAustria -0.117 -0.744 -0.411  0.089 -0.075 -0.066 -0.037 -0.069  0.144

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.00275953 -0.57712933 -0.03214725  0.53213319  2.07921432

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("ATGJT", "ListMu_wkly", "Country","Class_neu","School")])
> alm1 <- lme(ATGJT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(alm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -60.0736 -41.32982 36.0368

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01698647

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05851216 0.1791581

Fixed effects: ATGJT ~ ListMu_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5281343 0.03167950 154 16.671169  0.0000
ListMu_wkly     0.0039284 0.00140232 154  2.801360  0.0057
CountryAustria -0.0987292 0.04353967   6 -2.267569  0.0639
 Correlation:
                (Intr) LstM_w
ListMu_wkly     -0.312
CountryAustria -0.651 -0.018

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.79864622 -0.79934087 -0.02123371  0.60776701  2.47823645

Number of Observations: 171
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("ATGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> alm2 <- lme(ATGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(alm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -17.52339 15.41579 20.7617

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.614575e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04156374 0.1672914

Fixed effects: ATGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error  DF   t-value p-value
(Intercept)      -0.6840397 0.5369862 101 -1.273850  0.2056
ListMu_wkly       0.0020863 0.0014881 101  1.401946  0.1640
CountryAustria   -0.2108245 0.0492792   6 -4.278164  0.0052
Ctest             0.5875136 0.1224450 101  4.798185  0.0000
Dyslexdyslex      0.0634907 0.0810111 101  0.783729  0.4350
HISEI             0.0015092 0.0011780 101  1.281191  0.2031
Genderboy         0.0249053 0.0330808 101  0.752864  0.4533
L1not majority L  0.0402294 0.0510000 101  0.788812  0.4321
Age               0.0723467 0.0392036 101  1.845409  0.0679
 Correlation:
```

```
                  (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby LintmL
ListMu_wkly        0.025
CountryAustria     0.368  0.150
Ctest             -0.072 -0.255 -0.397
Dyslexdyslex       0.142 -0.012  0.086  0.151
HISEI             -0.143  0.105  0.234 -0.293  0.009
Genderboy          0.017  0.216  0.170 -0.076 -0.010  0.071
LInot majority L   0.198  0.022  0.226 -0.028 -0.003 -0.023  0.048
Age               -0.990 -0.050 -0.424  0.056 -0.163  0.031 -0.056 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.1717627 -0.6752674  0.1002996  0.6464972  2.5591072

Number of Observations: 124
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> alm3 <- lme(ATGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(alm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -5.659176 29.9114 15.82959

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.203851e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.04073147 0.168149

Fixed effects: ATGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                -0.6891369 0.5396944 100 -1.276902  0.2046
ListMu_wkly                 0.0018940 0.0021930 100  0.863663  0.3898
CountryAustria             -0.2138573 0.0551196   6 -3.879878  0.0082
Ctest                       0.5885838 0.1232962 100  4.773740  0.0000
Dyslexdyslex                0.0622055 0.0815156 100  0.763112  0.4472
HISEI                       0.0014950 0.0011846 100  1.261999  0.2099
Genderboy                   0.0248026 0.0332717 100  0.745455  0.4577
LInot majority L            0.0402220 0.0512783 100  0.784387  0.4347
Age                         0.0728771 0.0394606 100  1.846834  0.0677
ListMu_wkly:CountryAustria  0.0003357 0.0028643 100  0.117212  0.9069
 Correlation:
                           (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby LintmL Age
ListMu_wkly                 0.046
CountryAustria              0.349  0.419
Ctest                      -0.074 -0.229 -0.390
Dyslexdyslex                0.144  0.039  0.106  0.145
HISEI                      -0.142  0.111  0.234 -0.296  0.012
Genderboy                   0.018  0.181  0.173 -0.079 -0.007  0.074
LInot majority L            0.200  0.049  0.224 -0.032  0.000 -0.020  0.050
Age                        -0.990 -0.084 -0.410  0.060 -0.167  0.029 -0.058 -0.219
ListMu_wkly:CountryAustria -0.041 -0.732 -0.449  0.076 -0.065 -0.055 -0.046 -0.046  0.068

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.16688803 -0.66827481  0.09560238  0.62084994  2.55199950

Number of Observations: 124
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "ListMu_wkly", "Country","Class_neu","School")])
> wlm1 <- lme(WTGJT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wlm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -58.64079 -39.79081 35.3204

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04178936

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 5.778911e-06 0.1839994

Fixed effects: WTGJT ~ ListMu_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)    0.31383024 0.03160104 157 9.931009  0.0000
ListMu_wkly    0.00308557 0.00142080 157 2.171715  0.0314
CountryAustria 0.00199591 0.04125861   6 0.048376  0.9630
 Correlation:
               (Intr) LstM_w
ListMu_wkly    -0.283
CountryAustria -0.692 -0.044

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9412130 -0.7116888 -0.1058182  0.6648194  2.9658157

Number of Observations: 174
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wlm2 <- lme(WTGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wlm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.42517 21.61791 17.71259

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.739447e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.094038e-06 0.1756972

Fixed effects: WTGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      -0.9431748 0.5519899 102 -1.708681  0.0906
ListMu_wkly       0.0010820 0.0015426 102  0.701415  0.4846
CountryAustria   -0.1277961 0.0453804   6 -2.816107  0.0305
Ctest             0.4752222 0.1246339 102  3.812946  0.0002
Dyslexdyslex      0.0206780 0.0828284 102  0.249649  0.8034
HISEI             0.0004901 0.0011786 102  0.415839  0.6784
Genderboy        -0.0881958 0.0343259 102 -2.569367  0.0116
LInot majority L  0.0735236 0.0524413 102  1.402016  0.1639
Age               0.0860817 0.0402471 102  2.138827  0.0348
 Correlation:
                 (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby LintmL
ListMu_wkly       0.019
CountryAustria    0.423  0.153
Ctest            -0.052 -0.251 -0.446
Dyslexdyslex      0.137 -0.005  0.083  0.149
HISEI            -0.172  0.101  0.242 -0.319 -0.020
Genderboy         0.013  0.218  0.190 -0.070  0.002  0.100
LInot majority L  0.201  0.035  0.277 -0.041 -0.003 -0.002  0.048
Age              -0.991 -0.044 -0.474  0.040 -0.155  0.065 -0.055 -0.222

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0702943 -0.6395773 -0.0556555  0.6287126  3.3104711

Number of Observations: 125
Number of Groups:
             School Class_neu %in% School
                  8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wlm3 <- lme(WTGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wlm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  0.1183184 35.80244 12.94084

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.702722e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.206558e-06 0.1762563
```

```
Fixed effects: WTGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                -0.9334676 0.5540671 101 -1.684756  0.0951
ListMu_wkly                 0.0019216 0.0022477 101  0.854906  0.3946
CountryAustria             -0.1149279 0.0519306   6 -2.213107  0.0688
Ctest                       0.4708030 0.1253246 101  3.756671  0.0003
Dyslexdyslex                0.0239662 0.0833369 101  0.287582  0.7743
HISEI                       0.0005224 0.0011840 101  0.441241  0.6600
Genderboy                  -0.0874989 0.0344617 101 -2.539020  0.0126
L1not majority L            0.0748601 0.0526722 101  1.421246  0.1583
Age                         0.0848116 0.0404504 101  2.096680  0.0385
ListMu_wkly:CountryAustria -0.0015251 0.0029613 101 -0.515029  0.6077
 Correlation:
                           (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ListMu_wkly                 0.038
CountryAustria              0.387  0.441
Ctest                      -0.054 -0.222 -0.423
Dyslexdyslex                0.139  0.052  0.109  0.143
HISEI                      -0.170  0.108  0.237 -0.321 -0.016
Genderboy                   0.014  0.179  0.185 -0.073  0.005  0.102
L1not majority L            0.202  0.060  0.266 -0.044  0.000  0.000  0.050
Age                        -0.990 -0.075 -0.444  0.044 -0.159  0.062 -0.058 -0.224
ListMu_wkly:CountryAustria -0.034 -0.725 -0.481  0.068 -0.077 -0.053 -0.039 -0.049  0.061

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.04709565 -0.61336140 -0.05461161  0.60257936  3.32827230

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ListMu_wkly", "Country","Class_neu","School")])
> ulm1 <- lme(UGJT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ulm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  36.34889 55.3376 -12.17444

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07081868

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1403623 0.2302409

Fixed effects: UGJT ~ ListMu_wkly + Country
                 Value  Std.Error  DF  t-value p-value
(Intercept)  0.4221302 0.06614148 161 6.382230  0.0000
ListMu_wkly  0.0041460 0.00175465 161 2.362857  0.0193
CountryAustria 0.1310588 0.09681883   6 1.353650  0.2246
 Correlation:
```

```
               (Intr) LstM_w
ListMu_wkly    -0.188
CountryAustria -0.657 -0.012

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.6156809 -0.7372961  0.1025626  0.6202018  1.7850123

Number of Observations: 178
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ulm2 <- lme(UGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ulm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  38.03468 71.07776 -7.017339

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1158239

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1316514 0.1983801

Fixed effects: UGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                 Value Std.Error  DF   t-value p-value
(Intercept)  0.5658763 0.7102658 102  0.796711  0.4275
ListMu_wkly  0.0030092 0.0018150 102  1.658001  0.1004
CountryAustria  0.0644481 0.1218283   6  0.529007  0.6158
Ctest        0.6061163 0.1547854 102  3.915850  0.0002
Dyslexdyslex -0.1097729 0.1025491 102 -1.070443  0.2869
HISEI        0.0022594 0.0014294 102  1.580617  0.1171
Genderboy    0.0636571 0.0402479 102  1.581623  0.1168
L1not majority L  0.1535845 0.0644558 102  2.382787  0.0190
Age          -0.0318731 0.0514588 102 -0.619389  0.5370
 Correlation:
                (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly      0.064
CountryAustria   0.108  0.078
Ctest           -0.127 -0.271 -0.202
Dyslexdyslex     0.182 -0.028  0.051  0.142
HISEI           -0.091  0.116  0.130 -0.274  0.050
Genderboy        0.028  0.213  0.097 -0.089 -0.028  0.070
L1not majority L  0.233  0.017  0.085 -0.038  0.024 -0.047  0.022
Age             -0.986 -0.087 -0.196  0.110 -0.207 -0.014 -0.065 -0.244

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.86602671 -0.52293754  0.06883916  0.58593113  1.99238629

Number of Observations: 125
```

```
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("UGJT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ulm3 <- lme(UGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ulm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  48.197 83.88112 -11.0985

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1298171

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1394463 0.1966594

Fixed effects: UGJT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                 0.7130895 0.7166682 101  0.999189  0.3201
ListMu_wkly                 0.0054593 0.0027226 101  2.005141  0.0476
CountryAustria              0.0978078 0.1344937   6  0.727230  0.4945
Ctest                       0.5837488 0.1549122 101  3.768256  0.0003
Dyslexdyslex               -0.0983904 0.1021752 101 -0.962958  0.3379
HISEI                       0.0023765 0.0014231 101  1.669901  0.0980
Genderboy                   0.0653277 0.0400270 101  1.632343  0.1057
L1not majority L            0.1602235 0.0641597 101  2.497262  0.0141
Age                        -0.0438445 0.0517629 101 -0.847026  0.3990
ListMu_wkly:CountryAustria -0.0040771 0.0034679 101 -1.175668  0.2425
 Correlation:
                           (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ListMu_wkly                 0.111
CountryAustria              0.103  0.214
Ctest                      -0.139 -0.256 -0.205
Dyslexdyslex                0.188  0.014  0.056  0.135
HISEI                      -0.081  0.124  0.132 -0.279  0.054
Genderboy                   0.033  0.181  0.099 -0.095 -0.028  0.072
L1not majority L            0.241  0.053  0.088 -0.044  0.030 -0.044  0.025
Age                        -0.985 -0.144 -0.199  0.125 -0.213 -0.024 -0.071 -0.251
ListMu_wkly:CountryAustria -0.088 -0.749 -0.224  0.102 -0.045 -0.062 -0.053 -0.056  0.113

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.77481430 -0.59006440  0.06582046  0.63991338  1.94413711

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("MKT", "ListMu_wkly", "Country","Class_neu","School")])
> mlm1 <- lme(MKT ~ ListMu_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
```

```
> summary(mlm1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC  logLik
  -118.5942 -99.85042 65.2971

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 0.003783288

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05937376 0.1494077

Fixed effects: MKT ~ ListMu_wkly + Country
                 Value  Std.Error  DF  t-value p-value
(Intercept)  0.3166177 0.02786856 154 11.36111  0.0000
ListMu_wkly  0.0010092 0.00114190 154  0.88379  0.3782
CountryAustria 0.4101220 0.03916118   6 10.47267  0.0000
 Correlation:
               (Intr) LstM_w
ListMu_wkly    -0.293
CountryAustria -0.645 -0.019

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.91809204 -0.61565728  0.08593595  0.62649541  3.47132721
```

```
Number of Observations: 171
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("MKT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mlm2 <- lme(MKT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mlm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -84.01774 -51.28908 54.00887

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0445993

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03763772   0.1208

Fixed effects: MKT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.2367638 0.4085704 99  0.579493  0.5636
ListMu_wkly      -0.0006159 0.0010873 99 -0.566411  0.5724
CountryAustria    0.3305231 0.0498491  6  6.630474  0.0006
Ctest             0.4142185 0.0906998 99  4.566918  0.0000
Dyslexdyslex     -0.0263689 0.0600723 99 -0.438953  0.6617
HISEI             0.0009384 0.0008642 99  1.085808  0.2802
Genderboy        -0.0229981 0.0243737 99 -0.943563  0.3477
LInot majority L -0.0226656 0.0384651 99 -0.589252  0.5570
Age              -0.0018646 0.0297398 99 -0.062698  0.9501
 Correlation:
                 (Intr) ListM_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL
ListMu_wkly       0.040
CountryAustria    0.220  0.102
Ctest            -0.087 -0.250 -0.279
Dyslexdyslex      0.166 -0.009  0.075  0.152
HISEI            -0.126  0.110  0.172 -0.252  0.035
Genderboy         0.030  0.209  0.137 -0.087 -0.003  0.084
LInot majority L  0.225  0.030  0.133 -0.050 -0.005 -0.039  0.028
Age              -0.988 -0.065 -0.290  0.067 -0.191  0.014 -0.069 -0.235

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.31697347 -0.66074811  0.08621272  0.76880669  2.30749574

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                    16
>
> mdat <- na.omit(dat[c("MKT", "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mlm3 <- lme(MKT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mlm3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -71.66987 -36.32938 48.83493

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0454535

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03734639 0.1212584

Fixed effects: MKT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.2490083 0.4113470 98  0.605349  0.5463
ListMu_wkly                 -0.0001597 0.0016119 98 -0.099060  0.9213
CountryAustria               0.3370119 0.0533281  6  6.319590  0.0007
Ctest                        0.4105952 0.0914606 98  4.489310  0.0000
Dyslexdyslex                -0.0251679 0.0603984 98 -0.416698  0.6778
HISEI                        0.0009500 0.0008681 98  1.094361  0.2765
Genderboy                   -0.0224385 0.0245016 98 -0.915799  0.3620
LInot majority L            -0.0215709 0.0387091 98 -0.557257  0.5786
Age                         -0.0029996 0.0299948 98 -0.100003  0.9205
ListMu_wkly:CountryAustria -0.0008032 0.0021039 98 -0.381753  0.7035
 Correlation:
                           (Intr) ListM_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL Age
ListMu_wkly                 0.078
CountryAustria              0.228  0.311
Ctest                      -0.093 -0.241 -0.293
Dyslexdyslex                0.170  0.038  0.091  0.145
HISEI                      -0.123  0.103  0.175 -0.254  0.037
Genderboy                   0.033  0.182  0.147 -0.092  0.001  0.086
LInot majority L            0.229  0.073  0.148 -0.056 -0.001 -0.036  0.032
Age                        -0.988 -0.112 -0.301  0.076 -0.195  0.010 -0.074 -0.241
ListMu_wkly:CountryAustria -0.069 -0.736 -0.334  0.099 -0.060 -0.039 -0.056 -0.071  0.092

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3111807 -0.6578329  0.1008082  0.7732974  2.2935559

Number of Observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                    16
> ##########################
> ###### watch #############
> ##########################
>
> mdat <- na.omit(dat[c("ONT", "watch_wkly", "Country","Class_neu","School")])
> owa1 <- lme(ONT ~ watch_wkly + country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(owa1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -77.97969 -61.40665 44.98985

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.349963e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03141565 0.1506631

Fixed effects: ONT ~ watch_wkly + country
                     Value  Std.Error  DF   t-value p-value
(Intercept)     0.7602649 0.02866201 105 26.525180  0.0000
watch_wkly      0.0033712 0.00160185 105  2.104580  0.0377
CountryAustria 0.0271216 0.03398019   5  0.798158  0.4610
 Correlation:
               (Intr) wtch_w
watch_wkly     -0.547
CountryAustria -0.723  0.242

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2515657 -0.3928504  0.1196019  0.7730952  1.3389635

Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    7                    14
> mdat <- na.omit(dat[c("ONT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> owa2 <- lme(ONT ~ watch_wkly + country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(owa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.75478 15.52573 18.37739

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.881578e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.0001927851 0.1538407

Fixed effects: ONT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.9108285 0.6585745 66  1.383030  0.1713
watch_wkly        0.0049449 0.0034719 66  1.424269  0.1591
CountryAustria   -0.0170329 0.0574478  5 -0.296493  0.7788
Ctest             0.4601341 0.1367208 66  3.365501  0.0013
Dyslexdyslex      0.0113572 0.0854037 66  0.132982  0.8946
HISEI             0.0000861 0.0012626 66  0.068221  0.9458
Genderboy         0.0392141 0.0366694 66  1.069395  0.2888
LInot majority L -0.0059501 0.0585485 66 -0.101627  0.9194
Age              -0.0224452 0.0489632 66 -0.458409  0.6482
 Correlation:
                 (Intr) wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL
watch_wkly        0.158
CountryAustria    0.576  0.451
Ctest            -0.155 -0.223 -0.495
Dyslexdyslex      0.286 -0.067  0.116  0.152
HISEI            -0.081  0.107  0.252 -0.338 -0.056
Genderboy        -0.108  0.103  0.106 -0.086 -0.118  0.197
LInot majority L  0.318 -0.295  0.190  0.035  0.224  0.013 -0.072
Age              -0.992 -0.198 -0.621  0.146 -0.295 -0.016  0.067 -0.326

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.99113321 -0.30210039  0.06972649  0.71834749  1.55026777

Number of Observations: 87
Number of Groups:
               School Class_neu %in% School
                    7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> owa3 <- lme(ONT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(owa3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -5.942357 24.52711 15.97118

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.716996e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.03383945 0.1487683

Fixed effects: ONT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Watch_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.6272415 0.6606029 65  0.949499  0.3459
Watch_wkly                   0.0094045 0.0041249 65  2.279923  0.0259
CountryAustria               0.0469405 0.0664714  5  0.706176  0.5116
Ctest                        0.4530056 0.1347777 65  3.361131  0.0013
Dyslexdyslex                -0.0059829 0.0845906 65 -0.070728  0.9438
HISEI                       -0.0000316 0.0012458 65 -0.025363  0.9798
```

```
Genderboy                    0.0511917 0.0364137 65  1.405838  0.1645
L1not majority L            -0.0092925 0.0574984 65 -0.161612  0.8721
Age                         -0.0043531 0.0488860 65 -0.089047  0.9293
Watch_wkly:CountryAustria -0.0124255 0.0066409 65 -1.871053  0.0658
 Correlation:
                            (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Watch_wkly                  -0.012
CountryAustria               0.363  0.564
Ctest                       -0.152 -0.199 -0.434
Dyslexdyslex                 0.308 -0.145  0.037  0.135
HISEI                       -0.048  0.018  0.170 -0.322 -0.021
Genderboy                   -0.142  0.185  0.171 -0.095 -0.149  0.159
L1not majority L             0.314 -0.269  0.126  0.043  0.226  0.015 -0.081
Age                         -0.992 -0.031 -0.415  0.143 -0.316 -0.045  0.101 -0.322
Watch_wkly:CountryAustria  0.226 -0.564 -0.456  0.041  0.136  0.094 -0.182  0.048 -0.206

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.76626351 -0.33548063  0.08032359  0.70495020  1.53536760

Number of Observations: 87
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("EIT", "watch_wkly", "Country","Class_neu","School")])
> ewa1 <- lme(EIT ~ watch_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ewa1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -21.30895 -2.63702 16.65447

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01992564

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05605868 0.2023726

Fixed effects: EIT ~ watch_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5247554 0.03968312 154 13.223643  0.0000
Watch_wkly      0.0035162 0.00194612 154  1.806793  0.0727
CountryAustria -0.0116287 0.04860774   5 -0.239235  0.8204
 Correlation:
               (Intr) Wtch_w
Watch_wkly     -0.472
CountryAustria -0.735  0.213

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.66842706 -0.61843142 -0.05340528  0.57421696  2.32059660

Number of Observations: 169
```

```
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("EIT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ewa2 <- lme(EIT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ewa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  0.9087336 33.53072 11.54563

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.019256e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07171931 0.1779128

Fixed effects: EIT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF    t-value p-value
(Intercept)      0.8520547 0.6864113 100  1.241318  0.2174
Watch_wkly       0.0025905 0.0032541 100  0.796088  0.4279
CountryAustria  -0.0231096 0.0712686   5 -0.324260  0.7589
Ctest            0.5710729 0.1392656 100  4.100603  0.0001
Dyslexdyslex     0.1154976 0.0895202 100  1.290186  0.2000
HISEI            0.0033039 0.0012726 100  2.596272  0.0108
Genderboy        0.0382678 0.0354415 100  1.079743  0.2829
L1not majority L  0.0583953 0.0577361 100  1.011417  0.3143
Age             -0.0524229 0.0511563 100 -1.024759  0.3079
 Correlation:
                (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Watch_wkly       0.174
CountryAustria   0.483  0.319
Ctest           -0.154 -0.221 -0.398
Dyslexdyslex     0.205  0.003  0.134  0.133
HISEI           -0.062  0.025  0.212 -0.315  0.030
Genderboy       -0.009  0.004  0.111 -0.086 -0.034  0.081
L1not majority L  0.245 -0.163  0.199  0.004  0.043 -0.019  0.019
Age             -0.992 -0.200 -0.534  0.144 -0.223 -0.031 -0.019 -0.256

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.12057911 -0.55585503 -0.01672281  0.55004852  2.03346285

Number of Observations: 121
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("EIT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ewa3 <- lme(EIT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ewa3)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC      BIC    logLik
  6.088793 41.31269 9.955604

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.617942e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0870373 0.1723166

Fixed effects: EIT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Watch_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.6011273 0.6760250 99  0.889209  0.3760
Watch_wkly                   0.0105543 0.0046235 99  2.282755  0.0246
CountryAustria               0.0582678 0.0819117  5  0.711349  0.5087
Ctest                        0.5729725 0.1363256 99  4.202970  0.0001
Dyslexdyslex                 0.1079938 0.0880787 99  1.226106  0.2231
HISEI                        0.0030691 0.0012466 99  2.461986  0.0155
Genderboy                    0.0472392 0.0348020 99  1.357372  0.1777
L1not majority L             0.0447545 0.0565724 99  0.791101  0.4308
Age                         -0.0378779 0.0501414 99 -0.755421  0.4518
Watch_wkly:CountryAustria -0.0143305 0.0061268 99 -2.338965  0.0213
 Correlation:
                            (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Watch_wkly                  -0.003
CountryAustria               0.333  0.477
Ctest                       -0.157 -0.140 -0.331
Dyslexdyslex                 0.213 -0.050  0.090  0.133
HISEI                       -0.041 -0.045  0.146 -0.309  0.044
Genderboy                   -0.027  0.093  0.146 -0.086 -0.047  0.064
L1not majority L             0.252 -0.181  0.125  0.008  0.055 -0.016  0.006
Age                         -0.991 -0.039 -0.397  0.146 -0.233 -0.048 -0.003 -0.260
Watch_wkly:CountryAustria  0.161 -0.727 -0.406 -0.009  0.063  0.080 -0.127  0.096 -0.128

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0829933 -0.5928761 -0.0427328  0.5232952  2.1695229

Number of Observations: 121
Number of Groups:
              School Class_neu %in% School
                   7                   14
>
> mdat <- na.omit(dat[c("ATGJT", "watch_wkly", "Country","Class_neu","School")])
> awa1 <- lme(ATGJT ~ watch_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(awa1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -62.24251 -43.49872 37.12125

Random effects:
 Formula: ~1 | School
        (Intercept)
```

```
StdDev: 8.494048e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05331093 0.1790617

Fixed effects: ATGJT ~ Watch_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.5023184 0.03286874 154 15.282556  0.0000
Watch_wkly      0.0041697 0.00163235 154  2.554410  0.0116
CountryAustria -0.0609221 0.04108267   6 -1.482914  0.1886
 Correlation:
                (Intr) Wtch_w
Watch_wkly      -0.541
CountryAustria -0.704  0.255

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.7747444 -0.8582748 -0.0160750  0.7230419  2.4097757

Number of observations: 171
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> awa2 <- lme(ATGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(awa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -21.02821 11.70044 22.51411

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.494803e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.213956e-05 0.1680984

Fixed effects: ATGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error DF   t-value p-value
(Intercept)      -0.5132474 0.5522503 99 -0.929375  0.3550
Watch_wkly        0.0042569 0.0029485 99  1.443750  0.1520
CountryAustria   -0.1740107 0.0506015  6 -3.438844  0.0138
Ctest             0.5931085 0.1215307 99  4.880318  0.0000
Dyslexdyslex      0.0640411 0.0794769 99  0.805783  0.4223
HISEI             0.0013286 0.0011469 99  1.158364  0.2495
Genderboy         0.0140726 0.0323867 99  0.434518  0.6649
LInot majority L  0.0460296 0.0509379 99  0.903642  0.3684
Age               0.0581303 0.0407728 99  1.425713  0.1571
 Correlation:
                  (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL
Watch_wkly         0.289
CountryAustria     0.497  0.506
```

```
Ctest             -0.133 -0.304 -0.494
Dyslexdyslex       0.146  0.049  0.104  0.133
HISEI             -0.140  0.067  0.243 -0.305 -0.014
Genderboy          0.017  0.013  0.147 -0.027  0.004  0.075
LInot majority L  0.148 -0.151  0.165  0.019 -0.005 -0.016  0.041
Age              -0.991 -0.324 -0.553  0.125 -0.164  0.034 -0.053 -0.160

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.1129269 -0.7160181  0.1062226  0.6294759  2.5533242

Number of observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> awa3 <- lme(ATGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(awa3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.72131 23.61918 18.86065

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.394886e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.009244436 0.1676491

Fixed effects: ATGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Watch_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)              -0.4949517 0.5515334 98 -0.897410  0.3717
Watch_wkly                0.0072326 0.0039294 98  1.840605  0.0687
CountryAustria           -0.1316852 0.0627001  6 -2.100239  0.0805
Ctest                     0.5778915 0.1222261 98  4.728054  0.0000
Dyslexdyslex              0.0663655 0.0794054 98  0.835780  0.4053
HISEI                     0.0013494 0.0011463 98  1.177101  0.2420
Genderboy                 0.0187344 0.0325853 98  0.574935  0.5667
LInot majority L          0.0443089 0.0508908 98  0.870665  0.3861
Age                       0.0549208 0.0407945 98  1.346281  0.1813
Watch_wkly:CountryAustria -0.0061440 0.0053275 98 -1.153251  0.2516
 Correlation:
                          (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL Age
Watch_wkly                 0.233
CountryAustria             0.415  0.694
Ctest                     -0.136 -0.300 -0.461
Dyslexdyslex               0.146  0.048  0.094  0.131
HISEI                     -0.138  0.059  0.204 -0.303 -0.012
Genderboy                  0.021  0.093  0.191 -0.041  0.005  0.074
LInot majority L           0.147 -0.127  0.119  0.022 -0.006 -0.018  0.038
Age                       -0.990 -0.285 -0.483  0.132 -0.165  0.032 -0.061 -0.159
Watch_wkly:CountryAustria -0.027 -0.662 -0.588  0.112 -0.018 -0.014 -0.126  0.022  0.066
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.10434652 -0.66927260  0.09348454  0.66791537  2.49389895

Number of observations: 122
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Watch_wkly", "Country","Class_neu","School")])
> wwa1 <- lme(WTGJT ~ Watch_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wwa1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -51.52185 -32.67187 31.76092

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04139921

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.644156e-06 0.1881202

Fixed effects: WTGJT ~ Watch_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.3167919 0.03521191 157 8.996728  0.0000
Watch_wkly      0.0014935 0.00167238 157 0.893041  0.3732
CountryAustria 0.0160922 0.04271072   6 0.376773  0.7193
 Correlation:
                (Intr) Wtch_w
Watch_wkly      -0.503
CountryAustria -0.740  0.247

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.8746035 -0.7048230 -0.1164482  0.6578794  2.8990135

Number of observations: 174
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wwa2 <- lme(WTGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.47597 22.35841 17.23799

Random effects:
 Formula: ~1 | School
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.557898e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.131192e-06 0.1765771

Fixed effects: WTGJT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      -0.8387208 0.5800263 100 -1.446005  0.1513
Watch_wkly        0.0015915 0.0030972 100  0.513860  0.6085
CountryAustria   -0.1114129 0.0529884   6 -2.102588  0.0802
Ctest             0.4787954 0.1276588 100  3.750588  0.0003
Dyslexdyslex      0.0271587 0.0834848 100  0.325313  0.7456
HISEI             0.0004803 0.0011817 100  0.406426  0.6853
Genderboy        -0.0906676 0.0339947 100 -2.667111  0.0089
LInot majority L  0.0726838 0.0533042 100  1.358468  0.1774
Age               0.0775916 0.0427978 100  1.812979  0.0728
 Correlation:
                  (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby LIntmL
Watch_wkly         0.289
CountryAustria     0.497  0.507
Ctest             -0.133 -0.304 -0.495
Dyslexdyslex       0.146  0.049  0.104  0.133
HISEI             -0.146  0.068  0.233 -0.310 -0.015
Genderboy          0.018  0.014  0.150 -0.027  0.004  0.084
LInot majority L  0.148 -0.151  0.166  0.019 -0.005 -0.014  0.040
Age              -0.991 -0.324 -0.552  0.125 -0.164  0.042 -0.054 -0.161
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.03406964 -0.65251546 -0.07415316  0.61398007  3.27778654

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("WTGJT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wwa3 <- lme(WTGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wwa3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC  logLik
  -0.1462033 35.30984 13.0731

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.518877e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.161326e-06 0.1772022
```

```
Fixed effects: WTGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + watch_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                -0.8313955 0.5823136 99 -1.427745  0.1565
watch_wkly                  0.0028096 0.0041460 99  0.677665  0.4996
CountryAustria             -0.0941507 0.0658766  6 -1.429199  0.2029
Ctest                       0.4722719 0.1289507 99  3.662421  0.0004
Dyslexdyslex                0.0278576 0.0837951 99  0.332449  0.7403
HISEI                       0.0004881 0.0011860 99  0.411508  0.6816
Genderboy                  -0.0887422 0.0343896 99 -2.580494  0.0113
L1not majority L            0.0721562 0.0537068 99  1.343520  0.1822
Age                         0.0762955 0.0430485 99  1.772317  0.0794
watch_wkly:CountryAustria -0.0024961 0.0056227 99 -0.443930  0.6581
 Correlation:
                           (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
watch_wkly                  0.235
CountryAustria              0.418  0.698
Ctest                      -0.135 -0.302 -0.464
Dyslexdyslex                0.146  0.049  0.095  0.130
HISEI                      -0.145  0.061  0.197 -0.310 -0.015
Genderboy                   0.021  0.094  0.195 -0.041  0.006  0.085
L1not majority L            0.147 -0.127  0.121  0.021 -0.006 -0.015  0.037
Age                        -0.990 -0.287 -0.485  0.132 -0.165  0.041 -0.062 -0.159
watch_wkly:CountryAustria -0.028 -0.662 -0.590  0.114 -0.019 -0.015 -0.126  0.022  0.068

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.00261169 -0.66188758 -0.06730287  0.59174750  3.21946670

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "watch_wkly", "Country","Class_neu","School")])
> uwa1 <- lme(UGJT ~ watch_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(uwa1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  33.32985 52.31856 -10.66492

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.33577e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1576065 0.2279998

Fixed effects: UGJT ~ watch_wkly + Country
                    Value  Std.Error  DF  t-value p-value
(Intercept)     0.3930921 0.06245275 161 6.294232  0.0000
watch_wkly      0.0044863 0.00218398 161 2.054195  0.0416
CountryAustria 0.1777148 0.09049340   6 1.963843  0.0972
 Correlation:
```

```
               (Intr) Wtch_w
watch_wkly     -0.382
CountryAustria -0.650  0.159

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6484646 -0.6876659  0.1046083  0.6409418  1.9519621

Number of Observations: 178
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uwa2 <- lme(UGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(uwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  35.77169 68.60607 -5.885845

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1307899

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1332858 0.1963204

Fixed effects: UGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      0.5821667 0.7232024 100  0.804984  0.4227
watch_wkly      -0.0036471 0.0038272 100 -0.952939  0.3429
CountryAustria   0.0334374 0.1332574   6  0.250924  0.8102
Ctest            0.6928061 0.1558521 100  4.445280  0.0000
Dyslexdyslex    -0.0937356 0.1017524 100 -0.921212  0.3592
HISEI            0.0021496 0.0014109 100  1.523550  0.1308
Genderboy        0.0552363 0.0393080 100  1.405217  0.1631
L1not majority L  0.1712144 0.0646530 100  2.648205  0.0094
Age             -0.0302709 0.0526409 100 -0.575045  0.5666
 Correlation:
                (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
watch_wkly       0.183
CountryAustria   0.127  0.234
Ctest           -0.171 -0.284 -0.233
Dyslexdyslex     0.177 -0.036  0.041  0.142
HISEI           -0.088 -0.006  0.113 -0.249  0.054
Genderboy        0.022 -0.015  0.075 -0.046 -0.023  0.055
L1not majority L  0.215 -0.092  0.055  0.001  0.032 -0.051  0.013
Age             -0.985 -0.216 -0.222  0.158 -0.200 -0.011 -0.053 -0.220

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.50532283 -0.56294739  0.05581096  0.64272347  1.94989198

Number of Observations: 123
```

```
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("UGJT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uwa3 <- lme(UGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(uwa3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  34.90574 70.36178 -4.45287

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.630071e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1281934 0.1921008

Fixed effects: UGJT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + watch_wkly * Country
                                 Value Std.Error  DF   t-value p-value
(Intercept)                 0.0192271 0.6799421 99  0.028278  0.9775
watch_wkly                  0.0123646 0.0056295 99  2.196373  0.0304
CountryAustria              0.2517106 0.1036172  6  2.429237  0.0512
Ctest                       0.6474672 0.1523956 99  4.248595  0.0000
Dyslexdyslex               -0.1368436 0.0986611 99 -1.387006  0.1686
HISEI                       0.0017578 0.0013807 99  1.273136  0.2060
Genderboy                   0.0697528 0.0385409 99  1.809839  0.0734
L1not majority L            0.1560782 0.0625383 99  2.495721  0.0142
Age                        -0.0000886 0.0499030 99 -0.001775  0.9986
watch_wkly:CountryAustria -0.0251179 0.0070777 99 -3.548894  0.0006
 Correlation:
                           (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
watch_wkly                  0.111
CountryAustria              0.226  0.563
Ctest                      -0.174 -0.258 -0.337
Dyslexdyslex                0.158 -0.059  0.026  0.147
HISEI                      -0.091 -0.071  0.083 -0.243  0.055
Genderboy                   0.017  0.072  0.147 -0.054 -0.034  0.046
L1not majority L            0.188 -0.032  0.104 -0.005  0.020 -0.052  0.018
Age                        -0.988 -0.164 -0.303  0.163 -0.179 -0.007 -0.053 -0.197
watch_wkly:CountryAustria  0.051 -0.752 -0.497  0.094  0.059  0.093 -0.110 -0.026 -0.008

Standardized Within-Group Residuals:
          Min           Q1          Med           Q3          Max
-2.7746676843 -0.6117108734  0.0008449883  0.5840729004  1.9757205335

Number of Observations: 123
Number of Groups:
                School Class_neu %in% School
                     8                    16
>
> mdat <- na.omit(dat[c("MKT", "watch_wkly", "Country","Class_neu","School")])
> mwa1 <- lme(MKT ~ watch_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mwa1)
```

```
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -115.7261 -96.98236 63.86307

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.17136e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06106575 0.1507526

Fixed effects: MKT ~ watch_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.3151383 0.03123393 154 10.089614  0.0000
watch_wkly      0.0006108 0.00143018 154  0.427107  0.6699
CountryAustria 0.4170442 0.04100121   6 10.171509  0.0001
 Correlation:
               (Intr) Wtch_w
watch_wkly     -0.499
CountryAustria -0.688  0.233

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8910591 -0.6298319  0.1042864  0.6236863  3.4459495

Number of Observations: 171
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mwa2 <- lme(MKT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -83.15125 -50.63689 53.57563

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04775418

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03459143 0.1208219

Fixed effects: MKT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)     0.1230018 0.4221820 97  0.291348  0.7714
watch_wkly     -0.0028529 0.0023870 97 -1.195148  0.2349
CountryAustria  0.3053404 0.0543031  6  5.622890  0.0014
Ctest           0.4273424 0.0920780 97  4.641092  0.0000
Dyslexdyslex   -0.0297916 0.0599880 97 -0.496627  0.6206
HISEI           0.0009481 0.0008598 97  1.102729  0.2729
Genderboy      -0.0180526 0.0240649 97 -0.750164  0.4550
L1not majority L -0.0224241 0.0387908 97 -0.578079  0.5646
Age             0.0079022 0.0310201 97  0.254745  0.7995
 Correlation:
                (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
watch_wkly       0.236
CountryAustria   0.279  0.362
Ctest           -0.144 -0.288 -0.334
Dyslexdyslex     0.165  0.007  0.074  0.147
HISEI           -0.116  0.037  0.166 -0.235  0.035
Genderboy        0.023 -0.027  0.103 -0.041  0.001  0.069
L1not majority L  0.201 -0.079  0.095 -0.013 -0.004 -0.045  0.020
Age             -0.988 -0.274 -0.353  0.130 -0.188  0.008 -0.055 -0.207

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3038790 -0.6348209  0.1105031  0.7568055  2.2800789

Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("MKT", "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mwa3 <- lme(MKT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + watch_wkly*Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mwa3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -82.20002 -47.09378 54.10001

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0344962

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04910151 0.1148746

Fixed effects: MKT ~ watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + watch_wkly * Country
                                Value Std.Error DF   t-value p-value
(Intercept)                 0.0576894 0.4023522 96  0.143380  0.8863
watch_wkly                  0.0047619 0.0032640 96  1.458908  0.1479
CountryAustria              0.4118860 0.0593784  6  6.936629  0.0004
Ctest                       0.3829709 0.0897504 96  4.267066  0.0000
Dyslexdyslex               -0.0339297 0.0578671 96 -0.586338  0.5590
HISEI                       0.0006328 0.0008301 96  0.762313  0.4477
Genderboy                  -0.0087276 0.0232621 96 -0.375187  0.7083
L1not majority L           -0.0160208 0.0371453 96 -0.431302  0.6672
Age                         0.0091939 0.0295754 96  0.310862  0.7566
watch_wkly:CountryAustria -0.0141980 0.0043551 96 -3.260102  0.0015
 Correlation:
                          (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
watch_wkly                 0.137
CountryAustria             0.234  0.585
Ctest                     -0.151 -0.293 -0.364
Dyslexdyslex               0.162 -0.040  0.033  0.152
HISEI                     -0.099 -0.058  0.083 -0.220  0.049
Genderboy                  0.017  0.081  0.163 -0.063 -0.020  0.046
L1not majority L           0.191 -0.020  0.112 -0.017  0.003 -0.053  0.028
Age                       -0.988 -0.188 -0.312  0.141 -0.183 -0.003 -0.053 -0.198
watch_wkly:CountryAustria  0.039 -0.714 -0.512  0.142  0.057  0.115 -0.143 -0.054 -0.004

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3563252 -0.4663932  0.1153702  0.6965656  2.2128072

Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    8                   16
> ########################
> ###### Game ############
> ########################
>
> mdat <- na.omit(dat[c("ONT", "Game_wkly", "Country","Class_neu","School")])
> og1 <- lme(ONT ~ Game_wkly + Country,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(og1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC logLik
  -80.67199 -64.09895 46.336

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.018612

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03961396 0.1476345

Fixed effects: ONT ~ Game_wkly + Country
                    Value  Std.Error  DF   t-value p-value
(Intercept)     0.7584039 0.03049824 105 24.867135  0.0000
Game_wkly       0.0054919 0.00199443 105  2.753621  0.0069
CountryAustria 0.0281520 0.03883813   5  0.724854  0.5010
 Correlation:
               (Intr) Gm_wkl
Game_wkly      -0.413
CountryAustria -0.725  0.178

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.1673856 -0.3587640  0.1569983  0.7355568  1.3150579

Number of Observations: 120
Number of Groups:
               School Class_neu %in% School
                    7                   14
> mdat <- na.omit(dat[c("ONT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> og2 <- lme(ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(og2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC   logLik
  -13.54831 14.88507 18.77415

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.033256-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04117396 0.1496064
```

```
Fixed effects: ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF   t-value p-value
(Intercept)        0.7078555 0.6433964 67  1.100186  0.2752
Game_wkly          0.0051379 0.0027095 67  1.896276  0.0622
CountryAustria    -0.0226431 0.0571595  5 -0.396138  0.7083
Ctest              0.4370745 0.1343075 67  3.254281  0.0018
Dyslexdyslex       0.0132229 0.0842600 67  0.156930  0.8758
HISEI              0.0003472 0.0012502 67  0.277749  0.7821
Genderboy         -0.0003175 0.0415706 67 -0.007638  0.9939
L1not majority L   0.0172778 0.0551507 67  0.313284  0.7550
Age               -0.0069774 0.0474962 67 -0.146903  0.8836
 Correlation:
                  (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Game_wkly         -0.039
CountryAustria     0.495  0.219
Ctest             -0.139 -0.182 -0.446
Dyslexdyslex       0.305 -0.046  0.144  0.134
HISEI             -0.081  0.069  0.233 -0.317 -0.019
Genderboy         -0.081 -0.520 -0.055  0.051 -0.073  0.100
L1not majority L  0.368  0.037  0.316 -0.041  0.198  0.045 -0.045
Age               -0.992  0.026 -0.536  0.123 -0.320 -0.016  0.057 -0.391

Standardized Within-Group Residuals:
      Min        Q1       Med        Q3       Max
-2.9436820 -0.3400986  0.1414407  0.6316332  1.5391280

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("ONT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> og3 <- lme(ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(og3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.324154 27.31306 14.66208

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.292124e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0422298 0.1498495

Fixed effects: ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                                Value Std.Error DF   t-value p-value
(Intercept)                 0.7144786 0.6448538 66  1.107970  0.2719
Game_wkly                   0.0062345 0.0030662 66  2.033291  0.0460
CountryAustria             -0.0072656 0.0606883  5 -0.119719  0.9094
Ctest                       0.4513434 0.1359253 66  3.320525  0.0015
Dyslexdyslex                0.0145826 0.0844622 66  0.172653  0.8635
HISEI                       0.0004162 0.0012558 66  0.331452  0.7414
```

```
Genderboy                   0.0061004 0.0425012 66  0.143535  0.8863
L1not majority L            0.0170986 0.0552687 66  0.309371  0.7580
Age                        -0.0088488 0.0476573 66 -0.185676  0.8533
Game_wkly:CountryAustria   -0.0037370 0.0048700 66 -0.767344  0.4456
 Correlation:
                           (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                  -0.029
CountryAustria              0.470  0.331
Ctest                      -0.137 -0.096 -0.374
Dyslexdyslex                0.305 -0.035  0.140  0.135
HISEI                      -0.079  0.090  0.243 -0.304 -0.017
Genderboy                  -0.077 -0.359  0.012  0.076 -0.069  0.111
L1not majority L            0.368  0.029  0.295 -0.041  0.198  0.044 -0.046
Age                        -0.992  0.001 -0.521  0.118 -0.321 -0.020  0.046 -0.390
Game_wkly:CountryAustria -0.012 -0.464 -0.319 -0.137 -0.015 -0.065 -0.199  0.006  0.048

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8700178 -0.3266203  0.1259746  0.6892003  1.6188460

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("EIT", "Game_wkly", "Country","Class_neu","School")])
> eg1 <- lme(EIT ~ Game_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(eg1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -27.36589 -8.657924 19.68294

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07148223

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.618392e-05 0.1997213

Fixed effects: EIT ~ Game_wkly + Country
                        Value  Std.Error  DF   t-value p-value
(Intercept)     0.5142828 0.05015615 155 10.253634  0.0000
Game_wkly       0.0075869 0.00227477 155  3.335217  0.0011
CountryAustria -0.0198254 0.06371151   5 -0.311175  0.7682
 Correlation:
                (Intr) Gm_wkl
Game_wkly       -0.261
CountryAustria -0.760  0.102

Standardized Within-Group Residuals:
       Min         Q1         Med         Q3        Max
-2.53170529 -0.67357941 -0.07199347  0.63289139  2.34350899

Number of Observations: 170
```

```
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("EIT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> eg2 <- lme(EIT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(eg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -0.3152564 32.51912 12.15763

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.854628e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07454466 0.1770982

Fixed effects: EIT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error  DF   t-value p-value
(Intercept)       0.6191478 0.6706005 102  0.923274  0.3580
Game_wkly         0.0064337 0.0028026 102  2.295635  0.0237
CountryAustria   -0.0279629 0.0684079   5 -0.408767  0.6996
Ctest             0.5127420 0.1364163 102  3.758657  0.0003
Dyslexdyslex      0.0986279 0.0893269 102  1.104123  0.2721
HISEI             0.0035811 0.0012680 102  2.824218  0.0057
Genderboy        -0.0033717 0.0408256 102 -0.082588  0.9343
L1not majority L  0.0497553 0.0562840 102  0.884004  0.3788
Age              -0.0344804 0.0496273 102 -0.694788  0.4888
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Game_wkly        -0.059
CountryAustria    0.427  0.137
Ctest            -0.102 -0.176 -0.367
Dyslexdyslex      0.208 -0.042  0.127  0.142
HISEI            -0.077  0.074  0.216 -0.317  0.029
Genderboy         0.014 -0.517  0.010  0.032 -0.008  0.022
L1not majority L  0.275  0.014  0.253 -0.041  0.039 -0.014  0.015
Age              -0.992  0.045 -0.478  0.088 -0.229 -0.018 -0.031 -0.292

Standardized Within-Group Residuals:
       Min         Q1         Med         Q3        Max
-2.09753932 -0.55014249 -0.01862241  0.51495264  2.08860216

Number of Observations: 123
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("EIT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> eg3 <- lme(EIT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(eg3)
Linear mixed-effects model fit by REML
```

```
 Data: mdat
       AIC      BIC    logLik
  1.565541 37.02158 12.21723

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.03111964

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05367476 0.1725943

Fixed effects: EIT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                 0.5784834 0.6522039 101  0.886967  0.3772
Game_wkly                   0.0131263 0.0033879 101  3.874483  0.0002
CountryAustria              0.0309434 0.0691749   5  0.447321  0.6734
Ctest                       0.5364858 0.1317572 101  4.071775  0.0001
Dyslexdyslex                0.1009309 0.0860854 101  1.172451  0.2438
HISEI                       0.0036999 0.0012286 101  3.011522  0.0033
Genderboy                   0.0130316 0.0400301 101  0.325546  0.7454
L1not majority L            0.0434756 0.0545618 101  0.796813  0.4274
Age                        -0.0357739 0.0482575 101 -0.741314  0.4602
Game_wkly:CountryAustria -0.0144176 0.0045855 101 -3.144142  0.0022
```

```
 Correlation:
                            (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                   -0.054
CountryAustria               0.407  0.303
Ctest                       -0.098 -0.102 -0.333
Dyslexdyslex                 0.208 -0.008  0.134  0.143
HISEI                       -0.085  0.089  0.226 -0.319  0.021
Genderboy                    0.010 -0.331  0.052  0.041  0.001  0.028
L1not majority L             0.282 -0.021  0.229 -0.048  0.032 -0.011  0.012
Age                         -0.992  0.024 -0.466  0.084 -0.229 -0.012 -0.032 -0.296
Game_wkly:CountryAustria -0.021 -0.604 -0.308 -0.063 -0.030 -0.038 -0.132  0.046  0.011

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.2211390 -0.5708853 -0.1015767  0.5420994  2.0527576

Number of Observations: 123
Number of Groups:
               School Class_neu %in% School
                    7                   14
>
> mdat <- na.omit(dat[c("ATGJT", "Game_wkly", "Country","Class_neu","School")])
> ag1 <- lme(ATGJT ~ Game_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ag1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -66.69094 -47.91155 39.34547

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04921725
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02786233 0.1775675

Fixed effects: ATGJT ~ Game_wkly + Country
                          Value  Std.Error  DF   t-value p-value
(Intercept)      0.5070522 0.03592438 155 14.114433  0.0000
Game_wkly        0.0064149 0.00180748 155  3.549114  0.0005
CountryAustria -0.0722458 0.04763308   6 -1.516715  0.1801
 Correlation:
                (Intr) Gm_wkl
Game_wkly       -0.334
CountryAustria -0.717  0.141

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.78602946 -0.76649079 -0.02219996  0.72088641  2.44297628

Number of Observations: 172
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ag2 <- lme(ATGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ag2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -20.89757 12.04162 22.44878

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.687088e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.01550351 0.1683924

Fixed effects: ATGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                          Value Std.Error  DF   t-value p-value
(Intercept)      -0.8595141 0.5332571 101 -1.611819  0.1101
Game_wkly         0.0053457 0.0025162 101  2.124550  0.0361
CountryAustria   -0.2066350 0.0447523   6 -4.617301  0.0036
Ctest             0.5913021 0.1175760 101  5.029108  0.0000
Dyslexdyslex      0.0452030 0.0797941 101  0.566495  0.5723
HISEI             0.0014743 0.0011584 101  1.272637  0.2061
Genderboy        -0.0258198 0.0378389 101 -0.682361  0.4966
L1not majority L  0.0433864 0.0504472 101  0.860035  0.3918
Age               0.0856418 0.0388210 101  2.206068  0.0296
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Game_wkly        -0.096
CountryAustria    0.389  0.178
```

```
Ctest            -0.037 -0.148 -0.431
Dyslexdyslex      0.140 -0.031  0.079  0.156
HISEI            -0.173  0.104  0.252 -0.305 -0.016
Genderboy         0.058 -0.525  0.036  0.063  0.017  0.002
L1not majority L  0.200 -0.017  0.257 -0.028 -0.003 -0.013  0.045
Age              -0.991  0.079 -0.443  0.020 -0.158  0.064 -0.080 -0.220

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.13640253 -0.72061890  0.05053419  0.59831920  2.55863828

Number of Observations: 124
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("ATGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ag3 <- lme(ATGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ag3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -15.1621 20.40848 20.58105

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02102916

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.630639e-05 0.1649356

Fixed effects: ATGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                             Value Std.Error  DF   t-value p-value
(Intercept)              -0.8666856 0.5256280 100 -1.648857  0.1023
Game_wkly                 0.0097715 0.0030729 100  3.179874  0.0020
CountryAustria           -0.1606758 0.0496368   6 -3.237029  0.0178
Ctest                     0.6009938 0.1154749 100  5.204542  0.0000
Dyslexdyslex              0.0509862 0.0783855 100  0.650455  0.5169
HISEI                     0.0014974 0.0011357 100  1.318505  0.1903
Genderboy                -0.0142570 0.0373466 100 -0.381749  0.7035
L1not majority L          0.0377509 0.0495947 100  0.761189  0.4483
Age                       0.0833763 0.0382470 100  2.179944  0.0316
Game_wkly:CountryAustria -0.0099916 0.0041960 100 -2.381235  0.0191
 Correlation:
                         (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                -0.091
CountryAustria            0.328  0.354
Ctest                    -0.036 -0.097 -0.362
Dyslexdyslex              0.143 -0.005  0.087  0.157
HISEI                    -0.172  0.091  0.235 -0.299 -0.013
Genderboy                 0.055 -0.346  0.082  0.070  0.023  0.007
L1not majority L          0.205 -0.044  0.201 -0.029 -0.008 -0.014  0.038
Age                      -0.990  0.059 -0.392  0.017 -0.163  0.063 -0.081 -0.223
Game_wkly:CountryAustria  0.027 -0.594 -0.383 -0.044 -0.027 -0.018 -0.123  0.049  0.004
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.11527836 -0.75882988 -0.03803467  0.66730537  2.47500189

Number of Observations: 124
Number of Groups:
               School Class_neu %in% School
                    8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Game_wkly", "Country","Class_neu","School")])
> wg1 <- lme(WTGJT ~ Game_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wg1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -50.92379 -32.03882 31.4619

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04643853

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.460749e-06 0.1884503

Fixed effects: WTGJT ~ Game_wkly + Country
                          Value  Std.Error  DF   t-value p-value
(Intercept)      0.3354004 0.03449997 158  9.721761  0.0000
Game_wkly       -0.0001046 0.00189666 158 -0.055144  0.9561
CountryAustria  0.0038354 0.04453448   6  0.086122  0.9342
 Correlation:
                (Intr) Gm_wkl
Game_wkly       -0.361
CountryAustria -0.730  0.156

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.9156353 -0.7074416 -0.1655997  0.6722525  2.8773060

Number of Observations: 175
Number of Groups:
               School Class_neu %in% School
                    8                   16
```

```
>
> mdat <- na.omit(dat[c("WTGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wg2 <- lme(WTGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.13457 20.90851 18.06729

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.741368e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.23136e-06 0.1759577

Fixed effects: WTGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)      -0.9303769 0.5552247 102 -1.675676  0.0969
Game_wkly        -0.0010039 0.0026157 102 -0.383789  0.7019
CountryAustria   -0.1357955 0.0456571   6 -2.974249  0.0248
Ctest             0.5039644 0.1220958 102  4.127615  0.0001
Dyslexdyslex      0.0218700 0.0829841 102  0.263545  0.7927
HISEI             0.0003569 0.0011814 102  0.302078  0.7632
Genderboy        -0.0854899 0.0394481 102 -2.167148  0.0326
Linot majority L  0.0726161 0.0524962 102  1.383262  0.1696
Age               0.0861288 0.0403892 102  2.132469  0.0354
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby Lintml
Game_wkly        -0.095
CountryAustria    0.399  0.179
Ctest            -0.034 -0.145 -0.441
Dyslexdyslex      0.139 -0.029  0.078  0.156
HISEI            -0.184  0.110  0.245 -0.316 -0.022
Genderboy         0.058 -0.526  0.041  0.062  0.018  0.010
Linot majority L  0.201 -0.019  0.267 -0.030 -0.003 -0.008  0.045
Age              -0.991  0.078 -0.450  0.018 -0.157  0.078 -0.081 -0.222

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0998312 -0.6560519 -0.0776606  0.5851811  3.3342739

Number of Observations: 125
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("WTGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wg3 <- lme(WTGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wg3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -2.187723 33.49639 14.09386

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.505078e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.140346e-06 0.1759157

Fixed effects: WTGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                                Value Std.Error  DF   t-value p-value
(Intercept)                -0.9126026 0.5553617 101 -1.643258  0.1034
Game_wkly                  -0.0029989 0.0032573 101 -0.920679  0.3594
CountryAustria             -0.1558214 0.0496342   6 -3.139395  0.0201
Ctest                       0.5000888 0.1221249 101  4.094896  0.0001
Dyslexdyslex                0.0207798 0.0829711 101  0.250446  0.8028
HISEI                       0.0003556 0.0011811 101  0.301048  0.7640
Genderboy                  -0.0903200 0.0397180 101 -2.274034  0.0251
Linot majority L            0.0751108 0.0525399 101  1.429597  0.1559
Age                         0.0859957 0.0403798 101  2.129672  0.0356
Game_wkly:CountryAustria    0.0045479 0.0044269 101  1.027331  0.3067
 Correlation:
                           (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby Lintml Age
Game_wkly                  -0.095
CountryAustria              0.354  0.367
Ctest                      -0.035 -0.098 -0.393
Dyslexdyslex                0.138 -0.015  0.077  0.156
HISEI                      -0.184  0.089  0.226 -0.315 -0.022
Genderboy                   0.054 -0.349  0.084  0.066  0.020  0.010
Linot majority L            0.202 -0.043  0.227 -0.031 -0.003 -0.008  0.040
Age                        -0.991  0.064 -0.413  0.018 -0.157  0.078 -0.080 -0.222
Game_wkly:CountryAustria    0.031 -0.596 -0.393 -0.031 -0.013 -0.001 -0.118  0.046 -0.003

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.19509409 -0.63459449 -0.06543197  0.61950232  3.40955897

Number of Observations: 125
Number of Groups:
              School Class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Game_wkly", "Country","Class_neu","School")])
> ug1 <- lme(UGJT ~ Game_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ug1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  31.17219 50.1951 -9.586096

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:    0.104113

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.1089279 0.2287544

Fixed effects: UGJT ~ Game_wkly + Country
                    Value  Std.Error  DF t-value p-value
(Intercept)     0.4037801 0.07184634 162 5.620052  0.0000
Game_wkly       0.0067304 0.00242009 162 2.781050  0.0061
CountryAustria 0.1572698 0.10153702   6 1.548892  0.1724
 Correlation:
                (Intr) Gm_wkl
Game_wkly       -0.231
CountryAustria -0.692  0.098

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.5837764 -0.6507096  0.1467688  0.6354397  1.8558528

Number of Observations: 179
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ug2 <- lme(UGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ug2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  36.58548 69.62857 -6.292742

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1229628

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.09550818 0.2014971

Fixed effects: UGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                     Value Std.Error  DF   t-value p-value
(Intercept)       0.3445910 0.7148427 102  0.482051  0.6308
Game_wkly         0.0060035 0.0033133 102  1.811962  0.0729
CountryAustria    0.0630763 0.1158366   6  0.544528  0.6057
Ctest             0.6189635 0.1520927 102  4.069648  0.0001
Dyslexdyslex     -0.1334746 0.1026982 102 -1.299678  0.1966
HISEI             0.0019672 0.0014299 102  1.375777  0.1719
Genderboy         0.0103899 0.0467084 102  0.222443  0.8244
Linot majority L  0.1582363 0.0651291 102  2.429581  0.0169
Age              -0.0140546 0.0516747 102 -0.271983  0.7862
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby Lintml
Game_wkly        -0.085
CountryAustria    0.104  0.091
Ctest            -0.077 -0.208 -0.208
Dyslexdyslex      0.187 -0.052  0.052  0.152
HISEI            -0.114  0.027  0.130 -0.249  0.043
Genderboy         0.057 -0.528  0.024  0.086  0.019  0.031
Linot majority L  0.229  0.058  0.092 -0.047  0.010 -0.048 -0.015
Age              -0.987  0.080 -0.190  0.054 -0.211  0.011 -0.083 -0.238

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.6346775 -0.4959650  0.0723474  0.6777319  2.1223353

Number of Observations: 125
Number of Groups:
              School class_neu %in% School
                   8                   16
>
> mdat <- na.omit(dat[c("UGJT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ug3 <- lme(UGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ug3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  38.11893 73.80305 -6.059464

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.1317541
```

```
 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.840714e-05 0.2001515

Fixed effects: UGJT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                              Value Std.Error  DF   t-value p-value
(Intercept)                0.2839972 0.6982279 101  0.406740  0.6851
Game_wkly                  0.0147191 0.0039129 101  3.761662  0.0003
CountryAustria             0.1403194 0.1108823   6  1.265481  0.2526
Ctest                      0.6481104 0.1454170 101  4.456908  0.0000
Dyslexdyslex              -0.1484150 0.0984857 101 -1.506969  0.1349
HISEI                      0.0019562 0.0013889 101  1.408451  0.1621
Genderboy                  0.0313963 0.0462973 101  0.678145  0.4992
L1not majority L           0.1513846 0.0636270 101  2.379250  0.0192
Age                       -0.0146763 0.0504831 101 -0.290717  0.7719
Game_wkly:CountryAustria -0.0171724 0.0053276 101 -3.223277  0.0017
 Correlation:
                          (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                 -0.068
CountryAustria             0.103  0.204
Ctest                     -0.040 -0.121 -0.179
Dyslexdyslex               0.186  0.019  0.074  0.165
HISEI                     -0.142  0.061  0.140 -0.237  0.023
Genderboy                  0.055 -0.359  0.058  0.101  0.044  0.051
L1not majority L           0.240  0.010  0.084 -0.057 -0.017 -0.042 -0.015
Age                       -0.986  0.042 -0.195  0.014 -0.212  0.037 -0.087 -0.248
Game_wkly:CountryAustria  0.006 -0.582 -0.233 -0.088 -0.076 -0.049 -0.130  0.040  0.031

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.82832940 -0.60809523  0.05825815  0.63444439  2.35746469

Number of Observations: 125
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("MKT", "Game_wkly", "Country","Class_neu","School")])
> mg1 <- lme(MKT ~ Game_wkly + Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mg1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -118.7938 -100.0144 65.39689

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.005008e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev:  0.06437544  0.14942

Fixed effects: MKT ~ Game_wkly + Country
                 Value  Std.Error  DF  t-value p-value
(Intercept)    0.3078947 0.02987039 155 10.30769  0.0000
Game_wkly      0.0019470 0.00158059 155  1.23182  0.2199
CountryAustria 0.4218441 0.04169632   6 10.11706  0.0001
 Correlation:
               (Intr) Gm_wkl
Game_wkly      -0.375
CountryAustria -0.679  0.167

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9136717 -0.6227602  0.1199280  0.6186650  3.4839635

Number of Observations: 172
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("MKT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mg2 <- lme(MKT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -84.89903 -52.17038 54.44952

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04804102

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03426104 0.1210871

Fixed effects: MKT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.2529227 0.4115016 99  0.614634  0.5402
Game_wkly        -0.0000476 0.0019723 99 -0.024128  0.9808
CountryAustria    0.3314091 0.0508662  6  6.515312  0.0006
Ctest             0.4017553 0.0895941 99  4.484173  0.0000
Dyslexdyslex     -0.0279174 0.0601311 99 -0.464276  0.6435
HISEI             0.0009867 0.0008610 99  1.146003  0.2546
Genderboy        -0.0194927 0.0285694 99 -0.682290  0.4966
L1not majority L -0.0218830 0.0385685 99 -0.567380  0.5717
Age              -0.0033682 0.0298829 99 -0.112712  0.9105
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Game_wkly        -0.087
CountryAustria    0.197  0.111
Ctest            -0.058 -0.201 -0.273
Dyslexdyslex      0.171 -0.041  0.070  0.160
HISEI            -0.136  0.051  0.165 -0.237  0.032
Genderboy         0.066 -0.550  0.036  0.080  0.024  0.026
L1not majority L  0.220  0.052  0.132 -0.053 -0.008 -0.040 -0.010
Age              -0.989  0.079 -0.267  0.033 -0.195  0.027 -0.091 -0.231

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3139852 -0.6542923  0.1037826  0.7650946  2.3144123

Number of Observations: 122
Number of Groups:
                School Class_neu %in% School
                     8                   16
>
> mdat <- na.omit(dat[c("MKT", "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mg3 <- lme(MKT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mg3)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -86.55065 -51.21017 56.27533

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04855185

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.175392e-06 0.1163321

Fixed effects: MKT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)                0.2272854 0.3908473 98  0.581520  0.5622
Game_wkly                  0.0052359 0.0022659 98  2.310705  0.0229
CountryAustria             0.3847510 0.0487995  6  7.884320  0.0002
Ctest                      0.4288263 0.0842579 98  5.089448  0.0000
Dyslexdyslex              -0.0206745 0.0567323 98 -0.364421  0.7163
HISEI                      0.0011609 0.0008168 98  1.421329  0.1584
Genderboy                 -0.0063038 0.0275057 98 -0.229180  0.8192
L1not majority L          -0.0292576 0.0367144 98 -0.796898  0.4274
Age                       -0.0056841 0.0283891 98 -0.200222  0.8417
Game_wkly:CountryAustria -0.0116957 0.0030816 98 -3.795379  0.0003
 Correlation:
                          (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                 -0.075
CountryAustria             0.194  0.259
Ctest                     -0.038 -0.120 -0.241
Dyslexdyslex               0.169  0.011  0.090  0.166
HISEI                     -0.152  0.067  0.172 -0.235  0.020
Genderboy                  0.063 -0.370  0.082  0.088  0.040  0.035
L1not majority L           0.227  0.009  0.118 -0.061 -0.023 -0.035 -0.014
Age                       -0.988  0.048 -0.271  0.012 -0.195  0.042 -0.093 -0.236
Game_wkly:CountryAustria  0.011 -0.572 -0.304 -0.077 -0.063 -0.031 -0.140  0.045  0.024

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.3858162 -0.6954114  0.1114290  0.7259874  2.0535825

Number of Observations: 122
Number of Groups:
                School Class_neu %in% School
                     8                   16
```

5 Tables

```
> # Tables
>
> stargazer(o1, o2, o3, out="o1.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">ONT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.002[*]</td><td>0.004^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>0.047</td><td>-0.007</td><td>0.080</td></tr>
<tr><td style="text-align:left"></td><td>(0.044)</td><td>(0.061)</td><td>(0.072)</td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.425^{***}</td><td>0.478^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.149)</td><td>(0.144)</td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.018</td><td>-0.0002</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.086)</td><td>(0.083)</td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.0003</td><td>0.0003</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.027</td><td>0.033</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.037)</td><td>(0.036)</td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.003</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.059)</td><td>(0.057)</td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>-0.021</td><td>-0.016</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.049)</td><td>(0.047)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:CountryAustria</td><td></td><td></td><td>-0.004^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.722^{***}</td><td>0.882</td><td>0.733</td></tr>
<tr><td style="text-align:left"></td><td>(0.037)</td><td>(0.659)</td><td>(0.638)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>113</td><td>85</td><td>85</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>41.612</td><td>15.887</td><td>13.603</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-71.225</td><td>-7.773</td><td>-1.206</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-55.022</td><td>20.196</td><td>28.921</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(o4, o5, o6, out="o2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">ONT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.002[*]</td><td>0.004^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.066</td><td>0.015</td><td>0.063</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.071)</td><td>(0.089)</td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>0.017</td><td>0.0002</td><td>0.098</td></tr>
<tr><td style="text-align:left"></td><td>(0.061)</td><td>(0.079)</td><td>(0.090)</td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.406^{***}</td><td>0.482^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.151)</td><td>(0.146)</td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.023</td><td>0.0002</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.086)</td><td>(0.083)</td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.0004</td><td>0.0002</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.028</td><td>0.034</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.037)</td><td>(0.036)</td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.001</td><td>0.008</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.060)</td><td>(0.058)</td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>-0.023</td><td>-0.017</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.049)</td><td>(0.048)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td>-0.003</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.003)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td>-0.005^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.719^{***}</td><td>0.889</td><td>0.746</td></tr>
<tr><td style="text-align:left"></td><td>(0.038)</td><td>(0.657)</td><td>(0.642)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>113</td><td>85</td><td>85</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>40.073</td><td>14.031</td><td>7.073</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-66.146</td><td>-2.061</td><td>15.854</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-47.306</td><td>28.066</td><td>50.211</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(e1, e2, e3, out="e1.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">EIT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.001</td><td>0.004^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>0.005</td><td>-0.029</td><td>0.060</td></tr>
<tr><td style="text-align:left"></td><td>(0.053)</td><td>(0.072)</td><td>(0.076)</td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.558^{***}</td><td>0.599^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.150)</td><td>(0.146)</td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.113</td><td>0.107</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.090)</td><td>(0.088)</td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.003^{**}</td><td>0.004^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.033</td><td>0.035</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.036)</td><td>(0.036)</td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.059</td><td>0.053</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.060)</td><td>(0.058)</td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>-0.049</td><td>-0.046</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:CountryAustria</td><td></td><td></td><td>-0.004^{**}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.488^{***}</td><td>0.808</td><td>0.678</td></tr>
<tr><td style="text-align:left"></td><td>(0.044)</td><td>(0.691)</td><td>(0.683)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>162</td><td>119</td><td>119</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>16.098</td><td>8.951</td><td>6.526</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-20.196</td><td>6.098</td><td>12.948</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-1.783</td><td>38.504</td><td>47.936</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(e4, e5, e6, out="e2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">EIT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.001</td><td>0.003^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.045</td><td>-0.001</td><td>0.102</td></tr>
<tr><td style="text-align:left"></td><td>(0.054)</td><td>(0.079)</td><td>(0.084)</td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>-0.067</td><td>-0.070</td><td>0.009</td></tr>
<tr><td style="text-align:left"></td><td>(0.064)</td><td>(0.089)</td><td>(0.092)</td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.539^{***}</td><td>0.584^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.151)</td><td>(0.148)</td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.112</td><td>0.108</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.090)</td><td>(0.088)</td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.003^{**}</td><td>0.003^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.034</td><td>0.033</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.036)</td><td>(0.036)</td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.055</td><td>0.043</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.060)</td><td>(0.059)</td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>-0.047</td><td>-0.043</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td>-0.005^{**}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td>-0.003[*]</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.489^{***}</td><td>0.793</td><td>0.644</td></tr>
<tr><td style="text-align:left"></td><td>(0.041)</td><td>(0.690)</td><td>(0.681)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>162</td><td>119</td><td>119</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>15.622</td><td>7.696</td><td>0.226</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-17.244</td><td>10.608</td><td>29.547</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>4.194</td><td>45.596</td><td>69.640</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(a1, a2, a3, out="A1.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.001[*]</td><td>0.003^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.047</td><td>-0.185^{***}</td><td>-0.117</td></tr>
<tr><td style="text-align:left"></td><td>(0.045)</td><td>(0.048)</td><td>(0.061)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.584^{***}</td><td>0.574^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.126)</td><td>(0.125)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.062</td><td>0.065</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.080)</td><td>(0.079)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.001</td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.004</td><td>0.006</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.033)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.046</td><td>0.043</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.052)</td><td>(0.052)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>0.067[*]</td><td>0.061</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:CountryAustria</td><td></td><td></td><td>-0.003[*]</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.466^{***}</td><td>-0.628</td><td>-0.607</td></tr>
<tr><td style="text-align:left"></td><td>(0.036)</td><td>(0.536)</td><td>(0.531)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>163</td><td>120</td><td>120</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>36.800</td><td>20.254</td><td>16.195</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-61.599</td><td>-16.509</td><td>-6.390</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-43.148</td><td>16.006</td><td>28.716</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(a4, a5, a6, out="A2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.002^{***}</td><td>0.001[*]</td><td>0.003^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>-0.018</td><td>-0.175^{**}</td><td>-0.116</td></tr>
<tr><td style="text-align:left"></td><td>(0.050)</td><td>(0.051)</td><td>(0.066)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>-0.098</td><td>-0.197^{**}</td><td>-0.123</td></tr>
<tr><td style="text-align:left"></td><td>(0.059)</td><td>(0.053)</td><td>(0.067)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.574^{***}</td><td>0.561^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.128)</td><td>(0.128)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.061</td><td>0.063</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.080)</td><td>(0.080)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.004</td><td>0.007</td></tr>
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<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.042</td><td>0.043</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.053)</td><td>(0.053)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>0.068[*]</td><td>0.062</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.040)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td>-0.002</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td>-0.003[*]</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.465^{***}</td><td>-0.641</td><td>-0.606</td></tr>
<tr><td style="text-align:left"></td><td>(0.035)</td><td>(0.538)</td><td>(0.536)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>163</td><td>120</td><td>120</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>33.752</td><td>18.100</td><td>8.716</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-57.503</td><td>-10.200</td><td>12.567</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-36.021</td><td>24.906</td><td>52.799</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(w1, w2, w3, out="w1.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">wTGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.001^{**}</td><td>0.0004</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>0.024</td><td>-0.116[*]</td><td>-0.174^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.045)</td><td>(0.050)</td><td>(0.063)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.451^{***}</td><td>0.460^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.131)</td><td>(0.131)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.024</td><td>0.022</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.083)</td><td>(0.083)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.001</td><td>0.0005</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>-0.094^{***}</td><td>-0.096^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.034)</td><td>(0.034)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.052</td><td>0.055</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.054)</td><td>(0.054)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>0.085^{**}</td><td>0.090^{**}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.041)</td><td>(0.041)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:CountryAustria</td><td></td><td></td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.289^{***}</td><td>-0.931[*]</td><td>-0.949[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.038)</td><td>(0.558)</td><td>(0.556)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>166</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>34.289</td><td>16.002</td><td>11.476</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-56.578</td><td>-8.003</td><td>3.048</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-38.015</td><td>24.619</td><td>38.272</td></tr>
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</table>

```
> stargazer(w4, w5, w6, out="w2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">wTGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.001^{**}</td><td>0.0004</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.048</td><td>-0.123[*]</td><td>-0.167[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.056)</td><td>(0.053)</td><td>(0.068)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>-0.002</td><td>-0.108</td><td>-0.177[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.058)</td><td>(0.055)</td><td>(0.070)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td></td><td>0.458^{***}</td><td>0.474^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.133)</td><td>(0.133)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>0.025</td><td>0.024</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.083)</td><td>(0.083)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>-0.094^{***}</td><td>-0.098^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.035)</td><td>(0.035)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td></td><td>0.054</td><td>0.052</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.055)</td><td>(0.055)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>0.084^{**}</td><td>0.089^{**}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.041)</td><td>(0.041)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td>0.003</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
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<tr><td style="text-align:left">Constant</td><td>0.288^{***}</td><td>-0.922</td><td>-0.953[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.039)</td><td>(0.561)</td><td>(0.560)</td></tr>
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<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>166</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>32.754</td><td>13.796</td><td>4.153</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-51.508</td><td>-1.592</td><td>21.693</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-29.895</td><td>33.632</td><td>62.064</td></tr>
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</table>

```
> stargazer(u1, u2, u3, out="u1.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">UGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.001</td><td>-0.001</td><td>0.006^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>0.177</td><td>0.061</td><td>0.295^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.101)</td><td>(0.130)</td><td>(0.094)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.672^{***}</td><td>0.731^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.167)</td><td>(0.154)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>-0.092</td><td>-0.157</td></tr>
<tr><td style="text-align:left"></td><td>(0.103)</td><td>(0.096)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.002</td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.060</td><td>0.072[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>0.161^{**}</td><td>0.174^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.067)</td><td>(0.064)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.037</td><td>-0.014</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.048)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:CountryAustria</td><td></td><td></td><td>-0.009^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.387^{***}</td><td>0.654</td><td>0.113</td></tr>
<tr><td style="text-align:left"></td><td>(0.071)</td><td>(0.720)</td><td>(0.662)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>170</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>-11.033</td><td>-8.414</td><td>-4.641</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>34.067</td><td>40.827</td><td>35.282</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>52.775</td><td>73.449</td><td>70.506</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(u4, u5, u6, out="u2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">UGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.001</td><td>-0.001</td><td>0.006^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.220</td><td>0.089</td><td>0.359^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.120)</td><td>(0.169)</td><td>(0.116)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>0.093</td><td>0.012</td><td>0.224</td></tr>
<tr><td style="text-align:left"></td><td>(0.149)</td><td>(0.186)</td><td>(0.118)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.664^{***}</td><td>0.720^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.168)</td><td>(0.154)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td></td><td>-0.085</td><td>-0.152</td></tr>
<tr><td style="text-align:left"></td><td>(0.103)</td><td>(0.095)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td></td><td>0.002</td><td>0.002[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td>0.059</td><td>0.067[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td></td><td>0.164^{**}</td><td>0.165^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.067)</td><td>(0.064)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td></td><td>-0.044</td><td>-0.018</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.049)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td>-0.011^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td>-0.008^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.388^{***}</td><td>0.760</td><td>0.180</td></tr>
<tr><td style="text-align:left"></td><td>(0.073)</td><td>(0.725)</td><td>(0.666)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>170</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>-11.628</td><td>-9.067</td><td>-9.596</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>37.255</td><td>44.133</td><td>49.192</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>59.039</td><td>79.357</td><td>89.563</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(u4, u5, u6, out="u2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">UGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.001</td><td>-0.001</td><td>0.006^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.220</td><td>0.089</td><td>0.359^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.120)</td><td>(0.169)</td><td>(0.116)</td></tr>
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<tr><td style="text-align:left">Ctest</td><td></td><td>0.664^{***}</td><td>0.720^{***}</td></tr>
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<tr><td style="text-align:left">HISEI</td><td></td><td></td><td>0.002</td><td>0.002[*]</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td></td><td></td><td>0.059</td><td>0.067[*]</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.040)</td><td>(0.039)</td></tr>
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<tr><td style="text-align:left">LInot majority L</td><td></td><td></td><td>0.164^{**}</td><td>0.165^{**}</td></tr>
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<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Academic High</td><td></td><td></td><td></td><td>-0.011^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">ExtramuralEnglish:SchooltypeAT, Middle School</td><td></td><td></td><td></td><td>-0.008^{***}</td></tr>
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<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(m4, m5, m6, out="m2.html",type="html")
```

<table style="text-align:center"><tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="3">Dependent variable:</td></tr>
<tr><td></td><td colspan="3" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="3">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">ExtramuralEnglish</td><td>0.0004</td><td>-0.001</td><td>0.002[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Academic High</td><td>0.462^{***}</td><td>0.390^{***}</td><td>0.484^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.039)</td><td>(0.049)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">SchooltypeAT, Middle School</td><td>0.337^{***}</td><td>0.269^{***}</td><td>0.362^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.042)</td><td>(0.048)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.387^{***}</td><td>0.349^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.093)</td><td>(0.089)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>-0.035</td><td>-0.036</td></tr>
<tr><td style="text-align:left"></td><td>(0.058)</td><td>(0.056)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.008</td><td>-0.005</td></tr>
<tr><td style="text-align:left"></td><td>(0.024)</td><td>(0.024)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>-0.060</td><td>-0.054</td></tr>
<tr><td style="text-align:left"></td><td>(0.039)</td><td>(0.038)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.011</td><td>0.004</td></tr>
<tr><td style="text-align:left"></td><td>(0.028)</td><td>(0.028)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
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<tr><td style="text-align:left">Constant</td><td>0.308^{***}</td><td>0.069</td><td>0.100</td></tr>
<tr><td style="text-align:left"></td><td>(0.030)</td><td>(0.387)</td><td>(0.374)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>163</td><td>118</td><td>118</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>63.751</td><td>53.220</td><td>46.607</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-113.503</td><td>-80.440</td><td>-63.213</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>-92.020</td><td>-45.572</td><td>-23.262</td></tr>
<tr><td colspan="4" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="3" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(or2, or3, er2, er3, ar2, ar3, out="readoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Read_wkly</td><td>0.005^{**}</td><td>0.007^{**}</td><td>0.003</td><td>0.005[*]</td><td>0.002</td><td>0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.003)</td><td>(0.002)</td><td>(0.002)</td><td>(0.002)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.006</td><td>0.022</td><td>-0.026</td><td>0.005</td><td>-0.202^{***}</td><td>-0.196^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.063)</td><td>(0.070)</td><td>(0.074)</td><td>(0.079)</td><td>(0.051)</td><td>(0.055)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.361^{**}</td><td>0.360</td><td>0.360^{***}</td><td>0.489^{***}</td><td>0.503^{***}</td><td>0.569^{***}</td><td>0.571^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.144)</td><td>(0.143)</td><td>(0.146)</td><td>(0.146)</td><td>(0.128)</td><td>(0.129)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>-0.005</td><td>-0.009</td><td>0.100</td><td>0.105</td><td>0.056</td><td>0.057</td></tr>
<tr><td style="text-align:left"></td><td>(0.085)</td><td>(0.085)</td><td>(0.091)</td><td>(0.091)</td><td>(0.081)</td><td>(0.082)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.000[*]</td><td>0.001</td><td>0.003^{**}</td><td>0.004^{***}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.039</td><td>0.044</td><td>0.046</td><td>0.050</td><td>0.017</td><td>0.018</td></tr>
<tr><td style="text-align:left"></td><td>(0.035)</td><td>(0.035)</td><td>(0.035)</td><td>(0.035)</td><td>(0.032)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Llnot majority L</td><td>-0.012</td><td>-0.018</td><td>0.042</td><td>0.037</td><td>0.035</td><td>0.034</td></tr>
<tr><td style="text-align:left"></td><td>(0.056)</td><td>(0.056)</td><td>(0.057)</td><td>(0.057)</td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.002</td><td>-0.008</td><td>-0.043</td><td>-0.052</td><td>0.074[*]</td><td>0.072[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.047)</td><td>(0.050)</td><td>(0.050)</td><td>(0.039)</td><td>(0.040)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Read_wkly:CountryAustria</td><td>-0.005</td><td></td><td>-0.005</td><td></td><td>-0.001</td><td></td></tr>
<tr><td style="text-align:left"></td><td>(0.005)</td><td></td><td>(0.004)</td><td></td><td>(0.004)</td><td></td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.651</td><td>0.700</td><td>0.750</td><td>0.834</td><td>-0.680</td><td>-0.667</td></tr>
<tr><td style="text-align:left"></td><td>(0.637)</td><td>(0.634)</td><td>(0.675)</td><td>(0.674)</td><td>(0.538)</td><td>(0.542)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">observations</td><td>88</td><td>88</td><td>123</td><td>123</td><td>124</td><td>124</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.704</td><td>14.728</td><td>10.279</td><td>6.529</td><td>-20.825</td><td>16.221</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-13.407</td><td>-3.456</td><td>3.442</td><td>12.941</td><td>17.651</td><td>6.442</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>15.026</td><td>27.181</td><td>36.277</td><td>48.397</td><td>15.288</td><td>29.129</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(wr2, wr3, ur2, ur3, mr2, mr3, out="readwum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Read_wkly</td><td>0.003</td><td>0.002</td><td>0.003</td><td>0.006^{**}</td><td>0.001</td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.002)</td><td>(0.002)</td><td>(0.003)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.107[*]</td><td>-0.118[*]</td><td>0.075</td><td>0.144</td><td>0.339^{***}</td><td>0.353^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.051)</td><td>(0.112)</td><td>(0.115)</td><td>(0.053)</td><td>(0.054)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.419^{***}</td><td>0.416^{***}</td><td>0.611^{***}</td><td>0.650^{***}</td><td>0.376^{***}</td><td>0.385^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.128)</td><td>(0.129)</td><td>(0.163)</td><td>(0.158)</td><td>(0.094)</td><td>(0.094)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.012</td><td>0.012</td><td>-0.123</td><td>-0.111</td><td>-0.032</td><td>-0.031</td></tr>
<tr><td style="text-align:left"></td><td>(0.082)</td><td>(0.082)</td><td>(0.104)</td><td>(0.101)</td><td>(0.060)</td><td>(0.060)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.000</td><td>0.003</td><td>0.002</td><td>0.003[*]</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.091^{**}</td><td>0.093^{**}</td><td>0.052</td><td>0.062</td><td>-0.019</td><td>-0.016</td></tr>
<tr><td style="text-align:left"></td><td>(0.033)</td><td>(0.034)</td><td>(0.040)</td><td>(0.039)</td><td>(0.024)</td><td>(0.024)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Llnot majority L</td><td>0.067</td><td>0.069</td><td>0.143^{**}</td><td>0.126^{**}</td><td>-0.024</td><td>-0.026</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.052)</td><td>(0.065)</td><td>(0.063)</td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.085</td><td>0.087[*]</td><td>-0.018</td><td>-0.035</td><td>-0.004</td><td>-0.008</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.040)</td><td>(0.051)</td><td>(0.050)</td><td>(0.030)</td><td>(0.030)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Read_wkly:CountryAustria</td><td></td><td>0.002</td><td></td><td>-0.013^{***}</td><td></td><td>-0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.004)</td><td></td><td>(0.005)</td><td></td><td>(0.003)</td><td></td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>-0.550</td><td>-0.941[*]</td><td>0.389</td><td>0.543</td><td>0.256</td><td>0.293</td></tr>
<tr><td style="text-align:left"></td><td>(0.547)</td><td>(0.550)</td><td>(0.709)</td><td>(0.688)</td><td>(0.410)</td><td>(0.412)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">observations</td><td>125</td><td>125</td><td>125</td><td>125</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>19.036</td><td>14.581</td><td>-7.517</td><td>-7.969</td><td>54.380</td><td>50.018</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-14.073</td><td>-3.163</td><td>39.034</td><td>41.938</td><td>-84.759</td><td>-74.036</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>18.971</td><td>32.521</td><td>72.077</td><td>77.622</td><td>-52.031</td><td>-38.696</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(ow2, ow3, ew2, ew3, aw2, aw3, out="writeoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">write_wkly</td><td>0.002</td><td>0.003</td><td>0.003</td><td>0.003</td><td>0.004</td><td>0.004</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.004)</td><td>(0.003)</td><td>(0.003)</td><td>(0.002)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.031</td><td>-0.028</td><td>-0.023</td><td>-0.026</td><td>-0.194^{***}</td><td>-0.198^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.061)</td><td>(0.062)</td><td>(0.075)</td><td>(0.076)</td><td>(0.052)</td><td>(0.054)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.450^{***}</td><td>0.446^{***}</td><td>0.517^{***}</td><td>0.512^{***}</td><td>0.577^{***}</td><td>0.577^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.143)</td><td>(0.145)</td><td>(0.141)</td><td>(0.142)</td><td>(0.122)</td><td>(0.123)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.027</td><td>0.025</td><td>0.122</td><td>0.126</td><td>0.081</td><td>0.084</td></tr>
<tr><td style="text-align:left"></td><td>(0.086)</td><td>(0.087)</td><td>(0.091)</td><td>(0.092)</td><td>(0.081)</td><td>(0.081)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.000</td><td>0.000</td><td>0.003^{***}</td><td>0.004^{***}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.044</td><td>0.044</td><td>0.051</td><td>0.052</td><td>0.025</td><td>0.025</td></tr>
<tr><td style="text-align:left"></td><td>(0.036)</td><td>(0.037)</td><td>(0.036)</td><td>(0.036)</td><td>(0.033)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Llnot majority L</td><td>0.004</td><td>0.003</td><td>0.040</td><td>0.039</td><td>0.027</td><td>0.025</td></tr>
<tr><td style="text-align:left"></td><td>(0.058)</td><td>(0.058)</td><td>(0.057)</td><td>(0.057)</td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.019</td><td>-0.016</td><td>-0.059</td><td>-0.067</td><td>0.058</td><td>0.054</td></tr>
<tr><td style="text-align:left"></td><td>(0.050)</td><td>(0.052)</td><td>(0.052)</td><td>(0.054)</td><td>(0.040)</td><td>(0.041)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">write_wkly:CountryAustria</td><td></td><td>-0.002</td><td></td><td>0.003</td><td></td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.007)</td><td></td><td>(0.006)</td><td></td><td>(0.006)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.878</td><td>0.838</td><td>0.952</td><td>1.057</td><td>-0.490</td><td>-0.435</td></tr>
<tr><td style="text-align:left"></td><td>(0.676)</td><td>(0.701)</td><td>(0.699)</td><td>(0.727)</td><td>(0.546)</td><td>(0.561)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">observations</td><td>88</td><td>88</td><td>123</td><td>123</td><td>124</td><td>124</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>17.421</td><td>13.356</td><td>10.272</td><td>6.262</td><td>21.750</td><td>17.570</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-10.841</td><td>0.289</td><td>3.456</td><td>13.477</td><td>-19.500</td><td>-9.141</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>17.592</td><td>29.926</td><td>36.291</td><td>48.933</td><td>13.440</td><td>26.430</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(ww2, ww3, uw2, uw3, mw2, mw3, out="writewum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">write_wkly</td><td>0.005^{**}</td><td>0.004</td><td>0.004</td><td>0.006^{**}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.002)</td><td>(0.003)</td><td>(0.003)</td><td>(0.002)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.103[*]</td><td>-0.115[*]</td><td>0.078</td><td>0.101</td><td>0.335^{***}</td><td>0.340^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.048)</td><td>(0.121)</td><td>(0.108)</td><td>(0.052)</td><td>(0.052)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.441^{***}</td><td>0.446^{***}</td><td>0.609^{***}</td><td>0.627^{***}</td><td>0.391^{***}</td><td>0.390^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.122)</td><td>(0.122)</td><td>(0.155)</td><td>(0.090)</td><td>(0.091)</td><td>(0.091)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.038</td><td>0.043</td><td>-0.098</td><td>-0.116</td><td>-0.027</td><td>-0.030</td></tr>
<tr><td style="text-align:left"></td><td>(0.082)</td><td>(0.082)</td><td>(0.103)</td><td>(0.103)</td><td>(0.060)</td><td>(0.060)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.000</td><td>0.001</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.082</td><td>0.081</td><td>0.060</td><td>0.058</td><td>-0.018</td><td>-0.018</td></tr>
<tr><td style="text-align:left"></td><td>(0.034)</td><td>(0.033)</td><td>(0.040)</td><td>(0.040)</td><td>(0.024)</td><td>(0.024)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Llnot majority L</td><td>0.060</td><td>0.057</td><td>0.138^{**}</td><td>0.138^{**}</td><td>-0.024</td><td>-0.022</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.052)</td><td>(0.065)</td><td>(0.065)</td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.070[*]</td><td>0.061</td><td>-0.041</td><td>-0.011</td><td>-0.007</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.041)</td><td>(0.041)</td><td>(0.053)</td><td>(0.054)</td><td>(0.031)</td><td>(0.032)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">write_wkly:CountryAustria</td><td></td><td>0.006</td><td></td><td>-0.011</td><td></td><td>-0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.006)</td><td>(0.006)</td><td>(0.007)</td><td>(0.007)</td><td>(0.004)</td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.735</td><td>0.613</td><td>0.707</td><td>0.277</td><td>0.296</td><td>0.224</td></tr>
<tr><td style="text-align:left"></td><td>(0.554)</td><td>(0.564)</td><td>(0.724)</td><td>(0.740)</td><td>(0.419)</td><td>(0.432)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">observations</td><td>125</td><td>125</td><td>125</td><td>125</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>19.871</td><td>16.257</td><td>-6.704</td><td>-9.546</td><td>54.399</td><td>50.096</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-15.741</td><td>-6.513</td><td>37.409</td><td>45.093</td><td>-84.797</td><td>-74.192</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>17.302</td><td>29.171</td><td>70.432</td><td>80.777</td><td>-52.069</td><td>-38.851</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(ol2, ol3, el2, el3, al2, al3, out="listenoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">List_wkly</td><td>0.004</td><td>0.006</td><td>-0.002</td><td>0.0002</td><td>0.004</td><td>0.006</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.004)</td><td>(0.004)</td><td>(0.005)</td><td>(0.003)</td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.050</td><td>-0.041</td><td>-0.052</td><td>-0.046</td><td>-0.214^{***}</td><td>-0.206^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.053)</td><td>(0.067)</td><td>(0.067)</td><td>(0.044)</td><td>(0.045)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.496^{***}</td><td>0.517^{***}</td><td>0.610^{***}</td><td>0.632^{***}</td><td>0.646^{***}</td><td>0.670^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.134)</td><td>(0.136)</td><td>(0.137)</td><td>(0.141)</td><td>(0.117)</td><td>(0.120)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdys1ex</td><td>0.021</td><td>0.023</td><td>0.111</td><td>0.114</td><td>0.063</td><td>0.068</td></tr>
<tr><td style="text-align:left"></td><td>(0.085)</td><td>(0.086)</td><td>(0.090)</td><td>(0.090)</td><td>(0.080)</td><td>(0.080)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>-0.0001</td><td>0.00004</td><td>0.003^{**}</td><td>0.003^{**}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.034</td><td>0.041</td><td>0.036</td><td>0.039</td><td>0.008</td><td>0.011</td></tr>
<tr><td style="text-align:left"></td><td>(0.037)</td><td>(0.037)</td><td>(0.035)</td><td>(0.036)</td><td>(0.032)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>0.003</td><td>-0.0004</td><td>0.065</td><td>0.061</td><td>0.044</td><td>0.040</td></tr>
<tr><td style="text-align:left"></td><td>(0.058)</td><td>(0.058)</td><td>(0.057)</td><td>(0.058)</td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.005</td><td>-0.009</td><td>-0.039</td><td>-0.041</td><td>0.079^{**}</td><td>0.076[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.048)</td><td>(0.048)</td><td>(0.050)</td><td>(0.050)</td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">List_wkly:CountryAustria</td><td></td><td>-0.007</td><td></td><td>-0.005</td><td></td><td>-0.006</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.008)</td><td></td><td>(0.008)</td><td></td><td>(0.007)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.707</td><td>0.742</td><td>0.696</td><td>0.713</td><td>-0.767</td><td>-0.736</td></tr>
<tr><td style="text-align:left"></td><td>(0.654)</td><td>(0.656)</td><td>(0.674)</td><td>(0.677)</td><td>(0.531)</td><td>(0.533)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>87</td><td>87</td><td>122</td><td>122</td><td>123</td><td>123</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.088</td><td>14.584</td><td>11.742</td><td>8.076</td><td>22.359</td><td>18.712</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-12.175</td><td>-3.168</td><td>0.516</td><td>9.848</td><td>-20.718</td><td>-11.424</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>16.105</td><td>27.302</td><td>33.244</td><td>45.188</td><td>12.116</td><td>24.032</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(wl2, wl3, ul2, ul3, ml2, ml3, out="listenwum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">List_wkly</td><td>0.002</td><td>0.001</td><td>-0.001</td><td>0.026^{***}</td><td>0.002</td><td>0.012^{**}</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.004)</td><td>(0.006)</td><td>(0.010)</td><td>(0.004)</td><td>(0.006)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.129^{**}</td><td>-0.136^{**}</td><td>0.051</td><td>0.137</td><td>0.334^{***}</td><td>0.379^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.045)</td><td>(0.046)</td><td>(0.113)</td><td>(0.082)</td><td>(0.050)</td><td>(0.043)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.498^{***}</td><td>0.477^{***}</td><td>0.687^{***}</td><td>0.816^{***}</td><td>0.390^{***}</td><td>0.442^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.122)</td><td>(0.125)</td><td>(0.156)</td><td>(0.155)</td><td>(0.089)</td><td>(0.090)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdys1ex</td><td>0.022</td><td>0.022</td><td>-0.112</td><td>-0.098</td><td>-0.027</td><td>-0.006</td></tr>
<tr><td style="text-align:left"></td><td>(0.084)</td><td>(0.084)</td><td>(0.104)</td><td>(0.102)</td><td>(0.060)</td><td>(0.059)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0004</td><td>0.0004</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.094^{***}</td><td>-0.098^{***}</td><td>0.051</td><td>0.053</td><td>-0.020</td><td>-0.017</td></tr>
<tr><td style="text-align:left"></td><td>(0.034)</td><td>(0.034)</td><td>(0.041)</td><td>(0.040)</td><td>(0.024)</td><td>(0.024)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>0.068</td><td>0.071</td><td>0.149^{**}</td><td>0.142^{**}</td><td>-0.024</td><td>-0.021</td></tr>
<tr><td style="text-align:left"></td><td>(0.053)</td><td>(0.053)</td><td>(0.066)</td><td>(0.064)</td><td>(0.039)</td><td>(0.038)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.087^{**}</td><td>0.090^{**}</td><td>-0.018</td><td>-0.015</td><td>-0.003</td><td>-0.012</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.041)</td><td>(0.052)</td><td>(0.049)</td><td>(0.030)</td><td>(0.029)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">List_wkly:CountryAustria</td><td></td><td>0.005</td><td></td><td>-0.041^{***}</td><td></td><td>-0.019^{**}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.008)</td><td></td><td>(0.012)</td><td></td><td>(0.008)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.949[*]</td><td>0.975[*]</td><td>0.397</td><td>0.250</td><td>0.255</td><td>0.329</td></tr>
<tr><td style="text-align:left"></td><td>(0.554)</td><td>(0.557)</td><td>(0.718)</td><td>(0.676)</td><td>(0.410)</td><td>(0.395)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>124</td><td>124</td><td>124</td><td>124</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>17.681</td><td>13.978</td><td>-7.698</td><td>-6.037</td><td>54.351</td><td>53.384</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-11.362</td><td>-1.956</td><td>39.395</td><td>38.073</td><td>-84.702</td><td>-80.768</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>21.378</td><td>33.613</td><td>72.335</td><td>73.644</td><td>-52.080</td><td>-45.544</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(os2, os3, es2, es3, as2, as3, out="speakoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Speak_wkly</td><td>0.006</td><td>0.007</td><td>-0.002</td><td>-0.001</td><td>0.006[*]</td><td>0.008</td></tr>
<tr><td style="text-align:left"></td><td>(0.005)</td><td>(0.006)</td><td>(0.004)</td><td>(0.007)</td><td>(0.003)</td><td>(0.006)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.015</td><td>-0.012</td><td>-0.042</td><td>-0.039</td><td>-0.210^{***}</td><td>-0.201^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.064)</td><td>(0.066)</td><td>(0.076)</td><td>(0.079)</td><td>(0.047)</td><td>(0.050)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.413^{***}</td><td>0.422^{***}</td><td>0.558^{***}</td><td>0.560^{***}</td><td>0.588^{***}</td><td>0.586^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.150)</td><td>(0.154)</td><td>(0.148)</td><td>(0.149)</td><td>(0.125)</td><td>(0.125)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdys1ex</td><td>0.025</td><td>0.026</td><td>0.111</td><td>0.112</td><td>0.058</td><td>0.058</td></tr>
<tr><td style="text-align:left"></td><td>(0.086)</td><td>(0.087)</td><td>(0.092)</td><td>(0.093)</td><td>(0.081)</td><td>(0.081)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0005</td><td>0.0004</td><td>0.003^{**}</td><td>0.003^{**}</td><td>0.002</td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.040</td><td>0.039</td><td>0.050</td><td>0.050</td><td>0.012</td><td>0.012</td></tr>
<tr><td style="text-align:left"></td><td>(0.037)</td><td>(0.037)</td><td>(0.037)</td><td>(0.037)</td><td>(0.033)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>0.010</td><td>0.009</td><td>0.045</td><td>0.046</td><td>0.044</td><td>0.045</td></tr>
<tr><td style="text-align:left"></td><td>(0.059)</td><td>(0.060)</td><td>(0.060)</td><td>(0.060)</td><td>(0.053)</td><td>(0.053)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.019</td><td>-0.018</td><td>-0.043</td><td>-0.043</td><td>0.073[*]</td><td>0.074[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.049)</td><td>(0.050)</td><td>(0.052)</td><td>(0.052)</td><td>(0.039)</td><td>(0.040)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Speak_wkly:CountryAustria</td><td></td><td>-0.003</td><td></td><td>-0.002</td><td></td><td>-0.003</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.011)</td><td></td><td>(0.008)</td><td></td><td>(0.007)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.864</td><td>0.856</td><td>0.750</td><td>0.749</td><td>-0.697</td><td>-0.710</td></tr>
<tr><td style="text-align:left"></td><td>(0.667)</td><td>(0.672)</td><td>(0.698)</td><td>(0.702)</td><td>(0.540)</td><td>(0.542)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>86</td><td>86</td><td>120</td><td>120</td><td>121</td><td>121</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>16.663</td><td>13.069</td><td>8.387</td><td>4.486</td><td>20.299</td><td>16.392</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-9.325</td><td>-0.138</td><td>7.227</td><td>17.028</td><td>-16.598</td><td>-6.783</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>18.801</td><td>30.161</td><td>39.741</td><td>52.134</td><td>16.024</td><td>28.441</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(ws2, ws3, us2, us3, ms2, ms3, out="speakwum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Speak_wkly</td><td>0.003</td><td>-0.005</td><td>-0.006</td><td>0.011</td><td>-0.005^{**}</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.006)</td><td>(0.004)</td><td>(0.007)</td><td>(0.002)</td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.123^{**}</td><td>-0.149^{**}</td><td>0.073</td><td>0.112</td><td>0.350^{***}</td><td>0.356^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.050)</td><td>(0.122)</td><td>(0.124)</td><td>(0.050)</td><td>(0.052)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.453^{***}</td><td>0.481^{***}</td><td>0.673^{***}</td><td>0.690^{***}</td><td>0.375^{***}</td><td>0.376^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.127)</td><td>(0.127)</td><td>(0.157)</td><td>(0.154)</td><td>(0.091)</td><td>(0.091)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdys1ex</td><td>0.023</td><td>0.017</td><td>-0.097</td><td>-0.097</td><td>-0.023</td><td>-0.024</td></tr>
<tr><td style="text-align:left"></td><td>(0.082)</td><td>(0.082)</td><td>(0.102)</td><td>(0.100)</td><td>(0.059)</td><td>(0.059)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.001</td><td>0.0005</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.094^{***}</td><td>-0.094^{***}</td><td>0.062</td><td>0.069[*]</td><td>-0.013</td><td>-0.012</td></tr>
<tr><td style="text-align:left"></td><td>(0.034)</td><td>(0.034)</td><td>(0.039)</td><td>(0.039)</td><td>(0.023)</td><td>(0.024)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">LInot majority L</td><td>0.054</td><td>0.055</td><td>0.156^{**}</td><td>0.168^{**}</td><td>-0.047</td><td>-0.046</td></tr>
<tr><td style="text-align:left"></td><td>(0.054)</td><td>(0.054)</td><td>(0.066)</td><td>(0.066)</td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.087^{**}</td><td>0.088^{**}</td><td>-0.033</td><td>-0.039</td><td>0.004</td><td>0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.040)</td><td>(0.051)</td><td>(0.051)</td><td>(0.029)</td><td>(0.029)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Speak_wkly:CountryAustria</td><td></td><td>0.010</td><td></td><td>-0.021^{**}</td><td></td><td>-0.004</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.007)</td><td></td><td>(0.009)</td><td></td><td>(0.005)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.958[*]</td><td>0.945[*]</td><td>0.597</td><td>0.632</td><td>0.171</td><td>0.179</td></tr>
<tr><td style="text-align:left"></td><td>(0.551)</td><td>(0.549)</td><td>(0.706)</td><td>(0.701)</td><td>(0.396)</td><td>(0.399)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>122</td><td>122</td><td>122</td><td>122</td><td>119</td><td>119</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.411</td><td>15.340</td><td>-5.631</td><td>-6.782</td><td>55.814</td><td>53.771</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-12.823</td><td>-4.680</td><td>35.262</td><td>39.564</td><td>-87.627</td><td>-77.542</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>19.906</td><td>30.660</td><td>67.991</td><td>74.904</td><td>-55.222</td><td>-42.555</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(osi2, osi3, esi2, esi3, asi2, asi3, out="singoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Sing_wkly</td><td>-0.002</td><td>0.002</td><td>-0.002</td><td>-0.003</td><td>-0.002</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.072</td><td>-0.003</td><td>-0.058</td><td>-0.063</td><td>-0.227^{***}</td><td>-0.221^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.054)</td><td>(0.066)</td><td>(0.068)</td><td>(0.071)</td><td>(0.049)</td><td>(0.052)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.514^{***}</td><td>0.457^{***}</td><td>0.589^{***}</td><td>0.594^{***}</td><td>0.660^{***}</td><td>0.654^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.139)</td><td>(0.138)</td><td>(0.142)</td><td>(0.144)</td><td>(0.121)</td><td>(0.123)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.007</td><td>0.017</td><td>0.103</td><td>0.103</td><td>0.062</td><td>0.064</td></tr>
<tr><td style="text-align:left"></td><td>(0.086)</td><td>(0.084)</td><td>(0.091)</td><td>(0.092)</td><td>(0.081)</td><td>(0.082)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>-0.0001</td><td>0.0001</td><td>0.003^{**}</td><td>0.003^{**}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.031</td><td>0.027</td><td>0.039</td><td>0.040</td><td>0.013</td><td>0.012</td></tr>
<tr><td style="text-align:left"></td><td>(0.039)</td><td>(0.038)</td><td>(0.038)</td><td>(0.038)</td><td>(0.034)</td><td>(0.034)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.015</td><td>0.017</td><td>0.056</td><td>0.056</td><td>0.045</td><td>0.045</td></tr>
<tr><td style="text-align:left"></td><td>(0.057)</td><td>(0.055)</td><td>(0.058)</td><td>(0.058)</td><td>(0.051)</td><td>(0.052)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.003</td><td>-0.001</td><td>-0.037</td><td>-0.038</td><td>0.078[*]</td><td>0.078[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.049)</td><td>(0.048)</td><td>(0.052)</td><td>(0.053)</td><td>(0.040)</td><td>(0.040)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Sing_wkly:CountryAustria</td><td></td><td>-0.010^{**}</td><td></td><td>0.001</td><td>-0.002</td></tr>
<tr><td style="text-align:left"></td><td>(0.005)</td><td></td><td>(0.006)</td><td></td><td>(0.005)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.627</td><td>0.648</td><td>0.682</td><td>0.687</td><td>-0.741</td><td>-0.740</td></tr>
<tr><td style="text-align:left"></td><td>(0.669)</td><td>(0.648)</td><td>(0.702)</td><td>(0.706)</td><td>(0.542)</td><td>(0.545)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>88</td><td>88</td><td>122</td><td>122</td><td>124</td><td>124</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>17.201</td><td>14.393</td><td>9.480</td><td>5.243</td><td>21.012</td><td>16.700</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-10.403</td><td>-2.785</td><td>5.041</td><td>15.515</td><td>-18.023</td><td>-7.399</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>18.031</td><td>27.852</td><td>37.769</td><td>50.855</td><td>14.916</td><td>28.171</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(wsi2, wsi3, usi2, usi3, msi2, msi3, out="singwum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Sing_wkly</td><td>-0.001</td><td>-0.001</td><td>-0.002</td><td>-0.0001</td><td>0.001</td><td>0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.003)</td><td>(0.003)</td><td>(0.004)</td><td>(0.002)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.144^{**}</td><td>-0.150^{**}</td><td>0.052</td><td>0.072</td><td>0.324^{***}</td><td>0.344^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.046)</td><td>(0.049)</td><td>(0.122)</td><td>(0.124)</td><td>(0.054)</td><td>(0.055)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.533^{***}</td><td>0.542^{***}</td><td>0.684^{***}</td><td>0.670^{***}</td><td>0.400^{***}</td><td>0.386^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.124)</td><td>(0.126)</td><td>(0.151)</td><td>(0.152)</td><td>(0.090)</td><td>(0.091)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.019</td><td>0.021</td><td>-0.101</td><td>-0.104</td><td>-0.026</td><td>-0.029</td></tr>
<tr><td style="text-align:left"></td><td>(0.084)</td><td>(0.084)</td><td>(0.101)</td><td>(0.102)</td><td>(0.060)</td><td>(0.060)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0001</td><td>0.0003</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.088^{**}</td><td>0.087^{**}</td><td>0.048</td><td>0.043</td><td>-0.017</td><td>-0.021</td></tr>
<tr><td style="text-align:left"></td><td>(0.035)</td><td>(0.036)</td><td>(0.041)</td><td>(0.041)</td><td>(0.025)</td><td>(0.025)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.071</td><td>0.070</td><td>0.167^{**}</td><td>0.168^{**}</td><td>-0.025</td><td>-0.023</td></tr>
<tr><td style="text-align:left"></td><td>(0.053)</td><td>(0.053)</td><td>(0.064)</td><td>(0.064)</td><td>(0.039)</td><td>(0.038)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.092^{**}</td><td>0.091^{**}</td><td>-0.034</td><td>-0.030</td><td>-0.005</td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.041)</td><td>(0.041)</td><td>(0.052)</td><td>(0.052)</td><td>(0.030)</td><td>(0.030)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Sing_wkly:CountryAustria</td><td></td><td>0.002</td><td></td><td>-0.006</td><td></td><td>-0.005</td></tr>
<tr><td style="text-align:left"></td><td>(0.005)</td><td></td><td>(0.006)</td><td></td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>-0.510</td><td>-0.988[*]</td><td>0.619</td><td>0.569</td><td>0.287</td><td>0.231</td></tr>
<tr><td style="text-align:left"></td><td>(0.562)</td><td>(0.565)</td><td>(0.710)</td><td>(0.712)</td><td>(0.416)</td><td>(0.414)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>125</td><td>125</td><td>125</td><td>125</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>16.773</td><td>12.510</td><td>-5.205</td><td>-8.968</td><td>54.084</td><td>50.351</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-9.546</td><td>0.980</td><td>34.410</td><td>43.936</td><td>-84.167</td><td>-74.701</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>23.497</td><td>36.664</td><td>67.453</td><td>79.620</td><td>-51.439</td><td>-39.361</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(owa2, owa3, ewa2, ewa3, awa2, awa3, out="watchoea.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">watch_wkly</td><td>0.005</td><td>0.009^{**}</td><td>0.003</td><td>0.011^{**}</td><td>0.004</td><td>0.007[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.004)</td><td>(0.003)</td><td>(0.005)</td><td>(0.003)</td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.017</td><td>0.047</td><td>-0.023</td><td>0.058</td><td>-0.174^{**}</td><td>-0.132[*]</td></tr>
<tr><td style="text-align:left"></td><td>(0.057)</td><td>(0.066)</td><td>(0.071)</td><td>(0.082)</td><td>(0.051)</td><td>(0.063)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.460^{***}</td><td>0.453^{***}</td><td>0.571^{***}</td><td>0.573^{***}</td><td>0.593^{***}</td><td>0.578^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.137)</td><td>(0.135)</td><td>(0.139)</td><td>(0.136)</td><td>(0.122)</td><td>(0.122)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.011</td><td>-0.006</td><td>0.115</td><td>0.108</td><td>0.064</td><td>0.066</td></tr>
<tr><td style="text-align:left"></td><td>(0.085)</td><td>(0.085)</td><td>(0.090)</td><td>(0.088)</td><td>(0.079)</td><td>(0.079)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0001</td><td>-0.00003</td><td>0.003^{**}</td><td>0.003^{**}</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.039</td><td>0.051</td><td>0.038</td><td>0.047</td><td>0.014</td><td>0.019</td></tr>
<tr><td style="text-align:left"></td><td>(0.037)</td><td>(0.036)</td><td>(0.035)</td><td>(0.035)</td><td>(0.032)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>-0.006</td><td>-0.009</td><td>0.058</td><td>0.045</td><td>0.046</td><td>0.044</td></tr>
<tr><td style="text-align:left"></td><td>(0.059)</td><td>(0.057)</td><td>(0.058)</td><td>(0.057)</td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.022</td><td>-0.004</td><td>-0.052</td><td>-0.038</td><td>0.058</td><td>0.055</td></tr>
<tr><td style="text-align:left"></td><td>(0.049)</td><td>(0.049)</td><td>(0.051)</td><td>(0.050)</td><td>(0.041)</td><td>(0.041)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">watch_wkly:CountryAustria</td><td></td><td>-0.012[*]</td><td></td><td>-0.014^{**}</td><td></td><td>-0.006</td></tr>
<tr><td style="text-align:left"></td><td>(0.007)</td><td></td><td>(0.006)</td><td></td><td>(0.005)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.911</td><td>0.627</td><td>0.852</td><td>0.601</td><td>-0.513</td><td>-0.495</td></tr>
<tr><td style="text-align:left"></td><td>(0.659)</td><td>(0.661)</td><td>(0.686)</td><td>(0.676)</td><td>(0.552)</td><td>(0.552)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>87</td><td>87</td><td>121</td><td>121</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.377</td><td>15.971</td><td>11.546</td><td>9.956</td><td>22.514</td><td>18.861</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-12.755</td><td>-5.942</td><td>0.909</td><td>6.089</td><td>-21.028</td><td>-11.721</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>15.526</td><td>24.527</td><td>33.531</td><td>41.313</td><td>11.700</td><td>23.619</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(wwa2, wwa3, uwa2, uwa3, mwa2, mwa3, out="watchwum.html",type="html")
```

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6">Dependent variable:</td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">watch_wkly</td><td>0.002</td><td>0.003</td><td>-0.004</td><td>0.012^{**}</td><td>-0.003</td><td>0.005</td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.004)</td><td>(0.006)</td><td>(0.002)</td><td>(0.003)</td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">CountryAustria</td><td>-0.111[*]</td><td>-0.094</td><td>0.033</td><td>0.252[*]</td><td>0.305^{***}</td><td>0.412^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.053)</td><td>(0.066)</td><td>(0.133)</td><td>(0.104)</td><td>(0.054)</td><td>(0.059)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.479^{***}</td><td>0.472^{***}</td><td>0.693^{***}</td><td>0.647^{***}</td><td>0.427^{***}</td><td>0.383^{***}</td></tr>
<tr><td style="text-align:left"></td><td>(0.128)</td><td>(0.129)</td><td>(0.156)</td><td>(0.152)</td><td>(0.092)</td><td>(0.090)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.027</td><td>0.028</td><td>-0.094</td><td>-0.137</td><td>-0.030</td><td>-0.034</td></tr>
<tr><td style="text-align:left"></td><td>(0.083)</td><td>(0.084)</td><td>(0.102)</td><td>(0.099)</td><td>(0.060)</td><td>(0.058)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0005</td><td>0.0005</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.091^{***}</td><td>-0.089^{**}</td><td>0.055</td><td>0.070[*]</td><td>-0.018</td><td>-0.009</td></tr>
<tr><td style="text-align:left"></td><td>(0.034)</td><td>(0.034)</td><td>(0.039)</td><td>(0.039)</td><td>(0.024)</td><td>(0.023)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.073</td><td>0.072</td><td>0.171^{***}</td><td>0.156^{***}</td><td>-0.022</td><td>-0.016</td></tr>
<tr><td style="text-align:left"></td><td>(0.054)</td><td>(0.054)</td><td>(0.065)</td><td>(0.063)</td><td>(0.039)</td><td>(0.037)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.078[*]</td><td>0.076[*]</td><td>-0.030</td><td>-0.0001</td><td>0.008</td><td>0.009</td></tr>
<tr><td style="text-align:left"></td><td>(0.041)</td><td>(0.041)</td><td>(0.053)</td><td>(0.050)</td><td>(0.031)</td><td>(0.030)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">watch_wkly:CountryAustria</td><td></td><td>-0.002</td><td></td><td>-0.025^{***}</td><td></td><td>-0.014^{***}</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.006)</td><td></td><td>(0.007)</td><td></td><td>(0.004)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>-0.839</td><td>-0.831</td><td>0.582</td><td>0.019</td><td>0.123</td><td>0.058</td></tr>
<tr><td style="text-align:left"></td><td>(0.580)</td><td>(0.582)</td><td>(0.723)</td><td>(0.680)</td><td>(0.422)</td><td>(0.402)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>123</td><td>123</td><td>123</td><td>123</td><td>120</td><td>120</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>17.238</td><td>13.073</td><td>-5.886</td><td>-4.453</td><td>53.576</td><td>54.100</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-10.476</td><td>-0.146</td><td>35.772</td><td>34.906</td><td>-83.151</td><td>-82.200</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>22.358</td><td>35.310</td><td>68.606</td><td>70.362</td><td>-50.637</td><td>-47.094</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Note:</td><td colspan="6" style="text-align:right">[*]p<0.1; ^{**}p<0.05; ^{***}p<0.01</td></tr>
</table>

```
> stargazer(og2, og3, eg2, eg3, ag2, ag3, out="gameoea.html",type="html")

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6"><em>Dependent variable:</em></td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Game_wkly</td><td>0.005<sup>*</sup></td><td>0.006<sup>**</sup></td><td>0.006<sup>**</sup></td><td>0.013<sup>***</sup></td><td>0.005<sup>**</sup></td><td>0.010<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.057</td><td>0.061</td><td>0.068</td><td>0.069</td><td>0.045</td><td>0.050</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.437<sup>***</sup></td><td>0.451<sup>***</sup></td><td>0.513<sup>***</sup></td><td>0.536<sup>***</sup></td><td>0.591<sup>***</sup></td><td>0.601<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.134)</td><td>(0.136)</td><td>(0.136)</td><td>(0.132)</td><td>(0.118)</td><td>(0.115)</td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.013</td><td>0.015</td><td>0.099</td><td>0.101</td><td>0.045</td><td>0.051</td></tr>
<tr><td style="text-align:left"></td><td>(0.084)</td><td>(0.089)</td><td>(0.086)</td><td>(0.080)</td><td>(0.078)</td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0003</td><td>0.0004</td><td>0.004<sup>***</sup></td><td>0.004<sup>***</sup></td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.0003</td><td>0.006</td><td>-0.003</td><td>0.013</td><td>-0.026</td><td>-0.014</td></tr>
<tr><td style="text-align:left"></td><td>(0.042)</td><td>(0.043)</td><td>(0.041)</td><td>(0.040)</td><td>(0.038)</td><td>(0.037)</td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.017</td><td>0.017</td><td>0.050</td><td>0.043</td><td>0.043</td><td>0.038</td></tr>
<tr><td style="text-align:left"></td><td>(0.055)</td><td>(0.056)</td><td>(0.055)</td><td>(0.050)</td><td>(0.050)</td></tr>
<tr><td style="text-align:left">Age</td><td>-0.007</td><td>-0.009</td><td>-0.034</td><td>-0.036</td><td>0.086<sup>**</sup></td><td>0.083<sup>**</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.047)</td><td>(0.048)</td><td>(0.050)</td><td>(0.048)</td><td>(0.039)</td><td>(0.038)</td></tr>
<tr><td style="text-align:left">Game_wkly:Countryaustria</td><td></td><td></td><td>-0.004</td><td></td><td>-0.014<sup>***</sup></td><td></td><td>-0.010<sup>**</sup></td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.005)</td><td></td><td>(0.005)</td><td></td><td></td><td>(0.004)</td></tr>
<tr><td style="text-align:left">Constant</td><td>0.708</td><td>0.714</td><td>0.619</td><td>0.578</td><td>0.860</td><td>0.867</td></tr>
<tr><td style="text-align:left"></td><td>(0.643)</td><td>(0.645)</td><td>(0.671)</td><td>(0.652)</td><td>(0.533)</td><td>(0.526)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>88</td><td>88</td><td>123</td><td>123</td><td>124</td><td>124</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.774</td><td>14.662</td><td>12.158</td><td>12.217</td><td>22.449</td><td>20.581</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-13.548</td><td>-3.324</td><td>-0.315</td><td>1.566</td><td>-20.898</td><td>-15.162</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>14.885</td><td>27.313</td><td>32.519</td><td>37.022</td><td>12.042</td><td>20.408</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"><em>Note:</em></td><td colspan="6" style="text-align:right"><sup>*</sup>p<0.1; <sup>**</sup>p<0.05; <sup>***</sup>p<0.01</td></tr>
</table>
```

```
> stargazer(wg2, wg3, ug2, ug3, mg2, mg3, out="gamewum.html",type="html")

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6"><em>Dependent variable:</em></td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Game_wkly</td><td>-0.001</td><td>-0.003</td><td>0.006<sup>*</sup></td><td>0.015<sup>***</sup></td><td>-0.00005</td><td>0.005<sup>**</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.003)</td><td>(0.003)</td><td>(0.003)</td><td>(0.004)</td><td>(0.002)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Countryaustria</td><td>-0.136<sup>***</sup></td><td>-0.156<sup>**</sup></td><td>0.063</td><td>0.140</td><td>0.331<sup>***</sup></td><td>0.385<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.046)</td><td>(0.050)</td><td>(0.116)</td><td>(0.111)</td><td>(0.051)</td><td>(0.049)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.504<sup>***</sup></td><td>0.500<sup>***</sup></td><td>0.619<sup>***</sup></td><td>0.648<sup>***</sup></td><td>0.402<sup>***</sup></td><td>0.429<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.122)</td><td>(0.122)</td><td>(0.152)</td><td>(0.145)</td><td>(0.090)</td><td>(0.084)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.022</td><td>0.021</td><td>-0.133</td><td>-0.148</td><td>-0.028</td><td>-0.021</td></tr>
<tr><td style="text-align:left"></td><td>(0.083)</td><td>(0.083)</td><td>(0.103)</td><td>(0.098)</td><td>(0.060)</td><td>(0.057)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0004</td><td>0.0004</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.085<sup>**</sup></td><td>-0.090<sup>**</sup></td><td>0.010</td><td>0.031</td><td>-0.019</td><td>-0.006</td></tr>
<tr><td style="text-align:left"></td><td>(0.039)</td><td>(0.040)</td><td>(0.047)</td><td>(0.046)</td><td>(0.029)</td><td>(0.028)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.073</td><td>0.075</td><td>0.158<sup>**</sup></td><td>0.151<sup>**</sup></td><td>-0.022</td><td>-0.029</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.053)</td><td>(0.065)</td><td>(0.064)</td><td>(0.039)</td><td>(0.037)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.086<sup>**</sup></td><td>0.086<sup>**</sup></td><td>-0.014</td><td>-0.015</td><td>-0.003</td><td>-0.006</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.040)</td><td>(0.052)</td><td>(0.050)</td><td>(0.030)</td><td>(0.028)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Game_wkly:Countryaustria</td><td></td><td>0.005</td><td></td><td>-0.017<sup>***</sup></td><td></td><td>-0.012<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.004)</td><td></td><td>(0.005)</td><td></td><td>(0.003)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>-0.930<sup>*</sup></td><td>-0.913</td><td>0.345</td><td>0.284</td><td>0.253</td><td>0.227</td></tr>
<tr><td style="text-align:left"></td><td>(0.555)</td><td>(0.555)</td><td>(0.715)</td><td>(0.698)</td><td>(0.412)</td><td>(0.391)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>125</td><td>125</td><td>125</td><td>125</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>18.067</td><td>14.094</td><td>-6.293</td><td>-6.059</td><td>54.450</td><td>56.275</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-12.135</td><td>-2.188</td><td>36.585</td><td>38.119</td><td>-84.899</td><td>-86.551</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>20.909</td><td>33.496</td><td>69.629</td><td>73.803</td><td>-52.170</td><td>-51.210</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"><em>Note:</em></td><td colspan="6" style="text-align:right"><sup>*</sup>p<0.1; <sup>**</sup>p<0.05; <sup>***</sup>p<0.01</td></tr>
</table>
```

```
> stargazer(olm2, olm3, elm2, elm3, alm2, alm3, out="musicoea.html",type="html")

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6"><em>Dependent variable:</em></td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">ONT</td><td colspan="2">EIT</td><td colspan="2">ATGJT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Listmu_wkly</td><td>-0.001</td><td>0.004</td><td>0.0003</td><td>-0.0001</td><td>0.002</td><td>0.002</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.003)</td><td>(0.002)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Countryaustria</td><td>-0.056</td><td>0.018</td><td>-0.050</td><td>-0.057</td><td>-0.211<sup>***</sup></td><td>-0.214<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.054)</td><td>(0.071)</td><td>(0.071)</td><td>(0.078)</td><td>(0.049)</td><td>(0.055)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.498<sup>***</sup></td><td>0.438<sup>***</sup></td><td>0.561<sup>***</sup></td><td>0.564<sup>***</sup></td><td>0.588<sup>***</sup></td><td>0.589<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.140)</td><td>(0.142)</td><td>(0.143)</td><td>(0.144)</td><td>(0.122)</td><td>(0.123)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.016</td><td>0.033</td><td>0.109</td><td>0.106</td><td>0.063</td><td>0.062</td></tr>
<tr><td style="text-align:left"></td><td>(0.086)</td><td>(0.085)</td><td>(0.098)</td><td>(0.092)</td><td>(0.081)</td><td>(0.082)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>-0.00002</td><td>0.0004</td><td>0.003<sup>**</sup></td><td>0.003<sup>**</sup></td><td>0.002</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>0.037</td><td>0.042</td><td>0.046</td><td>0.046</td><td>0.025</td><td>0.025</td></tr>
<tr><td style="text-align:left"></td><td>(0.038)</td><td>(0.037)</td><td>(0.037)</td><td>(0.037)</td><td>(0.033)</td><td>(0.033)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.013</td><td>0.014</td><td>0.048</td><td>0.047</td><td>0.040</td><td>0.040</td></tr>
<tr><td style="text-align:left"></td><td>(0.057)</td><td>(0.055)</td><td>(0.058)</td><td>(0.058)</td><td>(0.051)</td><td>(0.051)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>-0.007</td><td>-0.020</td><td>-0.041</td><td>-0.039</td><td>0.072<sup>*</sup></td><td>0.073<sup>*</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.049)</td><td>(0.048)</td><td>(0.051)</td><td>(0.052)</td><td>(0.039)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Listmu_wkly:Countryaustria</td><td></td><td>-0.006</td><td></td><td>0.001</td><td></td><td>0.0003</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.004)</td><td></td><td>(0.003)</td><td></td><td>(0.003)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>0.738</td><td>0.862</td><td>0.722</td><td>0.703</td><td>-0.684</td><td>-0.689</td></tr>
<tr><td style="text-align:left"></td><td>(0.660)</td><td>(0.647)</td><td>(0.686)</td><td>(0.695)</td><td>(0.537)</td><td>(0.540)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>88</td><td>88</td><td>123</td><td>123</td><td>124</td><td>124</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>16.614</td><td>13.013</td><td>9.043</td><td>4.227</td><td>20.762</td><td>15.830</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-9.228</td><td>-0.026</td><td>5.915</td><td>17.546</td><td>-17.523</td><td>-5.659</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>19.205</td><td>30.611</td><td>38.749</td><td>53.002</td><td>15.416</td><td>29.911</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"><em>Note:</em></td><td colspan="6" style="text-align:right"><sup>*</sup>p<0.1; <sup>**</sup>p<0.05; <sup>***</sup>p<0.01</td></tr>
</table>
```

```
> stargazer(wlm2, wlm3, ulm2, ulm3, mlm2, mlm3, out="musicwum.html",type="html")

<table style="text-align:center"><tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"></td><td colspan="6"><em>Dependent variable:</em></td></tr>
<tr><td></td><td colspan="6" style="border-bottom: 1px solid black"></td></tr>
<tr><td style="text-align:left"></td><td colspan="2">WTGJT</td><td colspan="2">UGJT</td><td colspan="2">MKT</td></tr>
<tr><td style="text-align:left"></td><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Listmu_wkly</td><td>0.001</td><td>0.002</td><td>0.003</td><td>0.005<sup>**</sup></td><td>-0.001</td><td>-0.0002</td></tr>
<tr><td style="text-align:left"></td><td>(0.002)</td><td>(0.002)</td><td>(0.003)</td><td>(0.001)</td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Countryaustria</td><td>-0.128<sup>**</sup></td><td>-0.115<sup>*</sup></td><td>0.064</td><td>0.098</td><td>0.331<sup>***</sup></td><td>0.337<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.045)</td><td>(0.052)</td><td>(0.122)</td><td>(0.134)</td><td>(0.050)</td><td>(0.053)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Ctest</td><td>0.475<sup>***</sup></td><td>0.471<sup>***</sup></td><td>0.606<sup>***</sup></td><td>0.584<sup>***</sup></td><td>0.414<sup>***</sup></td><td>0.411<sup>***</sup></td></tr>
<tr><td style="text-align:left"></td><td>(0.125)</td><td>(0.125)</td><td>(0.155)</td><td>(0.155)</td><td>(0.091)</td><td>(0.091)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Dyslexdyslex</td><td>0.021</td><td>0.024</td><td>-0.110</td><td>-0.098</td><td>-0.026</td><td>-0.025</td></tr>
<tr><td style="text-align:left"></td><td>(0.083)</td><td>(0.083)</td><td>(0.103)</td><td>(0.102)</td><td>(0.060)</td><td>(0.060)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">HISEI</td><td>0.0005</td><td>0.001</td><td>0.002</td><td>0.002</td><td>0.001</td><td>0.001</td></tr>
<tr><td style="text-align:left"></td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td><td>(0.001)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Genderboy</td><td>-0.088<sup>**</sup></td><td>-0.087<sup>**</sup></td><td>0.064</td><td>0.065</td><td>-0.023</td><td>-0.022</td></tr>
<tr><td style="text-align:left"></td><td>(0.034)</td><td>(0.034)</td><td>(0.040)</td><td>(0.040)</td><td>(0.024)</td><td>(0.025)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Linot majority L</td><td>0.074</td><td>0.077</td><td>0.154<sup>*</sup></td><td>0.160<sup>**</sup></td><td>-0.023</td><td>-0.022</td></tr>
<tr><td style="text-align:left"></td><td>(0.052)</td><td>(0.053)</td><td>(0.064)</td><td>(0.064)</td><td>(0.038)</td><td>(0.039)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Age</td><td>0.086<sup>**</sup></td><td>0.085<sup>**</sup></td><td>-0.032</td><td>-0.044</td><td>-0.002</td><td>-0.003</td></tr>
<tr><td style="text-align:left"></td><td>(0.040)</td><td>(0.040)</td><td>(0.051)</td><td>(0.052)</td><td>(0.030)</td><td>(0.030)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Listmu_wkly:Countryaustria</td><td></td><td>-0.002</td><td></td><td>-0.004</td><td></td><td>-0.001</td></tr>
<tr><td style="text-align:left"></td><td></td><td>(0.003)</td><td></td><td>(0.003)</td><td></td><td>(0.002)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td style="text-align:left">Constant</td><td>-0.943<sup>*</sup></td><td>-0.933</td><td>0.566</td><td>0.713</td><td>0.237</td><td>0.249</td></tr>
<tr><td style="text-align:left"></td><td>(0.552)</td><td>(0.554)</td><td>(0.710)</td><td>(0.714)</td><td>(0.409)</td><td>(0.411)</td></tr>
<tr><td style="text-align:left"></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left">Observations</td><td>125</td><td>125</td><td>125</td><td>125</td><td>122</td><td>122</td></tr>
<tr><td style="text-align:left">Log Likelihood</td><td>17.713</td><td>12.941</td><td>-7.017</td><td>-11.099</td><td>54.009</td><td>48.835</td></tr>
<tr><td style="text-align:left">Akaike Inf. Crit.</td><td>-11.425</td><td>0.118</td><td>38.035</td><td>48.197</td><td>-84.018</td><td>-71.670</td></tr>
<tr><td style="text-align:left">Bayesian Inf. Crit.</td><td>21.618</td><td>35.802</td><td>71.078</td><td>83.881</td><td>-51.289</td><td>-36.329</td></tr>
<tr><td colspan="7" style="border-bottom: 1px solid black"></td></tr><tr><td style="text-align:left"><em>Note:</em></td><td colspan="6" style="text-align:right"><sup>*</sup>p<0.1; <sup>**</sup>p<0.05; <sup>***</sup>p<0.01</td></tr>
</table>
```

6 Graphs

```
> # Graphs
>
> # overall, country
>
> plot_model(o2, col=c("brown4","aquamarine3"))#350x340
> plot_model(e2, col=c("brown4","aquamarine3"))
> plot_model(a2, col=c("brown4","aquamarine3"))
> plot_model(w2, col=c("brown4","aquamarine3"))
> plot_model(u2, col=c("brown4","aquamarine3"))
> plot_model(m2, col=c("brown4","aquamarine3"))
> # overall, school type
>
> plot_model(os, col=c("brown4","aquamarine3"))#400x340
> plot_model(es, col=c("brown4","aquamarine3"))
> plot_model(as, col=c("brown4","aquamarine3"))
> plot_model(ws, col=c("brown4","aquamarine3"))
> plot_model(us, col=c("brown4","aquamarine3"))
> plot_model(ms, col=c("brown4","aquamarine3"))
> # interactions, country
>
> p <- plot_model(o3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5)) #910x800
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + font_size(labels.x = 13, labels.y = 13, axis_title.x = 13,axis_title.y = 13)
> p + theme_sjplot2(base_size = 30)
> p + theme_sjplot(base_size = 30)
> p <- plot_model(e3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(a3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(w3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(u3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(m3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> # interactions, school type
```

```
>
> p <- plot_model(o6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5)) #1030x790
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(e6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(a6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(w6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(u6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(m6,"int",col=c("chocolate1","navy","steelblue1"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
```

```
> #read
>
> p <- plot_model(or3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(er3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ar3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wr3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ur3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(mr3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> #write
>
> p <- plot_model(ow3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ew3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(aw3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ww3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(uw3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(mw3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.5,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> #listen
```

```
> #listen
>
> p <- plot_model(ol3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(el3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(al3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wl3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ul3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ml3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> #speak
>
> p <- plot_model(os3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(es3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(as3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ws3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(us3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ms3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
```

```
> #sing
>
> p <- plot_model(osi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(esi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(asi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wsi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(usi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(msi3,"int",col=c("chocolate1","royalblue"),axis.lim=c(-0.25,1.25))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> #game
>
> p <- plot_model(og3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5)) #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(eg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ag3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ug3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(mg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
```

```
> #game
>
> p <- plot_model(og3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5)) #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(eg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ag3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ug3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(mg3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> #music
>
> p <- plot_model(olm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))  #920x820
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(elm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(alm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(wlm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(ulm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
> p <- plot_model(mlm3,"int",col=c("chocolate1","royalblue"),axis.lim=c(0,1.5))
Scale for 'y' is already present. Adding another scale for 'y', which will replace the existing scale.
> p + theme_sjplot2(base_size = 30)
```

7 Testing Assumptions

```
> ######################################################
> ############## Testing Assumptions ###################
> ######################################################
>
> # 1. Normal distribution of the residuals
> # 2. Absence of multicollinearity
> # 3. Homoscedasticity
> # 4. Linear relationship of dependent and independent variables
>
> # 1. Normal distribution (Hist)
> # given for all tests more or less and also still acceptable for MKT, but for ont very much left skewed
>
> hist(o3$residuals,freq=FALSE)
> curve(dnorm(x,mean(o3$residuals),sd(o3$residuals)),col="red",lwd=2,add=TRUE)
> hist(o6$residuals,freq=FALSE)
> curve(dnorm(x,mean(o6$residuals),sd(o6$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(e3$residuals,freq=FALSE)
> curve(dnorm(x,mean(e3$residuals),sd(e3$residuals)),col="red",lwd=2,add=TRUE)
> hist(e6$residuals,freq=FALSE)
> curve(dnorm(x,mean(e6$residuals),sd(e6$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(a3$residuals,freq=FALSE)
> curve(dnorm(x,mean(a3$residuals),sd(a3$residuals)),col="red",lwd=2,add=TRUE)
> hist(a6$residuals,freq=FALSE)
> curve(dnorm(x,mean(a6$residuals),sd(a6$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(w3$residuals,freq=FALSE)
> curve(dnorm(x,mean(w3$residuals),sd(w3$residuals)),col="red",lwd=2,add=TRUE)
> hist(w6$residuals,freq=FALSE)
> curve(dnorm(x,mean(w6$residuals),sd(w6$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(u3$residuals,freq=FALSE)
> curve(dnorm(x,mean(u3$residuals),sd(u3$residuals)),col="red",lwd=2,add=TRUE)
> hist(u6$residuals,freq=FALSE)
> curve(dnorm(x,mean(u6$residuals),sd(u6$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(m3$residuals,freq=FALSE)
> curve(dnorm(x,mean(m3$residuals),sd(m3$residuals)),col="red",lwd=2,add=TRUE)
> hist(m6$residuals,freq=FALSE)
> curve(dnorm(x,mean(m6$residuals),sd(m6$residuals)),col="red",lwd=2,add=TRUE)
```

```
> # individual act models
>
> hist(or3$residuals,freq=FALSE)
> curve(dnorm(x,mean(or3$residuals),sd(or3$residuals)),col="red",lwd=2,add=TRUE)
> hist(er3$residuals,freq=FALSE)
> curve(dnorm(x,mean(er3$residuals),sd(er3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ar3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ar3$residuals),sd(ar3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wr3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wr3$residuals),sd(wr3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ur3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ur3$residuals),sd(ur3$residuals)),col="red",lwd=2,add=TRUE)
> hist(mr3$residuals,freq=FALSE)
> curve(dnorm(x,mean(mr3$residuals),sd(mr3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(ow3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ow3$residuals),sd(ow3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ew3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ew3$residuals),sd(ew3$residuals)),col="red",lwd=2,add=TRUE)
> hist(aw3$residuals,freq=FALSE)
> curve(dnorm(x,mean(aw3$residuals),sd(aw3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ww3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ww3$residuals),sd(ww3$residuals)),col="red",lwd=2,add=TRUE)
> hist(uw3$residuals,freq=FALSE)
> curve(dnorm(x,mean(uw3$residuals),sd(uw3$residuals)),col="red",lwd=2,add=TRUE)
> hist(mw3$residuals,freq=FALSE)
> curve(dnorm(x,mean(mw3$residuals),sd(mw3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(al3$residuals,freq=FALSE)
> curve(dnorm(x,mean(al3$residuals),sd(al3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wl3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wl3$residuals),sd(wl3$residuals)),col="red",lwd=2,add=TRUE)
> hist(el3$residuals,freq=FALSE)
> curve(dnorm(x,mean(el3$residuals),sd(el3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ol3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ol3$residuals),sd(ol3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ul3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ul3$residuals),sd(ul3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ml3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ml3$residuals),sd(ml3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(as3$residuals,freq=FALSE)
> curve(dnorm(x,mean(a3$residuals),sd(as3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ws3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ws3$residuals),sd(ws3$residuals)),col="red",lwd=2,add=TRUE)
> hist(es3$residuals,freq=FALSE)
> curve(dnorm(x,mean(es3$residuals),sd(es3$residuals)),col="red",lwd=2,add=TRUE)
> hist(os3$residuals,freq=FALSE)
> curve(dnorm(x,mean(os3$residuals),sd(os3$residuals)),col="red",lwd=2,add=TRUE)
> hist(us3$residuals,freq=FALSE)
> curve(dnorm(x,mean(us3$residuals),sd(us3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ms3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ms3$residuals),sd(ms3$residuals)),col="red",lwd=2,add=TRUE)
```

```
>
> hist(asi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(asi3$residuals),sd(asi3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wsi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wsi3$residuals),sd(wsi3$residuals)),col="red",lwd=2,add=TRUE)
> hist(esi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(esi3$residuals),sd(esi3$residuals)),col="red",lwd=2,add=TRUE)
> hist(osi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(osi3$residuals),sd(osi3$residuals)),col="red",lwd=2,add=TRUE)
> hist(usi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(usi3$residuals),sd(usi3$residuals)),col="red",lwd=2,add=TRUE)
> hist(msi3$residuals,freq=FALSE)
> curve(dnorm(x,mean(msi3$residuals),sd(msi3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(awa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(awa3$residuals),sd(awa3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wwa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wwa3$residuals),sd(wwa3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ewa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ewa3$residuals),sd(ewa3$residuals)),col="red",lwd=2,add=TRUE)
> hist(owa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(owa3$residuals),sd(owa3$residuals)),col="red",lwd=2,add=TRUE)
> hist(uwa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(uwa3$residuals),sd(uwa3$residuals)),col="red",lwd=2,add=TRUE)
> hist(mwa3$residuals,freq=FALSE)
> curve(dnorm(x,mean(mwa3$residuals),sd(mwa3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(ag3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ag3$residuals),sd(ag3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wg3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wg3$residuals),sd(wg3$residuals)),col="red",lwd=2,add=TRUE)
> hist(eg3$residuals,freq=FALSE)
> curve(dnorm(x,mean(eg3$residuals),sd(eg3$residuals)),col="red",lwd=2,add=TRUE)
> hist(og3$residuals,freq=FALSE)
> curve(dnorm(x,mean(og3$residuals),sd(og3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ug3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ug3$residuals),sd(ug3$residuals)),col="red",lwd=2,add=TRUE)
> hist(mg3$residuals,freq=FALSE)
> curve(dnorm(x,mean(mg3$residuals),sd(mg3$residuals)),col="red",lwd=2,add=TRUE)
>
> hist(alm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(alm3$residuals),sd(alm3$residuals)),col="red",lwd=2,add=TRUE)
> hist(wlm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(wlm3$residuals),sd(wlm3$residuals)),col="red",lwd=2,add=TRUE)
> hist(elm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(elm3$residuals),sd(elm3$residuals)),col="red",lwd=2,add=TRUE)
> hist(olm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(olm3$residuals),sd(olm3$residuals)),col="red",lwd=2,add=TRUE)
> hist(ulm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(ulm3$residuals),sd(ulm3$residuals)),col="red",lwd=2,add=TRUE)
> hist(mlm3$residuals,freq=FALSE)
> curve(dnorm(x,mean(mlm3$residuals),sd(mlm3$residuals)),col="red",lwd=2,add=TRUE)
>
```

```
> shapiro.test(m1$residuals)

        Shapiro-Wilk normality test

data:  m1$residuals
W = 0.97886, p-value = 1.558e-06

> # je größer die stichprobe, umso eher sagt shapiro, dass es nicht normalverteilt ist, grenze ca. bei 200
> # https://books.google.de/books?id=yN7ODwAAQBAJ&pg=PA158&dq=shapiro+wilk+test+sample+size+200&hl=de&sa=X&ved=2ahUKEwinxLqu5LfvAhXawAIHHQwqB4QQ6AEwBnoECAcQAg#v=onepage&q=shapiro%20wilk%20test%20sample%20size%20200&f=false
> # --> grafische inspektion am besten bei so großer stichprobe, plus zusatzlich zentralen grenzwert anmerken möglich
```

```
> # 2. Multicollinearity
> # VIF <= 2.6 (overall EE models by country), <= 2.8 (overall EE by schooltype), <= 2.9 (watch), <= 2.4 (read, game), <= 2.5 (write, speak), <= 2.3 (listen, sing, music)
>
> mdat <- na.omit(dat[c("ATGJT", "WTGJT", "ONT", "EIT", "UGJT", "MKT", "ExtramuralEnglish", "Read_wkly", "Write_wkly", "List_wkly", "Speak_wkly", "Sing_wkly", "Watch_wkly", "Game_wkly", "ListMu_wkly", "Country", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
>
> vif(lm(ATGJT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> vif(lm(WTGJT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> vif(lm(EIT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> vif(lm(ONT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> vif(lm(UGJT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> vif(lm(MKT ~  ExtramuralEnglish + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ExtramuralEnglish           Country             Ctest            Dyslex             HISEI            Gender
         1.254722          2.639651          1.685755          1.180280          1.159473          1.122317
                L1               Age
         1.244593          1.961153
> # VIF <= 2.6
>
> vif(lm(ATGJT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
```

```
> vif(lm(WTGJT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
> vif(lm(EIT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
> vif(lm(ONT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
> vif(lm(UGJT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
> vif(lm(MKT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
                    GVIF Df GVIF^(1/(2*Df))
ExtramuralEnglish 1.277918  1        1.130450
Schooltype        2.843120  2        1.298520
Ctest             1.708322  1        1.307028
Dyslex            1.188475  1        1.090172
HISEI             1.161417  1        1.077691
Gender            1.123013  1        1.059723
L1                1.282890  1        1.132647
Age               2.007711  1        1.416937
> # VIF <= 2.8
```

```
> vif(lm(ATGJT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> vif(lm(WTGJT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> vif(lm(EIT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> vif(lm(ONT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> vif(lm(UGJT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> vif(lm(MKT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Read_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.228080  2.381756  1.685632  1.242021  1.146284  1.097596  1.261778  1.932631
> # VIF <= 2.4
>
> vif(lm(ATGJT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> vif(lm(WTGJT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> vif(lm(EIT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> vif(lm(ONT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> vif(lm(UGJT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> vif(lm(MKT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Write_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.281110  2.514440  1.544542  1.229096  1.157122  1.091434  1.253009  2.229071
> # VIF <= 2.5
```

```
> vif(lm(ATGJT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> vif(lm(WTGJT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> vif(lm(EIT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> vif(lm(ONT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> vif(lm(UGJT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> vif(lm(MKT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
List_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
 1.119341  2.320380  1.592474  1.178960  1.161140  1.111085  1.243535  1.919357
> # VIF <= 2.3
>
> vif(lm(ATGJT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> vif(lm(WTGJT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> vif(lm(EIT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> vif(lm(ONT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> vif(lm(UGJT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> vif(lm(MKT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Speak_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.143936  2.537056  1.646090  1.180403  1.170676  1.093382  1.244739  1.945821
> # VIF <= 2.5
```

```
> vif(lm(ATGJT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> vif(lm(WTGJT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> vif(lm(EIT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> vif(lm(ONT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> vif(lm(UGJT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> vif(lm(MKT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Sing_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.216644  2.316098  1.530078  1.182940  1.176666  1.218058  1.242476  1.966339
> # VIF <= 2.3
>
> vif(lm(ATGJT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> vif(lm(WTGJT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> vif(lm(EIT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> vif(lm(ONT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> vif(lm(UGJT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> vif(lm(MKT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Watch_wkly    Country      Ctest     Dyslex      HISEI     Gender         L1        Age
  1.363154   2.863480   1.612516   1.185237   1.155681   1.083645   1.269563   2.046328
> # VIF <= 2.9
```

```
> vif(lm(ATGJT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> vif(lm(WTGJT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> vif(lm(EIT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> vif(lm(ONT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> vif(lm(UGJT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> vif(lm(MKT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
Game_wkly   Country     Ctest     Dyslex     HISEI    Gender        L1       Age
 1.601580  2.424517  1.569176  1.180045  1.150676  1.528230  1.265419  1.909161
> # VIF <= 2.4
>
> vif(lm(ATGJT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> vif(lm(WTGJT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> vif(lm(EIT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> vif(lm(ONT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> vif(lm(UGJT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> vif(lm(MKT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,data=mdat))
ListMu_wkly     Country       Ctest      Dyslex      HISEI      Gender         L1         Age
   1.114138    2.316502    1.590245    1.182447    1.173331    1.148627    1.241920    1.909610
> # VIF <= 2.3
```

```
> # 3. Residuals vs. fitted-plot (scatter):
>
> plot(a3$fitted,a3$residuals)
> plot(a6$fitted,a6$residuals)
>
> plot(w3$fitted,w3$residuals)
> plot(w6$fitted,w6$residuals)
>
> plot(o3$fitted,o3$residuals)
> plot(o6$fitted,o6$residuals)
>
> # likelihood of finding false-positive/negative (sign or insign) results because of lack of homoskedasticity (variance of resid
uals seems larger on the left hand side in scatter plot)
> # test was very easy, might impact distribution of residuals
>
> plot(e3$fitted,e3$residuals)
> plot(e6$fitted,e6$residuals)
>
> plot(u3$fitted,u3$residuals)
> plot(u6$fitted,u6$residuals)
>
> plot(m3$fitted,m3$residuals)
> plot(m6$fitted,m6$residuals)
>
> # individual activities
>
> plot(ar3$fitted,ar3$residuals)
> plot(wr3$fitted,wr3$residuals)
> plot(er3$fitted,er3$residuals)
> plot(or3$fitted,or3$residuals)
> plot(ur3$fitted,ur3$residuals)
> plot(mr3$fitted,mr3$residuals)
>
> plot(aw3$fitted,aw3$residuals)
> plot(ww3$fitted,ww3$residuals)
> plot(ew3$fitted,ew3$residuals)
> plot(ow3$fitted,ow3$residuals)
> plot(uw3$fitted,uw3$residuals)
> plot(mw3$fitted,mw3$residuals)
>
> plot(al3$fitted,al3$residuals)
> plot(wl3$fitted,wl3$residuals)
> plot(el3$fitted,el3$residuals)
> plot(ol3$fitted,ol3$residuals)
> plot(ul3$fitted,ul3$residuals)
> plot(ml3$fitted,ml3$residuals)
>
> plot(as3$fitted,as3$residuals)
> plot(ws3$fitted,ws3$residuals)
> plot(es3$fitted,es3$residuals)
> plot(os3$fitted,os3$residuals)
> plot(us3$fitted,us3$residuals)
> plot(ms3$fitted,ms3$residuals)
```

```
> plot(wr3$fitted,wr3$residuals)
> plot(er3$fitted,er3$residuals)
> plot(or3$fitted,or3$residuals)
> plot(ur3$fitted,ur3$residuals)
> plot(mr3$fitted,mr3$residuals)
>
> plot(aw3$fitted,aw3$residuals)
> plot(ww3$fitted,ww3$residuals)
> plot(ew3$fitted,ew3$residuals)
> plot(ow3$fitted,ow3$residuals)
> plot(uw3$fitted,uw3$residuals)
> plot(mw3$fitted,mw3$residuals)
>
> plot(al3$fitted,al3$residuals)
> plot(wl3$fitted,wl3$residuals)
> plot(el3$fitted,el3$residuals)
> plot(ol3$fitted,ol3$residuals)
> plot(ul3$fitted,ul3$residuals)
> plot(ml3$fitted,ml3$residuals)
>
> plot(as3$fitted,as3$residuals)
> plot(ws3$fitted,ws3$residuals)
> plot(es3$fitted,es3$residuals)
> plot(os3$fitted,os3$residuals)
> plot(us3$fitted,us3$residuals)
> plot(ms3$fitted,ms3$residuals)
>
> plot(asi3$fitted,asi3$residuals)
> plot(wsi3$fitted,wsi3$residuals)
> plot(esi3$fitted,esi3$residuals)
> plot(osi3$fitted,osi3$residuals)
> plot(usi3$fitted,usi3$residuals)
> plot(msi3$fitted,msi3$residuals)
>
> plot(awa3$fitted,awa3$residuals)
> plot(wwa3$fitted,wwa3$residuals)
> plot(ewa3$fitted,ewa3$residuals)
> plot(owa3$fitted,owa3$residuals)
> plot(uwa3$fitted,uwa3$residuals)
> plot(mwa3$fitted,mwa3$residuals)
>
> plot(ag3$fitted,ag3$residuals)
> plot(wg3$fitted,wg3$residuals)
> plot(eg3$fitted,eg3$residuals)
> plot(og3$fitted,og3$residuals)
> plot(ug3$fitted,ug3$residuals)
> plot(mg3$fitted,mg3$residuals)
>
> plot(alm3$fitted,alm3$residuals)
> plot(wlm3$fitted,wlm3$residuals)
> plot(elm3$fitted,elm3$residuals)
> plot(olm3$fitted,olm3$residuals)
> plot(ulm3$fitted,ulm3$residuals)
> plot(mlm3$fitted,mlm3$residuals)
>
> # No structure discernable, esp. no funnel-like forms except for ONT, neg.-skewed:
> hist(dat$ONT)
```

```
> # Linear relationships (only for continuous indep. v) (scatterplot)
> # given
>
> plot(ATGJT ~ ExtramuralEnglish,data=dat)
> plot(ATGJT ~ Read_wkly,data=dat)
> plot(ATGJT ~ Write_wkly,data=dat)
> plot(ATGJT ~ List_wkly,data=dat)
> plot(ATGJT ~ Speak_wkly,data=dat)
> plot(ATGJT ~ Sing_wkly,data=dat)
> plot(ATGJT ~ Watch_wkly,data=dat)
> plot(ATGJT ~ Game_wkly,data=dat)
> plot(ATGJT ~ ListMu_wkly,data=dat)
> plot(ATGJT ~ Ctest,data=dat)
> plot(ATGJT ~ HISEI,data=dat)
> plot(ATGJT ~ Age,data=dat)
>
> plot(WTGJT ~ ExtramuralEnglish,data=dat)
> plot(WTGJT ~ Read_wkly,data=dat)
> plot(WTGJT ~ Write_wkly,data=dat)
> plot(WTGJT ~ List_wkly,data=dat)
> plot(WTGJT ~ Speak_wkly,data=dat)
> plot(WTGJT ~ Sing_wkly,data=dat)
> plot(WTGJT ~ Watch_wkly,data=dat)
> plot(WTGJT ~ Game_wkly,data=dat)
> plot(WTGJT ~ ListMu_wkly,data=dat)
> plot(WTGJT ~ Ctest,data=dat)
> plot(WTGJT ~ HISEI,data=dat)
> plot(WTGJT ~ Age,data=dat)
>
> plot(ONT ~ ExtramuralEnglish,data=dat)
> plot(ONT ~ Read_wkly,data=dat)
> plot(ONT ~ Write_wkly,data=dat)
> plot(ONT ~ List_wkly,data=dat)
> plot(ONT ~ Speak_wkly,data=dat)
> plot(ONT ~ Sing_wkly,data=dat)
> plot(ONT ~ Watch_wkly,data=dat)
> plot(ONT ~ Game_wkly,data=dat)
> plot(ONT ~ ListMu_wkly,data=dat)
> plot(ONT ~ Ctest,data=dat)
> plot(ONT ~ HISEI,data=dat)
> plot(ONT ~ Age,data=dat)
```

```
> # Trying out log for ONT
> # models without interaction: write/game (<.05) and speak/watch (< .1) (almost) significant if log used
> # models with interaction: listen, music reached significance only with log, logsing*country not sign. anymore, logmusic*countr
y now significant
>
> # without interaction
> # write, game sign. with log
> # speak, watch nearly sign. with log
> # ctest not sign anymore
>
> mdat <- na.omit(dat[c("ONT",  "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L
1", "Age")])
> x1 <- lme(ONT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -2.061284 28.06606 14.03064

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.980652e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05948376 0.1490464

Fixed effects: ONT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age
                                value Std.Error DF     t-value p-value
(Intercept)                 0.8886934 0.6565316 64  1.3536186  0.1806
ExtramuralEnglish           0.0016537 0.0008982 64  1.8412284  0.0702
SchooltypeAT, Academic High 0.0145580 0.0712716  4  0.2042603  0.8481
SchooltypeAT, Middle School 0.0001948 0.0783363  4  0.0024802  0.9981
Ctest                       0.4061312 0.1505453 64  2.6977334  0.0089
Dyslexdyslex                0.0234206 0.0856559 64  0.2734265  0.7854
HISEI                       0.0003981 0.0012678 64  0.3139851  0.7546
Genderboy                   0.0284669 0.0367669 64  0.7742520  0.4416
L1not majority L            0.0011496 0.0596337 64  0.0192784  0.9847
Age                        -0.0230162 0.0487084 64 -0.4725312  0.6382
 Correlation:
                            (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML
ExtramuralEnglish            0.066
SchooltypeAT, Academic High  0.410  0.318
SchooltypeAT, Middle School  0.448  0.181  0.593
Ctest                       -0.166 -0.258 -0.475 -0.351
Dyslexdyslex                 0.304 -0.065  0.084  0.128  0.161
HISEI                       -0.059  0.072  0.187  0.207 -0.298 -0.008
Genderboy                   -0.111 -0.109  0.058  0.050 -0.093 -0.128  0.143
L1not majority L             0.343 -0.146  0.117  0.198  0.117  0.230  0.014 -0.062
Age                         -0.992 -0.095 -0.449 -0.490  0.152 -0.320 -0.038  0.084 -0.362

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6646275 -0.3969241  0.1074338  0.6845691  1.4786092

Number of Observations: 85
Number of Groups:
                School Class_neu %in% School
                     7                    14
> x2 <- lme(ONT ~  log(ExtramuralEnglish + 0.5) + Schooltype + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -4.923175 25.20417 15.46159

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.887559e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07473916 0.1549349

Fixed effects: ONT ~ log(ExtramuralEnglish + 0.5) + Schooltype + log(Ctest) +      Dyslex + log(HISEI) + Gender + L1 + Age
                                value Std.Error DF     t-value p-value
(Intercept)                 1.0882506 0.7440677 64  1.4625693  0.1485
log(ExtramuralEnglish + 0.5) 0.0340803 0.0189741 64  1.7961501  0.0772
SchooltypeAT, Academic High  0.0676155 0.0731601  4  0.9242133  0.4077
SchooltypeAT, Middle School  0.0557056 0.0855643  4  0.6510379  0.5505
log(Ctest)                   0.0373280 0.0280988 64  1.3284535  0.1887
Dyslexdyslex                 0.0181201 0.0928331 64  0.1951899  0.8459
log(HISEI)                   0.0437936 0.0664347 64  0.6591974  0.5121
Genderboy                    0.0317799 0.0389056 64  0.8168465  0.4170
L1not majority L            -0.0035138 0.0623295 64 -0.0563751  0.9552
Age                         -0.0415899 0.0502414 64 -0.8278015  0.4109
 Correlation:
                            (Intr) l(EE+0 SAT,AH SAT,MS lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(ExtramuralEnglish + 0.5) -0.050
SchooltypeAT, Academic High  0.221  0.189
SchooltypeAT, Middle School  0.265  0.123  0.513
log(Ctest)                   0.206 -0.093 -0.299 -0.200
Dyslexdyslex                 0.354 -0.098  0.061  0.105  0.299
log(HISEI)                  -0.412 -0.071  0.096  0.135 -0.215 -0.033
Genderboy                   -0.177 -0.120  0.075  0.051 -0.180 -0.161  0.162
L1not majority L             0.324 -0.125  0.151  0.208  0.088  0.235  0.079 -0.065
Age                         -0.922 -0.005 -0.357 -0.403 -0.064 -0.357  0.048  0.106 -0.386

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7967684 -0.3351525  0.1484024  0.6827650  1.3332873

Number of Observations: 85
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT","Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -13.40747 15.0259 18.70373

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev: 3.613117e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06471374 0.1455357

Fixed effects: ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.6506110 0.6367241 67  1.0218100  0.3105
Read_wkly         0.0048424 0.0023444 67  2.0655083  0.0427
CountryAustria   -0.0059207 0.0634084  5 -0.0933743  0.9292
Ctest             0.3608505 0.1441478 67  2.5033377  0.0147
Dyslexdyslex     -0.0053841 0.0851859 67 -0.0632040  0.9498
HISEI             0.0003374 0.0012344 67  0.2733243  0.7854
Genderboy         0.0390063 0.0349206 67  1.1170003  0.2680
L1not majority L -0.0117918 0.0558971 67 -0.2109561  0.8336
Age              -0.0024574 0.0470895 67 -0.0521856  0.9585
 Correlation:
                 (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Read_wkly        -0.102
CountryAustria    0.419  0.222
Ctest            -0.106 -0.416 -0.430
Dyslexdyslex      0.320 -0.217  0.093  0.200
HISEI            -0.061 -0.021  0.199 -0.267  0.011
Genderboy        -0.115 -0.003  0.060 -0.049 -0.120  0.141
L1not majority L  0.371 -0.244  0.198  0.075  0.239  0.044 -0.030
Age              -0.992  0.108 -0.460  0.085 -0.338 -0.036  0.081 -0.393

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.77721116 -0.39892911  0.07021864  0.72136494  1.39524979

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
> x2 <- lme(ONT ~  log(Read_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -17.44956 10.98381 20.72478

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev: 4.21436e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05473713 0.1512892

Fixed effects: ONT ~ log(Read_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                            Value Std.Error DF    t-value p-value
(Intercept)             1.0633467 0.7150586 67  1.4870763  0.1417
log(Read_wkly + 0.5)    0.0421142 0.0138044 67  3.0507766  0.0033
CountryAustria          0.0470793 0.0587368  5  0.8015307  0.4592
log(Ctest)              0.0386028 0.0263726 67  1.4637503  0.1479
Dyslexdyslex            0.0102686 0.0887535 67  0.1156976  0.9082
log(HISEI)              0.0338472 0.0641655 67  0.5274980  0.5996
Genderboy               0.0340800 0.0365106 67  0.9334297  0.3539
L1not majority L        0.0002833 0.0567579 67  0.0049909  0.9960
Age                    -0.0311708 0.0480935 67 -0.6481290  0.5191
 Correlation:
                       (Intr) l(R_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(Read_wkly + 0.5) -0.028
CountryAustria        0.304  0.183
log(Ctest)            0.204 -0.116 -0.315
Dyslexdyslex          0.345 -0.072  0.105  0.281
log(HISEI)           -0.424 -0.120  0.147 -0.232 -0.048
Genderboy            -0.183 -0.027  0.084 -0.146 -0.150  0.176
L1not majority L      0.307 -0.144  0.255  0.026  0.205  0.083 -0.024
Age                  -0.924  0.048 -0.457 -0.064 -0.350  0.054  0.102 -0.384

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9369935 -0.4090690  0.1891304  0.6532218  1.3380379

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
>
> mdat <- na.omit(dat[c("ONT",  "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Ag
e")])
> x1 <- lme(ONT ~  Write_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.84135 17.59203 17.42067

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev: 3.173708e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04713925 0.1517513

Fixed effects: ONT ~ Write_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.8786926 0.6759739 67  1.2998914  0.1981
Write_wkly        0.0023033 0.0033625 67  0.6855882  0.4953
CountryAustria   -0.0307064 0.0611368  5 -0.5022579  0.6368
Ctest             0.4500221 0.1432711 67  3.1410527  0.0025
Dyslexdyslex      0.0269879 0.0858569 67  0.3143359  0.7542
HISEI             0.0002675 0.0012714 67  0.2103905  0.8340
Genderboy         0.0438969 0.0364793 67  1.2033374  0.2331
L1not majority L  0.0040163 0.0579053 67  0.0693596  0.9449
Age              -0.0188716 0.0499888 67 -0.3775174  0.7070
 Correlation:
                 (Intr) Wrt_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Write_wkly        0.253
CountryAustria    0.542  0.314
Ctest            -0.225 -0.343 -0.478
Dyslexdyslex      0.311  0.066  0.169  0.097
HISEI            -0.061  0.045  0.226 -0.305 -0.008
Genderboy        -0.077  0.142  0.109 -0.098 -0.105  0.160
L1not majority L  0.281 -0.251  0.201  0.056  0.176  0.029 -0.065
Age              -0.993 -0.257 -0.580  0.209 -0.326 -0.033  0.043 -0.300

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8209807 -0.3569550  0.1055885  0.6858534  1.3610095

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
> x2 <- lme(ONT ~  log(Write_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -13.12871 15.30466 18.56436

Random effects:
 Formula: ~1 | School
         (Intercept)
StdDev: 3.49082e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05696052 0.1558499

Fixed effects: ONT ~ log(Write_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                            Value Std.Error DF    t-value p-value
(Intercept)             1.4177253 0.7503145 67  1.8895081  0.0632
log(Write_wkly + 0.5)   0.0364536 0.0179463 67  2.0312573  0.0462
CountryAustria          0.0397504 0.0609398  5  0.6522903  0.5430
log(Ctest)              0.0446965 0.0270446 67  1.6526955  0.1031
Dyslexdyslex            0.0647347 0.0927989 67  0.6975806  0.4879
log(HISEI)              0.0470889 0.0658448 67  0.7151494  0.4770
Genderboy               0.0433473 0.0377436 67  1.1537676  0.2527
L1not majority L        0.0105977 0.0583246 67  0.1817026  0.8564
Age                    -0.0589283 0.0505331 67 -1.1661324  0.2477
```

```
 Correlation:
                          (Intr) l(W_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby LintmL
log(Write_wkly + 0.5)  0.192
CountryAustria         0.340  0.203
log(Ctest)             0.187 -0.059 -0.305
Dyslexdyslex           0.367  0.183  0.154  0.260
log(HISEI)            -0.436 -0.078  0.152 -0.243 -0.070
Genderboy             -0.164  0.085  0.105 -0.154 -0.134  0.166
Lintmajority L         0.274 -0.125  0.254  0.017  0.170  0.075 -0.039
Age                   -0.927 -0.201 -0.495 -0.045 -0.372  0.075  0.083 -0.345

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.9054078 -0.4527231  0.1626441  0.6787717  1.2865232

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                    14
>
> mdat <- na.omit(dat[c("ONT",  "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.17542 16.10508 18.08771

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.675087e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.217556e-06 0.1543392

Fixed effects: ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF   t-value p-value
(Intercept)        0.7069807 0.6540470 66  1.080933  0.2837
List_wkly          0.0041265 0.0033353 66  1.229840  0.2231
CountryAustria    -0.0503565 0.0515179  5 -0.977456  0.3732
Ctest              0.4955863 0.1338589 66  3.702303  0.0004
Dyslexdyslex       0.0209401 0.0854949 66  0.244928  0.8073
HISEI             -0.0000574 0.0012600 66 -0.045562  0.9638
Genderboy          0.0336074 0.0365941 66  0.918384  0.3618
Lintmajority L     0.0031827 0.0575171 66  0.055335  0.9560
Age               -0.0050139 0.0482348 66 -0.103948  0.9175
 Correlation:
                  (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby LintmL
List_wkly         -0.070
CountryAustria     0.566  0.057
Ctest             -0.120 -0.049 -0.454
Dyslexdyslex       0.300  0.013  0.165  0.140
HISEI             -0.102  0.031  0.230 -0.326 -0.049
Genderboy         -0.125 -0.005  0.067 -0.064 -0.112  0.187
Lintmajority L     0.391 -0.218  0.356 -0.022  0.206  0.039 -0.041
```

```
Age               -0.993  0.061 -0.602  0.103 -0.313  0.007  0.089 -0.413

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.0540235 -0.3190356  0.0896256  0.7054833  1.5934444

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
> x2 <- lme(ONT ~  log(List_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.63304 17.64746 17.31652

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.032083e-06

 Formula: ~1 | Class_neu %in% School
         (Intercept) Residual
StdDev: 4.360449e-06 0.164106

Fixed effects: ONT ~ log(List_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                          Value Std.Error DF    t-value p-value
(Intercept)           1.0541988 0.7682793 66  1.3721555  0.1747
log(List_wkly + 0.5)  0.0281313 0.0200370 66  1.4039656  0.1650
CountryAustria        0.0062531 0.0523976  5  0.1193394  0.9097
log(Ctest)            0.0473505 0.0275598 66  1.7181006  0.0905
Dyslexdyslex          0.0223571 0.0938227 66  0.2382912  0.8124
log(HISEI)            0.0349925 0.0674217 66  0.5190094  0.6055
Genderboy             0.0315591 0.0393533 66  0.8019415  0.4255
Lintmajority L        0.0076192 0.0615274 66  0.1238349  0.9018
Age                  -0.0255217 0.0513777 66 -0.4967459  0.6210
 Correlation:
                      (Intr) l(L_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby LintmL
log(List_wkly + 0.5) -0.052
CountryAustria        0.380  0.059
log(Ctest)            0.222  0.029 -0.360
Dyslexdyslex          0.348  0.053  0.132  0.278
log(HISEI)           -0.441 -0.103  0.176 -0.276 -0.106
Genderboy            -0.202 -0.032  0.093 -0.152 -0.146  0.218
Lintmajority L        0.324 -0.238  0.356 -0.007  0.192  0.092 -0.030
Age                  -0.926  0.098 -0.546 -0.072 -0.336  0.077  0.109 -0.414

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.1094804 -0.2504085  0.0619885  0.7778312  1.4809338

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Speak_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Ag
e")])
> x1 <- lme(ONT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.325081 18.80058 16.66254

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.111283e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04889175 0.1523995

Fixed effects: ONT ~ Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF   t-value p-value
(Intercept)        0.8637963 0.6670638 65  1.2949231  0.1999
Speak_wkly         0.0056444 0.0049617 65  1.1375879  0.2595
CountryAustria    -0.0151245 0.0636950  5 -0.2374521  0.8217
Ctest              0.4125630 0.1302453 65  2.7459291  0.0078
Dyslexdyslex       0.0249380 0.0864834 65  0.2883562  0.7740
HISEI              0.0004746 0.0012936 65  0.3669263  0.7149
Genderboy          0.0396117 0.0367805 65  1.0769754  0.2855
Lintmajority L     0.0100361 0.0591332 65  0.1697206  0.8658
Age               -0.0189171 0.0494459 65 -0.3825814  0.7033
 Correlation:
                  (Intr) Spk_wk CntryA Ctest  Dyslxd HISEI  Gndrby LintmL
Speak_wkly         0.109
CountryAustria     0.511  0.274
Ctest             -0.182 -0.256 -0.499
Dyslexdyslex       0.308  0.036  0.147  0.124
HISEI             -0.058  0.157  0.243 -0.316 -0.006
Genderboy         -0.113 -0.080  0.077 -0.076 -0.123  0.137
Lintmajority L     0.362  0.041  0.245  0.039  0.215  0.038 -0.058
Age               -0.992 -0.134 -0.552  0.167 -0.324 -0.039  0.081 -0.386

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.8523167 -0.4106173  0.1178648  0.6955220  1.4026617

Number of Observations: 86
Number of Groups:
                School Class_neu %in% School
                     7                    14
> x2 <- lme(ONT ~  log(Speak_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.87778 16.24789 17.93889
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.443741e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07267291 0.1532885

Fixed effects: ONT ~ log(Speak_wkly + 0.5) + Country + log(Ctest) + Dyslex +       log(HISEI) + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.1953016 0.7323693 65  1.6321022  0.1075
log(Speak_wkly + 0.5)  0.0381696 0.0198461 65  1.9232799  0.0588
CountryAustria        0.0588073 0.0664117  5  0.8854957  0.4164
log(Ctest)            0.0322883 0.0277536 65  1.1633938  0.2489
Dyslexdyslex          0.0232531 0.0910285 65  0.2554482  0.7992
log(HISEI)            0.0523741 0.0653325 65  0.8016555  0.4257
Genderboy             0.0393003 0.0377725 65  1.0404491  0.3020
L1not majority L      0.0049918 0.0603338 65  0.0827367  0.9343
Age                  -0.0470340 0.0495052 65 -0.9500826  0.3456
 Correlation:
                     (Intr) l(S_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL
log(Speak_wkly + 0.5)  0.048
CountryAustria         0.291  0.158
log(Ctest)             0.185 -0.143 -0.311
Dyslexdyslex           0.344 -0.035  0.101  0.287
log(HISEI)            -0.422 -0.021  0.140 -0.217 -0.039
Genderboy             -0.180 -0.077  0.093 -0.166 -0.161  0.151
L1not majority L       0.312  0.006  0.224  0.058  0.214  0.076 -0.058
Age                   -0.924 -0.074 -0.442 -0.045 -0.330  0.054  0.105 -0.384

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8128107 -0.3165467  0.1486046  0.6899440  1.4696801

Number of Observations: 86
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("ONT",  "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.40271 18.03067 17.20135

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.851593e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.432389e-06 0.1561479
```

```
Fixed effects: ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +       L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.6265154 0.6687799 67  0.936804  0.3522
Sing_wkly        -0.0020341 0.0023217 67 -0.876094  0.3841
CountryAustria   -0.0717576 0.0537773  5 -1.334346  0.2396
Ctest             0.5141496 0.1392661 67  3.691851  0.0004
Dyslexdyslex      0.0066637 0.0862766 67  0.077237  0.9387
HISEI            -0.0001068 0.0012761 67 -0.083651  0.9336
Genderboy         0.0312230 0.0385651 67  0.809618  0.4210
L1not majority L  0.0151915 0.0567338 67  0.267769  0.7897
Age               0.0026876 0.0494722 67  0.054326  0.9568
 Correlation:
                     (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL
Sing_wkly             0.166
CountryAustria        0.588  0.262
Ctest                -0.167 -0.260 -0.501
Dyslexdyslex          0.301  0.038  0.164  0.118
HISEI                -0.085  0.069  0.243 -0.329 -0.043
Genderboy            -0.062  0.315  0.155 -0.127 -0.084  0.196
L1not majority L      0.365 -0.076  0.340 -0.022  0.205  0.046 -0.053
Age                  -0.993 -0.181 -0.623  0.154 -0.314 -0.010  0.021 -0.387

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.2179483 -0.3838879  0.1473170  0.7152342  1.5342928

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                   14
> x2 <- lme(ONT ~  log(Sing_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.393512 19.03986 16.69676

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.515133e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03594664 0.1631139

Fixed effects: ONT ~ log(Sing_wkly + 0.5) + Country + log(Ctest) + Dyslex +       log(HISEI) + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.0789689 0.7662704 67  1.4080785  0.1637
log(Sing_wkly + 0.5) -0.0077147 0.0184820 67 -0.4174154  0.6777
CountryAustria    0.0060940 0.0561203  5  0.1085881  0.9178
log(Ctest)        0.0449936 0.0278142 67  1.6176504  0.1104
Dyslexdyslex      0.0162174 0.0940948 67  0.1723519  0.8637
log(HISEI)        0.0517221 0.0676688 67  0.7643410  0.4473
Genderboy         0.0281399 0.0465682 67  0.6042731  0.5477
L1not majority L  0.0262930 0.0603716 67  0.4355194  0.6646
```

```
Fixed effects: ONT ~ log(Sing_wkly + 0.5) + Country + log(Ctest) + Dyslex +       log(HISEI) + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.0789689 0.7662704 67  1.4080785  0.1637
log(Sing_wkly + 0.5) -0.0077147 0.0184820 67 -0.4174154  0.6777
CountryAustria    0.0060940 0.0561203  5  0.1085881  0.9178
log(Ctest)        0.0449936 0.0278142 67  1.6176504  0.1104
Dyslexdyslex      0.0162174 0.0940948 67  0.1723519  0.8637
log(HISEI)        0.0517221 0.0676688 67  0.7643410  0.4473
Genderboy         0.0281399 0.0465682 67  0.6042731  0.5477
L1not majority L  0.0262930 0.0603716 67  0.4355194  0.6646
Age              -0.0322523 0.0513482 67 -0.6281102  0.5321
 Correlation:
                     (Intr) l(S_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL
log(Sing_wkly + 0.5)  0.028
CountryAustria        0.348 -0.052
log(Ctest)            0.212  0.063 -0.341
Dyslexdyslex          0.346  0.018  0.123  0.274
log(HISEI)           -0.439  0.000  0.184 -0.259 -0.077
Genderboy            -0.143  0.547  0.056 -0.087 -0.110  0.162
L1not majority L      0.306 -0.124  0.337 -0.006  0.196  0.068 -0.090
Age                  -0.925 -0.052 -0.514 -0.068 -0.344  0.073  0.058 -0.381

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0820841 -0.3310655  0.1939157  0.6569976  1.5130903

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                   14
>
> mdat <- na.omit(dat[c("ONT",  "watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Ag
e")])
> x1 <- lme(ONT ~  watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.75478 15.52573 18.37739

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.881578e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.0001927851 0.1538407
```

```
Fixed effects: ONT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.9108285 0.6585745 66  1.383030  0.1713
Watch_wkly        0.0049449 0.0034719 66  1.424269  0.1591
CountryAustria   -0.0170329 0.0574478  5 -0.296493  0.7788
Ctest             0.4601341 0.1367208 66  3.365501  0.0013
Dyslexdyslex      0.0113572 0.0854037 66  0.132982  0.8946
HISEI             0.0000861 0.0012626 66  0.068221  0.9458
Genderboy         0.0392141 0.0366694 66  1.069395  0.2888
L1not majority L -0.0059501 0.0585485 66 -0.101627  0.9194
Age              -0.0224452 0.0489632 66 -0.458409  0.6482
 Correlation:
                 (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly        0.158
CountryAustria    0.576  0.451
Ctest            -0.155 -0.223 -0.495
Dyslexdyslex      0.286 -0.067  0.116  0.152
HISEI            -0.081  0.107  0.252 -0.338 -0.056
Genderboy        -0.108  0.103  0.106 -0.086 -0.118  0.197
L1not majority L  0.318 -0.295  0.190  0.035  0.224  0.013 -0.072
Age              -0.992 -0.198 -0.621  0.146 -0.295 -0.016  0.067 -0.326

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.99113321 -0.30210039  0.06972649  0.71834749  1.55026777

Number of Observations: 87
Number of Groups:
             School Class_neu %in% School
                  7                    14
> x2 <- lme(ONT ~  log(watch_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  -11.947 16.33351 17.9735

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.34823e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 0.008561495 0.162762
```

```
Fixed effects: ONT ~ log(watch_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       1.2765897 0.7670214 66  1.6643469  0.1008
log(watch_wkly + 0.5)  0.0389277 0.0220811 66  1.7629455  0.0825
CountryAustria    0.0376420 0.0558392  5  0.6741136  0.5301
log(Ctest)        0.0432615 0.0274125 66  1.5781689  0.1193
Dyslexdyslex     -0.0012069 0.0935209 66 -0.0129053  0.9897
log(HISEI)        0.0251918 0.0675309 66  0.3730417  0.7103
Genderboy         0.0258700 0.0392648 66  0.6588594  0.5123
L1not majority L  0.0031235 0.0610250 66  0.0511840  0.9593
Age              -0.0443312 0.0511680 66 -0.8663859  0.3894
 Correlation:
                 (Intr) l(w_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(watch_wkly + 0.5)  0.121
CountryAustria    0.397  0.358
log(Ctest)        0.214 -0.064 -0.359
Dyslexdyslex      0.334 -0.104  0.083  0.282
log(HISEI)       -0.460 -0.166  0.109 -0.258 -0.080
Genderboy        -0.214 -0.108  0.049 -0.144 -0.132  0.228
L1not majority L  0.281 -0.233  0.260  0.016  0.228  0.105 -0.013
Age              -0.928 -0.127 -0.558 -0.066 -0.325  0.107  0.124 -0.359

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.1043673 -0.2982836  0.2233288  0.6970838  1.4290556

Number of Observations: 87
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("ONT",  "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -13.54831 14.88507 18.77415

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.03325e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04117396 0.1496064
```

```
Fixed effects: ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.7078555 0.6433964 67  1.100186  0.2752
Game_wkly         0.0051379 0.0027095 67  1.896276  0.0622
CountryAustria   -0.0226431 0.0571595  5 -0.396138  0.7083
Ctest             0.4370745 0.1343075 67  3.254281  0.0018
Dyslexdyslex      0.0132229 0.0842600 67  0.156930  0.8758
HISEI             0.0003472 0.0012502 67  0.277749  0.7821
Genderboy        -0.0003175 0.0415706 67 -0.007638  0.9939
L1not majority L  0.0172778 0.0551507 67  0.313284  0.7550
Age              -0.0069774 0.0474962 67 -0.146903  0.8836
 Correlation:
                 (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly        -0.039
CountryAustria    0.495  0.219
Ctest            -0.139 -0.182 -0.446
Dyslexdyslex      0.305 -0.046  0.144  0.134
HISEI            -0.081  0.069  0.235 -0.317 -0.019
Genderboy        -0.081 -0.520 -0.055  0.051 -0.073  0.100
L1not majority L  0.368  0.037  0.316 -0.041  0.198  0.045 -0.045
Age              -0.992  0.026 -0.536  0.123 -0.320 -0.016  0.057 -0.391

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9436820 -0.3400986  0.1414407  0.6316332  1.5391280

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
> x2 <- lme(ONT ~  log(Game_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -13.42055 15.01283 18.71027

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.998157e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03254154 0.1393511
```

```
Fixed effects: ONT ~ log(Game_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       1.1451218 0.7483139 67  1.5302692  0.1307
log(Game_wkly + 0.5)  0.0374860 0.0180152 67  2.0807940  0.0413
CountryAustria    0.0404533 0.0569783  5  0.7099764  0.5094
log(Ctest)        0.0370029 0.0273708 67  1.3519118  0.1809
Dyslexdyslex      0.0038971 0.0919337 67  0.0423900  0.9663
log(HISEI)        0.0532742 0.0659990 67  0.8071971  0.4224
Genderboy        -0.0260840 0.0492309 67 -0.5298307  0.5980
L1not majority L  0.0164440 0.0585330 67  0.2809349  0.7796
Age              -0.0401466 0.0501590 67 -0.8003873  0.4263
 Correlation:
                 (Intr) l(G_+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(Game_wkly + 0.5)  0.040
CountryAustria    0.349  0.309
log(Ctest)        0.203 -0.149 -0.369
Dyslexdyslex      0.343 -0.061  0.099  0.279
log(HISEI)       -0.439  0.015  0.180 -0.260 -0.080
Genderboy        -0.172 -0.635 -0.121 -0.016 -0.071  0.141
L1not majority L  0.110 -0.054  0.304  0.009  0.203  0.068  0.014
Age              -0.925 -0.070 -0.517 -0.054 -0.337  0.073  0.124 -0.387

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9796819 -0.3098562  0.1429675  0.6849718  1.5332499

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
>
> mdat <- na.omit(dat[c("ONT",  "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.228102 19.20527 16.61405

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.003272e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.02581456 0.1550444
```

```
Fixed effects: ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                       Value Std.Error DF   t-value p-value
(Intercept)       0.7384857 0.6601767 67  1.118618  0.2673
ListMu_wkly      -0.0006741 0.0016884 67 -0.399251  0.6910
CountryAustria   -0.0558852 0.0542918  5 -1.029350  0.3505
Ctest             0.4976104 0.1402016 67  3.549248  0.0007
Dyslexdyslex      0.0160981 0.0864831 67  0.186142  0.8529
HISEI            -0.0000181 0.0012921 67 -0.013983  0.9889
Genderboy         0.0374761 0.0378477 67  0.990183  0.3256
L1not majority L  0.0133683 0.0567073 67  0.235743  0.8144
Age              -0.0065649 0.0487380 67 -0.134697  0.8933
 Correlation:
                 (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly      -0.001
CountryAustria    0.546  0.102
Ctest            -0.133 -0.270 -0.456
Dyslexdyslex      0.301 -0.060  0.153  0.142
HISEI            -0.089  0.152  0.243 -0.342 -0.041
Genderboy        -0.116  0.259  0.099 -0.117 -0.119  0.205
L1not majority L  0.378 -0.053  0.340 -0.023  0.207  0.037 -0.043
Age              -0.992 -0.022 -0.584  0.122 -0.314 -0.010  0.074 -0.400

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0673133 -0.3975198  0.1157918  0.7336784  1.5037114

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                    14
> x2 <- lme(ONT ~  log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.675714 18.75766 16.83786

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.675712e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04848822 0.1609027

Fixed effects: ONT ~ log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                            Value Std.Error DF    t-value p-value
(Intercept)             1.0793659 0.7596381 67  1.4208949  0.1600
log(ListMu_wkly + 0.5)  0.0125617 0.0183469 67  0.6846762  0.4959
CountryAustria          0.0087967 0.0585972  5  0.1501220  0.8865
log(Ctest)              0.0431457 0.0277891 67  1.6245849  0.1089
Dyslexdyslex            0.0186708 0.0939181 67  0.1987984  0.8430
log(HISEI)              0.0582789 0.0675302 67  0.8630045  0.3912
Genderboy               0.0462313 0.0405670 67  1.1396288  0.2585
L1not majority L        0.0183113 0.0601048 67  0.3046561  0.7616
Age                    -0.0365093 0.0508896 67 -0.7174226  0.4756
 Correlation:
                       (Intr) l(LM+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(ListMu_wkly + 0.5) -0.059
CountryAustria          0.332 -0.037
log(Ctest)              0.210 -0.097 -0.312
Dyslexdyslex            0.348 -0.085  0.126  0.281
log(HISEI)             -0.436  0.075  0.175 -0.259 -0.071
Genderboy              -0.195  0.303  0.079 -0.170 -0.167  0.196
L1not majority L        0.313 -0.144  0.309  0.020  0.208  0.055 -0.070
Age                    -0.922 -0.011 -0.493 -0.060 -0.344  0.065  0.095 -0.379

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9026445 -0.3718030  0.2135985  0.6333768  1.4650397

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                    14
```


```
Age              -0.992 -0.022 -0.584  0.122 -0.314 -0.010  0.074 -0.400

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0673133 -0.3975198  0.1157918  0.7336784  1.5037114

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                    14
> x2 <- lme(ONT ~  log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.675714 18.75766 16.83786

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.675712e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04848822 0.1609027

Fixed effects: ONT ~ log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age
                            Value Std.Error DF    t-value p-value
(Intercept)             1.0793659 0.7596381 67  1.4208949  0.1600
log(ListMu_wkly + 0.5)  0.0125617 0.0183469 67  0.6846762  0.4959
CountryAustria          0.0087967 0.0585972  5  0.1501220  0.8865
log(Ctest)              0.0431457 0.0277891 67  1.6245849  0.1089
Dyslexdyslex            0.0186708 0.0939181 67  0.1987984  0.8430
log(HISEI)              0.0582789 0.0675302 67  0.8630045  0.3912
Genderboy               0.0462313 0.0405670 67  1.1396288  0.2585
L1not majority L        0.0183113 0.0601048 67  0.3046561  0.7616
Age                    -0.0365093 0.0508896 67 -0.7174226  0.4756
 Correlation:
                       (Intr) l(LM+0 CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(ListMu_wkly + 0.5) -0.059
CountryAustria          0.332 -0.037
log(Ctest)              0.210 -0.097 -0.312
Dyslexdyslex            0.348 -0.085  0.126  0.281
log(HISEI)             -0.436  0.075  0.175 -0.259 -0.071
Genderboy              -0.195  0.303  0.079 -0.170 -0.167  0.196
L1not majority L        0.313 -0.144  0.309  0.020  0.208  0.055 -0.070
Age                    -0.922 -0.011 -0.493 -0.060 -0.344  0.065  0.095 -0.379

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9026445 -0.3718030  0.2135985  0.6333768  1.4650397

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                    14
```


```
> # with interaction
>
> mdat <- na.omit(dat[c("ONT",  "ExtramuralEnglish", "Schooltype","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI + Gender + L1 + Age + ExtramuralEnglish*Schooltype,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  15.85386 50.21075 7.073069

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05593807

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.431135e-06 0.1463771

Fixed effects: ONT ~ ExtramuralEnglish + Schooltype + Ctest + Dyslex + HISEI +      Gender + L1 + Age + ExtramuralEnglish * Schoo
ltype
                                                  Value Std.Error DF   t-value p-value
(Intercept)                                   0.7462746 0.6420794 62  1.162278  0.2496
ExtramuralEnglish                             0.0041958 0.0011979 62  3.502616  0.0009
SchooltypeAT, Academic High                   0.0627429 0.0894779  4  0.701211  0.5218
SchooltypeAT, Middle School                   0.0978173 0.0902558  4  1.083779  0.3394
Ctest                                         0.4818356 0.1463358 62  3.292672  0.0016
Dyslexdyslex                                  0.0002391 0.0832745 62  0.002872  0.9977
HISEI                                         0.0001813 0.0012227 62  0.148297  0.8826
Genderboy                                     0.0344443 0.0355329 62  0.969365  0.3361
L1not majority L                              0.0076818 0.0580993 62  0.132219  0.8952
Age                                          -0.0172252 0.0475149 62 -0.362522  0.7182
ExtramuralEnglish:SchooltypeAT, Academic High -0.0031274 0.0028523 62 -1.096477  0.2771
ExtramuralEnglish:SchooltypeAT, Middle School -0.0050798 0.0017590 62 -2.887931  0.0053
 Correlation:
                                              (Intr) ExtrmE SAT,AH SAT,MS Ctest  Dyslxd HISEI  Gndrby L1ntML Age    EE:SAH
ExtramuralEnglish                              0.011
SchooltypeAT, Academic High                    0.268  0.437
SchooltypeAT, Middle School                    0.345  0.418  0.563
Ctest                                         -0.155 -0.107 -0.289 -0.236
Dyslexdyslex                                   0.316 -0.066  0.060  0.101  0.151
HISEI                                         -0.084  0.109  0.177  0.183 -0.272 -0.033
Genderboy                                     -0.123 -0.039  0.044  0.066 -0.075 -0.119  0.159
L1not majority L                               0.357 -0.112  0.055  0.197  0.090  0.208  0.009 -0.038
Age                                           -0.990 -0.069 -0.330 -0.412  0.133 -0.330 -0.016  0.091 -0.375
ExtramuralEnglish:SchooltypeAT, Academic High  0.080 -0.414 -0.480 -0.123 -0.133  0.029 -0.082  0.001  0.102 -0.043
ExtramuralEnglish:SchooltypeAT, Middle School  0.053 -0.639 -0.237 -0.476 -0.108  0.046 -0.036 -0.069 -0.043 -0.006  0.293

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.55635373 -0.39715510  0.06128743  0.71565744  1.82350455

Number of Observations: 85
Number of Groups:
              School Class_neu %in% School
                   7                    14
```

```
> x2 <- lme(ONT ~  log(ExtramuralEnglish + 0.5) + Schooltype + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Extramu
ralEnglish + 0.5)*Schooltype,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  0.9638956 35.32079 14.51805

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.318853e-05

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06720226 0.1505445

Fixed effects: ONT ~ log(ExtramuralEnglish + 0.5) + Schooltype + log(Ctest) +      Dyslex + log(HISEI) + Gender + L1 + Age + log
(ExtramuralEnglish +      0.5) * Schooltype
                                                      Value Std.Error DF    t-value p-value
(Intercept)                                       0.9886648 0.7276328 62  1.3587414  0.1792
log(ExtramuralEnglish + 0.5)                      0.0942043 0.0317860 62  2.9637036  0.0043
SchooltypeAT, Academic High                       0.2105762 0.1454599  4  1.4476576  0.2213
SchooltypeAT, Middle School                       0.3605422 0.1407326  4  2.5618951  0.0625
log(Ctest)                                        0.0480975 0.0275279 62  1.7472273  0.0855
Dyslexdyslex                                      0.0069090 0.0901005 62  0.0766808  0.9391
log(HISEI)                                        0.0311660 0.0645499 62  0.4828210  0.6309
Genderboy                                         0.0251491 0.0377982 62  0.6653513  0.5083
L1not majority L                                 -0.0001538 0.0606983 62 -0.0025344  0.9980
Age                                              -0.0425233 0.0488180 62 -0.8710575  0.3871
log(ExtramuralEnglish + 0.5):SchooltypeAT, Academic High -0.0471943 0.0487318 62 -0.9684502  0.3366
log(ExtramuralEnglish + 0.5):SchooltypeAT, Middle School -0.1120394 0.0419345 62 -2.6717738  0.0096
 Correlation:
                                                  (Intr) l(EE+0 SAT,AH SAT,MS lg(Ct) Dyslxd l(HISE Gndrby L1ntML
log(ExtramuralEnglish + 0.5)                      -0.108
SchooltypeAT, Academic High                        0.004  0.650
SchooltypeAT, Middle School                        0.101  0.668  0.561
log(Ctest)                                         0.196  0.051 -0.087  0.003
Dyslexdyslex                                       0.359 -0.103 -0.025  0.024  0.288
log(HISEI)                                        -0.410 -0.069  0.053  0.031 -0.223 -0.036
Genderboy                                         -0.171 -0.121 -0.002 -0.024 -0.186 -0.155  0.167
L1not majority L                                   0.331 -0.097  0.007  0.127  0.089  0.237  0.073 -0.062
Age                                               -0.919  0.006 -0.143 -0.241 -0.066 -0.357  0.053  0.106 -0.391
log(ExtramuralEnglish + 0.5):SchooltypeAT, Academic High  0.118 -0.646 -0.879 -0.429 -0.056  0.061 -0.012  0.040  0.081
log(ExtramuralEnglish + 0.5):SchooltypeAT, Middle School  0.063 -0.750 -0.480 -0.822 -0.148  0.044  0.060  0.065 -0.008
                                                  Age    l(+0AH
log(ExtramuralEnglish + 0.5)
SchooltypeAT, Academic High
SchooltypeAT, Middle School
log(Ctest)
Dyslexdyslex
log(HISEI)
Genderboy
L1not majority L
Age
```

```
log(ExtramuralEnglish + 0.5):SchooltypeAT, Academic High -0.037
log(ExtramuralEnglish + 0.5):SchooltypeAT, Middle School  0.006  0.488

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.6744566 -0.3739260  0.1286453  0.6955814  1.3614469

Number of Observations: 85
Number of Groups:
               School Class_neu %in% School
                    7                   14
>
> mdat <- na.omit(dat[c("ONT",  "Read_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Read_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Read_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.456271 27.18094 14.72814

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.382329e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07342609 0.1440119

Fixed effects: ONT ~ Read_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Read_wkly * Country
                              Value Std.Error DF    t-value p-value
(Intercept)               0.7002879 0.6343163 66  1.1040043  0.2736
Read_wkly                 0.0065140 0.0027544 66  2.3649529  0.0210
CountryAustria            0.0216463 0.0696124  5  0.3109545  0.7684
Ctest                     0.3595087 0.1434878 66  2.5055012  0.0147
Dyslexdyslex             -0.0086477 0.0849578 66 -0.1017884  0.9192
HISEI                     0.0005647 0.0012375 66  0.4563080  0.6497
Genderboy                 0.0437065 0.0350390 66  1.2473680  0.2167
L1not majority L         -0.0182051 0.0558788 66 -0.3257968  0.7456
Age                      -0.0082399 0.0470533 66 -0.1751175  0.8615
Read_wkly:CountryAustria -0.0046664 0.0045083 66 -1.0350758  0.3044
 Correlation:
                         (Intr) Rd_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
Read_wkly                -0.050
CountryAustria            0.399  0.339
Ctest                    -0.109 -0.342 -0.385
Dyslexdyslex              0.315 -0.222  0.064  0.198
HISEI                    -0.047  0.048  0.220 -0.261  0.010
Genderboy                -0.103  0.074  0.100 -0.047 -0.131  0.150
L1not majority L          0.357 -0.267  0.138  0.074  0.244  0.030 -0.047
Age                      -0.991  0.038 -0.449  0.087 -0.330 -0.053  0.065 -0.374
Read_wkly:CountryAustria -0.071 -0.534 -0.318 -0.016  0.070 -0.124 -0.143  0.116  0.103

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.75738191 -0.43531507  0.08291229  0.70578151  1.35719078

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
> x2 <- lme(ONT ~  log(Read_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Read_wkly + 0.5)*C
ountry,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.34821 19.28901 18.6741

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.860784e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05976627 0.1501541

Fixed effects: ONT ~ log(Read_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(Read_wkly +
 0.5) * Country
                                      Value Std.Error DF    t-value p-value
(Intercept)                       1.0670233 0.7106625 66  1.5014487  0.1380
log(Read_wkly + 0.5)              0.0593266 0.0204410 66  2.9023418  0.0050
CountryAustria                    0.0791384 0.0655140  5  1.2079626  0.2811
log(Ctest)                        0.0388322 0.0262782 66  1.4777342  0.1442
Dyslexdyslex                      0.0114673 0.0884120 66  0.1297025  0.8972
log(HISEI)                        0.0395321 0.0640141 66  0.6175522  0.5390
Genderboy                         0.0376227 0.0364992 66  1.0307811  0.3064
L1not majority L                 -0.0032324 0.0565860 66 -0.0571236  0.9546
Age                              -0.0349505 0.0479013 66 -0.7296358  0.4682
log(Read_wkly + 0.5):CountryAustria -0.0308679 0.0272332 66 -1.1334653  0.2611
 Correlation:
                                  (Intr) lg(R_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML Age
log(Read_wkly + 0.5)              -0.023
CountryAustria                     0.268  0.406
log(Ctest)                         0.202 -0.087     -0.285
Dyslexdyslex                       0.345 -0.064      0.087  0.282
log(HISEI)                        -0.421 -0.037      0.155 -0.230 -0.044
Genderboy                         -0.181  0.054      0.114 -0.147 -0.153  0.177
L1not majority L                   0.305 -0.147      0.197  0.028  0.206  0.078 -0.031
Age                               -0.922 -0.005     -0.428 -0.062 -0.349  0.048  0.096 -0.377
log(Read_wkly + 0.5):CountryAustria  0.004 -0.741     -0.402  0.015  0.020 -0.059 -0.098  0.069  0.051

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9004322 -0.3372855  0.1344782  0.6639247  1.2931033

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Write_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Write_wkly + Country + Ctest + Dyslex + log(HISEI) + Gender + L1 + Age + Write_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -8.592652 22.04456 17.29633

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.101985e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04737844 0.1526654

Fixed effects: ONT ~ Write_wkly + Country + Ctest + Dyslex + log(HISEI) + Gender +      L1 + Age + Write_wkly * Country
                                 Value Std.Error DF     t-value p-value
(Intercept)                  0.7957360 0.7366749 66  1.0801725  0.2840
Write_wkly                   0.0027527 0.0038753 66  0.7103127  0.4800
CountryAustria              -0.0282370 0.0622090  5 -0.4539055  0.6689
Ctest                        0.4436459 0.1450753 66  3.0718238  0.0031
Dyslexdyslex                 0.0242911 0.0869496 66  0.2793700  0.7808
log(HISEI)                   0.0136968 0.0657715 66  0.2082488  0.8357
Genderboy                    0.0442778 0.0367498 66  1.2048428  0.2326
L1not majority L             0.0037458 0.0584386 66  0.0640977  0.9491
Age                         -0.0156897 0.0519284 66 -0.3021401  0.7635
Write_wkly:CountryAustria -0.0015073 0.0067088 66 -0.2246743  0.8229
 Correlation:
                            (Intr) Wrt_wk CntryA Ctest  Dyslxd l(HISE Gndrby L1ntmL Age
Write_wkly                   0.089
CountryAustria               0.403  0.346
Ctest                       -0.102 -0.346 -0.485
Dyslexdyslex                 0.317  0.001  0.144  0.112
log(HISEI)                  -0.308  0.000  0.209 -0.300 -0.016
Genderboy                   -0.122  0.136  0.112 -0.102 -0.110  0.164
L1not majority L             0.251 -0.244  0.197  0.050  0.179  0.068 -0.060
Age                         -0.936 -0.094 -0.514  0.173 -0.342 -0.040  0.049 -0.304
Write_wkly:CountryAustria  0.196 -0.486 -0.143  0.084  0.111  0.128 -0.016  0.059 -0.251

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7932227 -0.3581307  0.1013660  0.6703864  1.3396267

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> x2 <- lme(ONT ~  log(Write_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Write_wkly + 0.5)*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.313342 24.32387 16.15667

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.607204e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05746247 0.1567193

Fixed effects: ONT ~ log(Write_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(Write_wkly + 0.5) *      Country
                                              Value Std.Error DF    t-value p-value
(Intercept)                                1.4094574 0.7550344 66  1.8667460  0.0664
log(Write_wkly + 0.5)                      0.0421888 0.0257929 66  1.6356743  0.1067
CountryAustria                             0.0434659 0.0624404  5  0.6961177  0.5174
log(Ctest)                                 0.0445888 0.0272021 66  1.6391658  0.1059
Dyslexdyslex                               0.0653943 0.0933427 66  0.7005831  0.4860
log(HISEI)                                 0.0450224 0.0665658 66  0.6763584  0.5012
Genderboy                                  0.0445383 0.0380940 66  1.1691676  0.2465
L1not majority L                           0.0091302 0.0588489 66  0.1551465  0.8772
Age                                       -0.0579711 0.0509190 66 -1.1384965  0.2590
log(Write_wkly + 0.5):CountryAustria -0.0106612 0.0343111 66 -0.3107204  0.7570
 Correlation:
                                           (Intr) lg(W_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(Write_wkly + 0.5)                       0.108
CountryAustria                              0.327  0.273
log(Ctest)                                  0.187 -0.052      -0.302
Dyslexdyslex                                0.366  0.142       0.154  0.259
log(HISEI)                                 -0.429 -0.127       0.130 -0.240 -0.071
Genderboy                                  -0.166  0.120       0.119 -0.155 -0.132  0.156
L1not majority L                            0.276 -0.145       0.233  0.018  0.167  0.083 -0.045
Age                                        -0.926 -0.096      -0.473 -0.046 -0.370  0.068  0.088 -0.349
log(Write_wkly + 0.5):CountryAustria  0.037 -0.714      -0.187  0.015 -0.019  0.102 -0.085  0.081 -0.063

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8926297 -0.4091927  0.1307798  0.6867417  1.3079379

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "List_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  List_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + List_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.167925 27.30155 14.58396

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.312366e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 3.82269e-06 0.154475

Fixed effects: ONT ~ List_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + List_wkly * Country
                                 Value Std.Error DF   t-value p-value
(Intercept)                  0.7415080 0.6556766 65  1.130905  0.2623
List_wkly                    0.0060979 0.0039726 65  1.534995  0.1296
CountryAustria              -0.0406295 0.0526156  5 -0.772195  0.4749
Ctest                        0.5170098 0.1359470 65  3.803024  0.0003
Dyslexdyslex                 0.0230999 0.0856017 65  0.269853  0.7881
HISEI                        0.0000365 0.0012652 65  0.028820  0.9771
Genderboy                    0.0406674 0.0374064 65  1.087176  0.2810
L1not majority L            -0.0004349 0.0576993 65 -0.007537  0.9940
Age                         -0.0089114 0.0484592 65 -0.183896  0.8547
List_wkly:CountryAustria -0.0072424 0.0077963 65 -0.928958  0.3563
 Correlation:
                            (Intr) Lst_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
List_wkly                   -0.029
CountryAustria               0.566  0.153
Ctest                       -0.109  0.050 -0.405
Dyslexdyslex                 0.301  0.026  0.167  0.142
HISEI                       -0.097  0.069  0.241 -0.306 -0.047
Genderboy                   -0.111  0.104  0.105 -0.028 -0.104  0.199
L1not majority L             0.386 -0.220  0.335 -0.033  0.204  0.034 -0.054
Age                         -0.992  0.005 -0.605  0.087 -0.314  0.000  0.069 -0.405
List_wkly:CountryAustria -0.057 -0.534 -0.199 -0.170 -0.027 -0.080 -0.203  0.067  0.087

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0023012 -0.3236952  0.1005939  0.6673252  1.6442762

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
> x2 <- lme(ONT ~  log(List_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(List_wkly + 0.5)*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.079516 24.38995 16.03976

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.911884e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.611728e-06 0.1629632

Fixed effects: ONT ~ log(List_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(List_wkly + 0.5) * Country
                                              Value Std.Error DF    t-value p-value
(Intercept)                                1.1094967 0.7638839 65  1.4524416  0.1512
log(List_wkly + 0.5)                       0.0562675 0.0278079 65  2.0234390  0.0471
CountryAustria                             0.0082979 0.0520519  5  0.1594166  0.8796
log(Ctest)                                 0.0496197 0.0274127 65  1.8101020  0.0749
Dyslexdyslex                               0.0235206 0.0931728 65  0.2524403  0.8015
log(HISEI)                                 0.0388558 0.0670053 65  0.5798910  0.5640
Genderboy                                  0.0396656 0.0394780 65  1.0047513  0.3187
L1not majority L                           0.0037990 0.0611558 65  0.0621204  0.9507
Age                                       -0.0311393 0.0511671 65 -0.6085798  0.5449
log(List_wkly + 0.5):CountryAustria -0.0566800 0.0391333 65 -1.4483839  0.1523
 Correlation:
                                           (Intr) lg(L_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(List_wkly + 0.5)                       -0.002
CountryAustria                              0.380  0.061
log(Ctest)                                  0.224  0.061      -0.358
Dyslexdyslex                                0.348  0.044       0.132  0.278
log(HISEI)                                 -0.438 -0.046       0.177 -0.273 -0.105
Genderboy                                  -0.192  0.076       0.096 -0.143 -0.143  0.221
L1not majority L                            0.321 -0.200       0.355 -0.009  0.191  0.090 -0.036
Age                                        -0.926  0.017      -0.547 -0.076 -0.335  0.074  0.096 -0.409
log(List_wkly + 0.5):CountryAustria -0.050 -0.699      -0.027 -0.057 -0.009 -0.040 -0.142  0.043  0.076

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.06335294 -0.30029675  0.09462342  0.73175046  1.42207178

Number of Observations: 87
Number of Groups:
                School Class_neu %in% School
                     7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Speak_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Speak_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -0.138399 30.16113 13.0692

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.599922e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04689681 0.1536861

Fixed effects: ONT ~ Speak_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Speak_wkly * Country
                              Value Std.Error DF    t-value p-value
(Intercept)                0.8562702 0.6720537 64  1.2741099  0.2072
Speak_wkly                 0.0065594 0.0058746 64  1.1165711  0.2684
CountryAustria            -0.0120616 0.0656385  5 -0.1837580  0.8614
Ctest                      0.4223939 0.1541241 64  2.7406088  0.0079
Dyslexdyslex               0.0259314 0.0873372 64  0.2969114  0.7675
HISEI                      0.0004419 0.0013035 64  0.3389979  0.7357
Genderboy                  0.0385721 0.0371979 64  1.0369421  0.3037
L1not majority L           0.0092948 0.0596150 64  0.1559137  0.8766
Age                       -0.0184771 0.0498032 64 -0.3710024  0.7119
Speak_wkly:CountryAustria -0.0030921 0.0105506 64 -0.2930719  0.7704
 Correlation:
                          (Intr) Spk_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Speak_wkly                 0.084
CountryAustria             0.496  0.358
Ctest                     -0.181 -0.114 -0.431
Dyslexdyslex               0.305  0.071  0.162  0.136
HISEI                     -0.059  0.114  0.227 -0.318 -0.011
Genderboy                 -0.111 -0.114  0.053 -0.090 -0.128  0.142
L1not majority L           0.363  0.010  0.230  0.028  0.211  0.040 -0.053
Age                       -0.992 -0.114 -0.539  0.163 -0.323 -0.038  0.081 -0.386
Speak_wkly:CountryAustria  0.018 -0.527 -0.249 -0.191 -0.077  0.039  0.089  0.048  0.001

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8480892 -0.3632708  0.1031313  0.6766530  1.4180350

Number of Observations: 86
Number of Groups:
             School Class_neu %in% School
                  7                    14
```

```
> x2 <- lme(ONT ~  log(Speak_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Speak_wkly + 0.5)*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -5.378864 24.92067 15.68943

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.936715e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07283069 0.1542343

Fixed effects: ONT ~ log(Speak_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(Speak_wkly + 0.5) *      Country
                                        Value Std.Error DF    t-value p-value
(Intercept)                         1.2016737 0.7371376 64  1.6301892  0.1080
log(Speak_wkly + 0.5)               0.0312266 0.0293388 64  1.0643445  0.2912
CountryAustria                      0.0522280 0.0696154  5  0.7502363  0.4869
log(Ctest)                          0.0322005 0.0279218 64  1.1532375  0.2531
Dyslexdyslex                        0.0227819 0.0913813 64  0.2487618  0.8043
log(HISEI)                          0.0533704 0.0658069 64  0.8110154  0.4204
Genderboy                           0.0401185 0.0380853 64  1.0533861  0.2961
L1not majority L                    0.0085155 0.0616650 64  0.1380928  0.8906
Age                                -0.0475070 0.0498324 64 -0.9533359  0.3440
log(Speak_wkly + 0.5):CountryAustria  0.0129458 0.0400335 64  0.3233747  0.7475
 Correlation:
                                   (Intr) lg(S_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(Speak_wkly + 0.5)               0.012
CountryAustria                      0.271  0.312
log(Ctest)                          0.185 -0.092      -0.296
Dyslexdyslex                        0.344 -0.016       0.100  0.287
log(HISEI)                         -0.420 -0.051       0.120 -0.218 -0.040
Genderboy                          -0.178 -0.101       0.070 -0.166 -0.162  0.154
L1not majority L                    0.312 -0.125       0.161  0.056  0.209  0.083 -0.045
Age                                -0.924 -0.026      -0.415 -0.045 -0.350  0.053  0.103 -0.383
log(Speak_wkly + 0.5):CountryAustria  0.028 -0.733      -0.285 -0.008 -0.012  0.050  0.066  0.176 -0.032

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8128489 -0.3276677  0.1409056  0.6983994  1.4784804

Number of Observations: 86
Number of Groups:
             School Class_neu %in% School
                  7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Sing_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Sing_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -2.785022 27.85219 14.39251

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.345527e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06480547 0.1464217

Fixed effects: ONT ~ Sing_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Sing_wkly * Country
                              Value Std.Error DF    t-value p-value
(Intercept)                0.6484045 0.6476950 66  1.001095  0.3204
Sing_wkly                  0.0022506 0.0028582 66  0.787421  0.4339
CountryAustria            -0.0030743 0.0663999  5 -0.046300  0.9649
Ctest                      0.4572913 0.1382670 66  3.307307  0.0015
Dyslexdyslex               0.0174104 0.0839735 66  0.207332  0.8364
HISEI                      0.0000691 0.0012523 66  0.055144  0.9562
Genderboy                  0.0269416 0.0377011 66  0.714610  0.4774
L1not majority L           0.0168812 0.0548575 66  0.307729  0.7593
Age                       -0.0013917 0.0480728 66 -0.028951  0.9770
Sing_wkly:CountryAustria -0.0100541 0.0048965 66 -2.053337  0.0440
 Correlation:
                          (Intr) Sng_wk CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Sing_wkly                  0.099
CountryAustria             0.436  0.335
Ctest                     -0.187 -0.300 -0.438
Dyslexdyslex               0.308 -0.040  0.116  0.128
HISEI                     -0.043 -0.003  0.178 -0.288  0.017
Genderboy                 -0.042  0.243  0.105 -0.127 -0.103  0.165
L1not majority L          -0.335 -0.098  0.220  0.002  0.195  0.034 -0.066
Age                       -0.992 -0.108 -0.475  0.171 -0.325 -0.055  0.003 -0.352
Sing_wkly:CountryAustria  0.079 -0.509 -0.268  0.136  0.088  0.115  0.108  0.011 -0.091

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.79683638 -0.36046227  0.07238184  0.66050279  1.54474690

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
```

```
> x2 <- lme(ONT ~  log(Sing_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Sing_wkly + 0.5)*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -4.956316 25.6809 15.47816

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 3.615547e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0686661 0.1560477

Fixed effects: ONT ~ log(Sing_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(Sing_wkly + 0.5) * Country
                                        Value Std.Error DF    t-value p-value
(Intercept)                         1.1033324 0.7397746 66  1.4914439  0.1406
log(Sing_wkly + 0.5)                0.0262274 0.0251279 66  1.0437535  0.3004
CountryAustria                      0.0394602 0.0645658  5  0.6111628  0.5678
log(Ctest)                          0.0541822 0.0275490 66  1.9667539  0.0534
Dyslexdyslex                        0.0223497 0.0923318 66  0.2420587  0.8095
log(HISEI)                          0.0422539 0.0669706 66  0.6309126  0.5303
Genderboy                           0.0311520 0.0456297 66  0.6827117  0.4972
L1not majority L                    0.0177297 0.0591025 66  0.2999831  0.7651
Age                                -0.0321636 0.0500300 66 -0.6428871  0.5225
log(Sing_wkly + 0.5):CountryAustria -0.0546500 0.0307488 66 -1.7773073  0.0801
 Correlation:
                                   (Intr) lg(S_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(Sing_wkly + 0.5)               -0.001
CountryAustria                      0.283  0.087
log(Ctest)                          0.195  0.144     -0.256
Dyslexdyslex                        0.344 -0.053      0.100  0.264
log(HISEI)                         -0.417 -0.105      0.133 -0.257 -0.033
Genderboy                          -0.137  0.416      0.049 -0.075 -0.124  0.135
L1not majority L                    0.297 -0.172      0.246 -0.012  0.201  0.081 -0.103
Age                                -0.921  0.026     -0.423 -0.049 -0.355  0.040  0.059 -0.372
log(Sing_wkly + 0.5):CountryAustria  0.027 -0.675     -0.171 -0.117  0.088  0.155 -0.005  0.103 -0.090

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8696851 -0.3640678  0.1462579  0.6670930  1.5712648

Number of Observations: 88
Number of Groups:
             School Class_neu %in% School
                  7                    14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Watch_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Ag
e")])
> x1 <- lme(ONT ~  Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Watch_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -5.942357 24.52711 15.97118

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.716996e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.03383945 0.1487683

Fixed effects: ONT ~ Watch_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Watch_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)                0.6272415 0.6606029 65  0.949499  0.3459
Watch_wkly                 0.0094045 0.0041249 65  2.279923  0.0259
CountryAustria             0.0469405 0.0664714  5  0.706176  0.5116
Ctest                      0.4330056 0.1347777 65  3.361131  0.0013
Dyslexdyslex              -0.0059829 0.0845906 65 -0.070728  0.9438
HISEI                     -0.0000316 0.0012458 65 -0.025363  0.9798
Genderboy                  0.0511917 0.0364137 65  1.405838  0.1645
L1not majority L          -0.0092925 0.0574984 65 -0.161612  0.8721
Age                       -0.0043531 0.0488860 65 -0.089047  0.9293
Watch_wkly:CountryAustria -0.0124255 0.0066409 65 -1.871053  0.0638
 Correlation:
                          (Intr) Wtch_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Watch_wkly                -0.012
CountryAustria             0.363  0.564
Ctest                     -0.152 -0.199 -0.434
Dyslexdyslex               0.308 -0.145  0.037  0.155
HISEI                     -0.048  0.018  0.170 -0.322 -0.021
Genderboy                 -0.142  0.185  0.171 -0.095 -0.149  0.159
L1not majority L           0.314 -0.269  0.126  0.043  0.226  0.015 -0.081
Age                       -0.992 -0.031 -0.415  0.143 -0.316 -0.045  0.101 -0.322
Watch_wkly:CountryAustria  0.226 -0.564 -0.456  0.041  0.136  0.094 -0.182  0.048 -0.206

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.76626351 -0.33548063  0.08032359  0.70495020  1.53536760

Number of Observations: 87
Number of Groups:
              School Class_neu %in% School
                   7                   14
```

```
> x2 <- lme(ONT ~  log(Watch_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Watch_wkly + 0.5)
*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -8.961436 21.50803 17.48072

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.071639e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.04072278 0.1567208

Fixed effects: ONT ~ log(watch_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(watch_wkly
 + 0.5) *      Country
                                        Value Std.Error DF    t-value p-value
(Intercept)                         1.2570700 0.7442671 65  1.6890039  0.0960
log(watch_wkly + 0.5)               0.0901901 0.0345860 65  2.6077035  0.0113
CountryAustria                      0.1704857 0.0879067  5  1.9393939  0.1102
log(Ctest)                          0.0494473 0.0269761 65  1.8330022  0.0714
Dyslexdyslex                       -0.0046615 0.0918720 65 -0.0507387  0.9597
log(HISEI)                          0.0185206 0.0666809 65  0.2777496  0.7821
Genderboy                           0.0344900 0.0386028 65  0.8934578  0.3749
L1not majority L                   -0.0037852 0.0598837 65 -0.0632090  0.9498
Age                                -0.0481140 0.0498114 65 -0.9659235  0.3377
log(watch_wkly + 0.5):CountryAustria -0.0814405 0.0423383 65 -1.9235663  0.0588
 Correlation:
                                   (Intr) lg(w_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(watch_wkly + 0.5)               0.050
CountryAustria                      0.218  0.715
log(Ctest)                          0.204  0.016     -0.169
Dyslexdyslex                        0.332 -0.130     -0.001  0.276
log(HISEI)                         -0.445 -0.174      0.012 -0.250 -0.046
Genderboy                          -0.208  0.032      0.127 -0.143 -0.149  0.196
L1not majority L                    0.279 -0.208      0.087  0.019  0.230  0.106 -0.028
Age                                -0.925 -0.079     -0.349 -0.062 -0.328  0.091  0.119 -0.350
log(watch_wkly + 0.5):CountryAustria  0.030 -0.780     -0.746 -0.056  0.076  0.079 -0.131  0.085  0.009

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.0089614 -0.3422720  0.1658394  0.7149348  1.3828331

Number of Observations: 87
Number of Groups:
              School Class_neu %in% School
                   7                   14
```

```
>
> mdat <- na.omit(dat[c("ONT",  "Game_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  Game_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + Game_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.324154 27.31306 14.66208

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 7.292124e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:   0.0422298 0.1498495

Fixed effects: ONT ~ Game_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + Game_wkly * Country
                              Value Std.Error DF   t-value p-value
(Intercept)                0.7144786 0.6448538 66  1.107970  0.2719
Game_wkly                  0.0062345 0.0030662 66  2.033291  0.0460
CountryAustria            -0.0072656 0.0606883  5 -0.119719  0.9094
Ctest                      0.4513434 0.1359253 66  3.320525  0.0015
Dyslexdyslex               0.0145826 0.0844622 66  0.172653  0.8635
HISEI                      0.0004162 0.0012558 66  0.331452  0.7414
Genderboy                  0.0061004 0.0425012 66  0.143535  0.8863
L1not majority L           0.0170986 0.0552687 66  0.309371  0.7580
Age                       -0.0088488 0.0476573 66 -0.185676  0.8533
Game_wkly:CountryAustria -0.0037370 0.0048700 66 -0.767344  0.4456
 Correlation:
                          (Intr) Gm_wkl CntryA Ctest  Dyslxd HISEI  Gndrby L1ntmL Age
Game_wkly                 -0.029
CountryAustria             0.470  0.331
Ctest                     -0.137 -0.096 -0.374
Dyslexdyslex               0.305 -0.035  0.140  0.135
HISEI                     -0.079  0.090  0.243 -0.304 -0.017
Genderboy                 -0.077 -0.359  0.012  0.076 -0.069  0.111
L1not majority L           0.368  0.029  0.295 -0.041  0.198  0.044 -0.046
Age                       -0.992  0.001 -0.521  0.116 -0.321 -0.020  0.046 -0.390
Game_wkly:CountryAustria -0.012 -0.464 -0.319 -0.137 -0.015 -0.065 -0.199  0.006  0.048

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8700178 -0.3266203  0.1259746  0.6892003  1.6188460

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                   14
```

```
> x2 <- lme(ONT ~  log(Game_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(Game_wkly + 0.5)*C
ountry,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -7.469814 23.1674 16.73491

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 4.723553e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.01426708 0.1608765

Fixed effects: ONT ~ log(Game_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(Game_wkly +
 0.5) * Country
                                        Value Std.Error DF    t-value p-value
(Intercept)                         1.0681538 0.7533004 66  1.4179654  0.1609
log(Game_wkly + 0.5)                0.0573121 0.0241018 66  2.3779160  0.0203
CountryAustria                      0.0632935 0.0594161  5  1.0652580  0.3355
log(Ctest)                          0.0313903 0.0275343 66  1.1400429  0.2584
Dyslexdyslex                       -0.0095151 0.0920851 66 -0.1033292  0.9180
log(HISEI)                          0.0570773 0.0660889 66  0.8636445  0.3909
Genderboy                          -0.0248216 0.0494227 66 -0.5022316  0.6172
L1not majority L                    0.0104987 0.0587306 66  0.1787600  0.8587
Age                                -0.0374491 0.0502733 66 -0.7449101  0.4590
log(Game_wkly + 0.5):CountryAustria -0.0332519 0.0276062 66 -1.2045098  0.2327
 Correlation:
                                   (Intr) lg(G_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntmL Age
log(Game_wkly + 0.5)               -0.008
CountryAustria                      0.314  0.482
log(Ctest)                          0.214 -0.194     -0.407
Dyslexdyslex                        0.346 -0.083      0.066  0.282
log(HISEI)                         -0.447  0.063      0.198 -0.276 -0.098
Genderboy                          -0.178 -0.461     -0.108 -0.016 -0.068  0.149
L1not majority L                    0.315 -0.087      0.277  0.012  0.209  0.066  0.016
Age                                -0.924 -0.054     -0.496 -0.057 -0.334  0.081  0.128 -0.392
log(Game_wkly + 0.5):CountryAustria  0.061 -0.661     -0.388  0.125  0.060 -0.072 -0.024  0.065 -0.005

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.9167704 -0.2333924  0.2231672  0.6266357  1.6303197

Number of Observations: 88
Number of Groups:
              School Class_neu %in% School
                   7                   14
```

```
> mdat <- na.omit(dat[c("ONT",  "ListMu_wkly", "Country","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> x1 <- lme(ONT ~  ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender + L1 + Age + ListMu_wkly*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x1)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -0.02574636 30.61147 13.01287

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.566745e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.06014034 0.1486141

Fixed effects: ONT ~ ListMu_wkly + Country + Ctest + Dyslex + HISEI + Gender +      L1 + Age + ListMu_wkly * Country
                                 Value Std.Error DF    t-value p-value
(Intercept)                  0.8620959 0.6471314 66  1.3321807  0.1874
ListMu_wkly                  0.0041677 0.0033302 66  1.2514850  0.2152
CountryAustria               0.0178153 0.0709941  5  0.2509413  0.8118
Ctest                        0.4378259 0.1424943 66  3.0725846  0.0031
Dyslexdyslex                 0.0330317 0.0847984 66  0.3895325  0.6981
HISEI                        0.0003985 0.0012742 66  0.3127183  0.7555
Genderboy                    0.0419913 0.0368991 66  1.1380053  0.2592
L1not majority L             0.0142924 0.0554242 66  0.2578740  0.7973
Age                         -0.0200685 0.0479434 66 -0.4185867  0.6769
ListMu_wkly:CountryAustria -0.0059762 0.0036968 66 -1.6165812  0.1107
 Correlation:
                            (Intr) LstM_w CntryA Ctest  Dyslxd HISEI  Gndrby L1ntML Age
ListMu_wkly                  0.064
CountryAustria               0.442  0.480
Ctest                       -0.168 -0.341 -0.463
Dyslexdyslex                 0.306 -0.021  0.130  0.129
HISEI                       -0.062  0.129  0.225 -0.335 -0.007
Genderboy                   -0.107  0.201  0.121 -0.134 -0.131  0.183
L1not majority L             0.357 -0.064  0.216 -0.002  0.200  0.025 -0.053
Age                         -0.991 -0.100 -0.494  0.162 -0.321 -0.039  0.065 -0.375
ListMu_wkly:CountryAustria -0.079 -0.867 -0.500  0.250 -0.011 -0.057 -0.088  0.029  0.106

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.78138490 -0.37240200  0.08099399  0.68720960  1.38625253

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                             7            14
```

```
> x2 <- lme(ONT ~  log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex + log(HISEI) + Gender + L1 + Age + log(ListMu_wkly + 0.5)*Country,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(x2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.466777 24.17044 16.23339

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.791688e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.07017589 0.1543282

Fixed effects: ONT ~ log(ListMu_wkly + 0.5) + Country + log(Ctest) + Dyslex +      log(HISEI) + Gender + L1 + Age + log(ListMu_wkly + 0.5) *      Country
                                          Value Std.Error DF    t-value p-value
(Intercept)                           1.0108295 0.7345281 66  1.3761617  0.1734
log(ListMu_wkly + 0.5)                0.0518310 0.0258661 66  2.0038228  0.0492
CountryAustria                        0.1162333 0.0798277  5  1.4560521  0.2052
log(Ctest)                            0.0493397 0.0271119 66  1.8198532  0.0733
Dyslexdyslex                          0.0245980 0.0915332 66  0.2687326  0.7890
log(HISEI)                            0.0643738 0.0656813 66  0.9800934  0.3306
Genderboy                             0.0479409 0.0392275 66  1.2190169  0.2272
L1not majority L                      0.0106108 0.0585211 66  0.1813150  0.8567
Age                                  -0.0373879 0.0493046 66 -0.7583056  0.4510
log(ListMu_wkly + 0.5):CountryAustria -0.0682087 0.0337655 66 -2.0200671  0.0474
 Correlation:
                                      (Intr) lg(LM_+0.5) CntryA lg(Ct) Dyslxd l(HISE Gndrby L1ntML Age
log(ListMu_wkly + 0.5)                -0.091
CountryAustria                         0.191  0.422
log(Ctest)                             0.199 -0.032       -0.195
Dyslexdyslex                           0.348 -0.092        0.071  0.281
log(HISEI)                            -0.427  0.046        0.125 -0.248 -0.052
Genderboy                             -0.192  0.233        0.077 -0.170 -0.179  0.177
L1not majority L                       0.311 -0.165        0.161  0.023  0.210  0.055 -0.078
Age                                   -0.920  0.024       -0.330 -0.053 -0.348  0.053  0.097 -0.372
log(ListMu_wkly + 0.5):CountryAustria  0.067 -0.723       -0.603 -0.037  0.038  0.004 -0.032  0.079 -0.040

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.0143191 -0.3341528  0.1017875  0.7078009  1.4252074

Number of Observations: 88
Number of Groups:
                School Class_neu %in% School
                             7            14
```

```
> plot(EIT ~ ExtramuralEnglish,data=dat)
> plot(EIT ~ Read_wkly,data=dat)
> plot(EIT ~ Write_wkly,data=dat)
> plot(EIT ~ List_wkly,data=dat)
> plot(EIT ~ Speak_wkly,data=dat)
> plot(EIT ~ Sing_wkly,data=dat)
> plot(EIT ~ Watch_wkly,data=dat)
> plot(EIT ~ Game_wkly,data=dat)
> plot(EIT ~ ListMu_wkly,data=dat)
> plot(EIT ~ Ctest,data=dat)
> plot(EIT ~ HISEI,data=dat)
> plot(EIT ~ Age,data=dat)
>
> plot(UGJT ~ ExtramuralEnglish,data=dat)
> plot(UGJT ~ Read_wkly,data=dat)
> plot(UGJT ~ Write_wkly,data=dat)
> plot(UGJT ~ List_wkly,data=dat)
> plot(UGJT ~ Speak_wkly,data=dat)
> plot(UGJT ~ Sing_wkly,data=dat)
> plot(UGJT ~ Watch_wkly,data=dat)
> plot(UGJT ~ Game_wkly,data=dat)
> plot(UGJT ~ ListMu_wkly,data=dat)
> plot(UGJT ~ Ctest,data=dat)
> plot(UGJT ~ HISEI,data=dat)
> plot(UGJT ~ Age,data=dat)
>
> plot(MKT ~ ExtramuralEnglish,data=dat)
> plot(MKT ~ Read_wkly,data=dat)
> plot(MKT ~ Write_wkly,data=dat)
> plot(MKT ~ List_wkly,data=dat)
> plot(MKT ~ Speak_wkly,data=dat)
> plot(MKT ~ Sing_wkly,data=dat)
> plot(MKT ~ Watch_wkly,data=dat)
> plot(MKT ~ Game_wkly,data=dat)
> plot(MKT ~ ListMu_wkly,data=dat)
> plot(MKT ~ Ctest,data=dat)
> plot(MKT ~ HISEI,data=dat)
> plot(MKT ~ Age,data=dat)
```

8 Linear Mixed Models (Total EE – Austria only)

```
> ##############################
> ## Total EE, Austria only ####
> ##############################
>
> # first load other data file that includes only Austrian cases
> # Read data:
> dat <- read.spss("Data_onlyAT.sav",to.data.frame=TRUE)
re-encoding from UTF-8
Warning message:
In read.spss("Data_onlyAT.sav", to.data.frame = TRUE) :
  Data_onlyAT.sav: Long string missing values record found (record type 7, subtype 22), but ignored
>
> # View data:
> View(dat)
> str(dat)
'data.frame':   110 obs. of  114 variables:
 $ ID                        : chr  "5_1OHA06        " "7_ICA07         " "4_2ULE14        " "4_1ANE09        " ...
 $ Country                   : Factor w/ 2 levels "Sweden","Austria": 2 2 2 2 2 2 2 2 2 2 ...
 $ GenderxCountry            : Factor w/ 4 levels "girlswe","girlat",..: 4 4 2 2 NA 2 2 2 2 4 ...
 $ Gender                    : Factor w/ 3 levels "girl","boy","other/no indication": 2 2 1 1 NA 1 1 1 1 2 ...
 $ Schooltype                : Factor w/ 3 levels "SE, Comprehensive",..: 2 3 2 2 2 2 2 3 3 3 ...
 $ School                    : Factor w/ 8 levels "E","F","G","A",..: 5 7 4 4 5 4 4 6 7 7 ...
 $ Class                     : chr  "5_1     " "7       " "4_2     " "4_1     " ...
 $ GrSp                      : num  4.5 4 5 4.5 4.5 4.5 5 4.25 4 4 ...
 $ Speak                     : num  5 4 5 1 NA 5 5 3 1 1 ...
 $ GrPractice                : num  5 5 5 3.5 NA 5 4 5 4 5 ...
 $ GrammarNspeak             : num  5 4.5 5 2 NA 5 4.5 4 2.5 3 ...
 $ ISCED                     : num  6 NA 4 3 NA 4 4 3 3 6 ...
 $ HISEI                     : num  71 NA 28 40 NA 48 48 26 NA 29 ...
 $ ONT                       : num  0.833 0.926 NA 0.9 0.834 ...
 $ EIT                       : num  0.553 0.233 0.778 0.706 0.722 ...
 $ ATGJT                     : num  0.517 0.31 0.828 NA NA ...
 $ WTGJT                     : num  0.259 0.483 0.679 NA NA ...
 $ UGJT                      : num  0.588 0.882 0.676 0 NA ...
 $ MKT                       : num  0.396 0.793 0.4 0.917 NA ...
 $ Ctest                     : num  0.508 NA 0.367 NA NA ...
 $ FS123                     : num  4.33 3 4.67 3.33 NA ...
 $ F234                      : num  2.33 2 4.33 1.33 NA ...
 $ I_read                    : num  3 4 3 4 NA 1 2 4 5 4 ...
 $ I_list                    : num  4 3 5 3 NA 1 1 2 3 1 ...
 $ I_watch                   : num  3 1 4 1 NA 3 4 3 1 3 ...
 $ I_write                   : num  4 5 4 3.5 NA 5 4 5 5 3 ...
 $ I_voc                     : num  5 4 5 4.5 NA 5 4 5 4 4 ...
 $ GrRules                   : num  4 4 5 3 NA 5 5 5 5 5 ...
 $ Ctest_sum                 : num  61 NA 44 NA NA 60 NA 39 17 27 ...
 $ ExtramuralEnglish         : num  NA NA NA NA NA ...
 $ Starting_median_nomusic   : num  1 6 3 7 NA ...
 $ Starting_mean_nomusic     : num  1.44 6.33 3.29 7.5 NA ...
 $ Dyslex                    : Factor w/ 2 levels "no dyslex","dyslex": 1 1 1 1 NA 1 1 1 NA 1 ...
 $ Dyslex_orig               : Factor w/ 3 levels "dyslex","no dyslex",..: 2 2 2 2 NA 2 2 2 3 2 ...
 $ Dyslex2                   : Factor w/ 2 levels "no dyslex","dyslex": 1 1 1 1 NA 1 1 1 1 1 ...
 $ Age                       : num  14.7 13.6 12.9 14.3 NA ...
 $ L1                        : Factor w/ 2 levels "Swedish/German",..: 1 1 2 1 NA 1 1 1 1 1 ...
 $ L1_nom                    : chr  "1                 " "1                " "Albanian         " "1                 " ...
 $ L_other                   : chr  "2                                                                    " "2
   " "Albanian                                                            " "Korean
 " ...
 $ residency                 : num  14.6 13.6 13.6 14.3 NA ...
```

```
 $ residency_ok              : num  1 1 1 1 NA 1 1 1 1 1 ...
 $ birth_cntry               : chr  "1         " "1         " "1         " "1         " ...
 $ birth_cntry_binary        : num  1 1 1 1 NA 1 1 1 1 1 ...
 $ F1                        : num  5 2 4 2 NA 1 2 1 5 3 ...
 $ F2                        : num  2 2 5 1 NA 2 1 2 5 3 ...
 $ F3                        : num  2 2 4 2 NA 1 2 4 5 4 ...
 $ F4                        : num  3 2 4 1 NA 1 1 2 4 2 ...
 $ F5                        : num  2 2 4 NA NA 1 1 3 4 2 ...
 $ FS1                       : num  4 3 4 2 NA 5 4 3 1 5 ...
 $ FS2                       : num  4 2 5 3 NA 4 3 3 1 5 ...
 $ FS3                       : num  5 4 5 5 NA 5 5 5 4 5 ...
 $ F5_classwise              : num  2 3 3 3.5 3 3.5 3 3 3 3 ...
 $ FS2_classwise             : num  3 4 3.5 3 3.5 3 3.5 4 4 4 ...
 $ I_grmean                  : num  4.5 4.5 5 3.25 NA 5 4.5 5 4.5 5 ...
 $ Strtage_incmusic_mean     : num  13.03 5.08 9.17 5.9 NA ...
 $ EE_usually_mean_nom       : num  4.57 4.29 4.29 4.71 NA ...
 $ EE_usually_median_nom     : num  5 5 4 5 NA 3 2 1 1 2 ...
 $ EE_usually_median_wmus    : num  5 5 4.5 5 NA 3 2.5 1 1 2 ...
 $ EE_usually_mean_wmus      : num  4.62 4.38 4.38 4.75 NA ...
 $ SUM_wkly_withmusic        : num  NA NA NA NA NA ...
 $ Starting_median_withmusic: num  13.17 7.58 9.42 7.33 NA ...
 $ Read_usl                  : Factor w/ 5 levels "(almost) never",..: 5 5 4 5 NA 3 3 1 1 3 ...
 $ Write_usl                 : Factor w/ 5 levels "(almost) never",..: 4 5 4 5 NA 3 2 1 1 1 ...
 $ List_usl                  : Factor w/ 5 levels "(almost) never",..: 4 4 3 5 NA 4 1 1 1 2 ...
 $ Spea_usl                  : Factor w/ 5 levels "(almost) never",..: 5 5 4 4 NA 3 3 2 1 2 ...
 $ Sing_usl                  : Factor w/ 5 levels "(almost) never",..: 5 1 5 5 NA 4 5 5 1 5 ...
 $ Watch_usl                 : Factor w/ 5 levels "(almost) never",..: 5 5 5 5 NA 1 1 1 1 1 ...
 $ Game_usl                  : Factor w/ 5 levels "(almost) never",..: 4 5 5 4 NA 1 1 1 1 1 ...
 $ ListMu_usl                : Factor w/ 5 levels "(almost) never",..: 5 5 5 5 NA 5 5 5 5 5 ...
 $ Read_wkly                 : num  NA NA NA NA NA ...
 $ Write_wkly                : num  NA NA NA NA NA 1 6 0 0 0 ...
 $ List_wkly                 : num  NA NA NA NA NA 5 0 0 0 0.5 ...
 $ Speak_wkly                : num  NA NA NA NA NA ...
 $ Sing_wkly                 : num  NA NA NA NA NA 0.5 8 1 0 1.75 ...
 $ Watch_wkly                : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Watch_wkly_suben          : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Watch_wkly_subo           : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Watch_wkly_nosub          : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Game_wkly_al              : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Game_wkly_w               : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ Game_wkly                 : num  NA NA NA NA NA 0 0 0 0 0 ...
 $ ListMu_wkly               : num  NA NA NA NA NA 5 6 1 0 2.5 ...
 $ Read_strtage              : num  12.67 NA 10.92 6.33 NA ...
 $ Write_strtage             : num  13.67 7.58 8.92 7.33 NA ...
 $ List_strtage              : num  14.167 0.583 9.917 0.333 NA ...
 $ Spea_strtage              : num  14.08 7.58 9.92 7.33 NA ...
 $ Sing_strtage              : num  11.67 NA 8.92 11.33 NA ...
 $ Watch_strtage             : num  12.67 6.58 8.92 8.33 NA ...
 $ Game_strtage              : num  13.67 7.58 9.92 NA NA ...
 $ ListMu_strtage            : num  11.667 0.583 5.917 0.333 NA ...
 $ Read_strt                 : num  2 NA 2 8 NA 4 2 0 0 5 ...
 $ Write_strt                : num  1 6 4 7 NA ...
 $ List_strt                 : num  0.5 13 3 14 NA ...
 $ Spea_strt                 : num  0.583 6 3 7 NA ...
 $ Sing_strt                 : num  3 0 4 3 NA ...
 $ Watch_strt                : num  2 7 4 6 NA 0 0 0 0 0 ...
 $ Game_strt                 : num  1 6 3 NA NA 0 0 0 0 0 ...
 $ ListMu_strt               : num  3 13 7 14 NA ...
```

```
 $ Read_wkly_pic             : num  24.1 20 35 NA NA ...
  [list output truncated]
 - attr(*, "variable.labels")= Named chr [1:114] "" "" "" "" ...
  ..- attr(*, "names")= chr [1:114] "ID" "Country" "GenderxCountry" "Gender" ...
 - attr(*, "codepage")= int 65001
>
> # Create two new variables for class (because names are 1_2, 1_2, 2_1, 2_2, etc.):
>
> dat$Class_neu <- str_sub(dat$Class,3,3)
> dat$Class_neu <- as.numeric(dat$Class_neu)
> dat$Class_neu[is.na(dat$Class_neu)] <- 1
> table(dat$Class_neu)

 1  2
77 33
> mdat <- na.omit(dat[c("ONT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o2 <- lme(ONT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(o2)
Linear mixed-effects model fit by REML
 Data: mdat
        AIC      BIC   logLik
  -8.799168 11.31589 15.39958

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 8.493854e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.095289e-07 0.1274276

Fixed effects: ONT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 +      Age
                       Value Std.Error DF    t-value p-value
(Intercept)        0.9517026 0.8032480 41  1.1848180  0.2429
ExtramuralEnglish -0.0004208 0.0010737 41 -0.3919143  0.6972
Ctest              0.5031628 0.2067040 41  2.4342192  0.0194
Dyslexdyslex      -0.0946604 0.1040986 41 -0.9093339  0.3685
HISEI              0.0008454 0.0014284 41  0.5918432  0.5572
Genderboy          0.0232048 0.0408332 41  0.5682827  0.5729
L1not majority L  -0.0037472 0.0705468 41 -0.0531161  0.9579
Age               -0.0283305 0.0547712 41 -0.5172515  0.6078
 Correlation:
                  (Intr) ExtrmE Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.288
Ctest             -0.468 -0.394
Dyslexdyslex       0.407  0.120 -0.019
HISEI             -0.077  0.108 -0.396 -0.097
Genderboy         -0.155 -0.191 -0.010 -0.164  0.200
L1not majority L   0.138 -0.144  0.014  0.120  0.153  0.055
Age               -0.995 -0.288  0.429 -0.421  0.021  0.134 -0.165

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.83594937 -0.45929093  0.02045502  0.77237592  1.49637627

Number of Observations: 54
```

```
Number of Groups:
               School Class_neu %in% School
                    4                     6
>
> mdat <- na.omit(dat[c("EIT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> e2 <- lme(EIT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(e2)
Linear mixed-effects model fit by REML
 Data: mdat
        AIC      BIC   logLik
  -7.495373 17.69968 14.74769

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01180655

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.442939e-06 0.1589515
```

```
Fixed effects: EIT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 +      Age
                        Value Std.Error DF   t-value p-value
(Intercept)         0.6435918 0.8011735 68  0.803311  0.4246
ExtramuralEnglish -0.0007192 0.0008882 68 -0.809749  0.4209
Ctest              0.7376900 0.1747343 68  4.221780  0.0001
Dyslexdyslex      -0.0178550 0.1244266 68 -0.143499  0.8863
HISEI              0.0027812 0.0014457 68  1.923760  0.0586
Genderboy         -0.0454124 0.0401144 68 -1.132075  0.2616
L1not majority L   0.0394467 0.0759590 68  0.519316  0.6052
Age               -0.0382641 0.0556278 68 -0.687859  0.4939
 Correlation:
                  (Intr) ExtrnE Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.188
Ctest             -0.281 -0.295
Dyslexdyslex       0.365  0.090  0.024
HISEI             -0.122  0.060 -0.447 -0.095
Genderboy         -0.031 -0.181 -0.049 -0.085  0.151
L1not majority L   0.188 -0.060 -0.057  0.100  0.074  0.081
Age               -0.995 -0.191  0.250 -0.373  0.066  0.010 -0.202

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.42050944 -0.57392325 -0.07874802  0.51511201  2.11891734

Number of Observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                     6
>
> mdat <- na.omit(dat[c("ATGJT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> a2 <- lme(ATGJT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(a2)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC      BIC    logLik
  -6.736636 18.30669 14.36832

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01146888

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.58921e-06 0.1589801

Fixed effects: ATGJT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF   t-value p-value
(Intercept)       -0.1467757 0.8013394 67 -0.183163  0.8552
ExtramuralEnglish  0.0007263 0.0008885 67  0.817486  0.4165
Ctest              0.5950010 0.1748370 67  3.403175  0.0011
Dyslexdyslex       0.1877291 0.1244519 67  1.508447  0.1361
HISEI              0.0017637 0.0014883 67  1.185072  0.2402
Genderboy         -0.0540546 0.0401388 67 -1.346693  0.1826
L1not majority L   0.0666005 0.0759663 67  0.876712  0.3838
Age                0.0193105 0.0556590 67  0.346943  0.7297
 Correlation:
                  (Intr) ExtrnE Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.188
Ctest             -0.281 -0.293
Dyslexdyslex       0.365  0.090  0.024
HISEI             -0.116  0.050 -0.443 -0.094
Genderboy         -0.031 -0.180 -0.048 -0.085  0.139
L1not majority L   0.188 -0.060 -0.057  0.100  0.072  0.081
Age               -0.995 -0.189  0.250 -0.372  0.057  0.011 -0.201

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.78480938 -0.68169871 -0.00264414  0.57647699  2.44339093

Number of Observations: 80
Number of Groups:
             School Class_neu %in% School
                  4                     6
>
> mdat <- na.omit(dat[c("WTGJT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> w2 <- lme(WTGJT ~ ExtramuralEnglish +  Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(w2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -4.512145 20.68291 13.25607

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.793115e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.801196e-07 0.1625364
```

```
Fixed effects: WTGJT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF    t-value p-value
(Intercept)       -0.3416537 0.8184337 68 -0.4174482  0.6777
ExtramuralEnglish  0.0014973 0.0009023 68  1.6594660  0.1016
Ctest              0.4365863 0.1776658 68  2.4573457  0.0166
Dyslexdyslex       0.1012285 0.1271788 68  0.7959542  0.4288
HISEI              0.0005789 0.0014759 68  0.3922269  0.6961
Genderboy         -0.1263942 0.0410045 68 -3.0824466  0.0030
L1not majority L   0.0746767 0.0775432 68  0.9630328  0.3389
Age                0.0341678 0.0568325 68  0.6012012  0.5497
 Correlation:
                  (Intr) ExtrnE Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.185
Ctest             -0.279 -0.287
Dyslexdyslex       0.367  0.093  0.022
HISEI             -0.122  0.063 -0.454 -0.096
Genderboy         -0.032 -0.184 -0.049 -0.084  0.151
L1not majority L   0.187 -0.062 -0.056  0.100  0.072  0.080
Age               -0.996 -0.188  0.248 -0.374  0.066  0.011 -0.200

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.02170902 -0.68522283  0.03221117  0.55462784  2.35284371

Number of Observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                     6
>
> mdat <- na.omit(dat[c("UGJT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> u2 <- lme(UGJT ~ ExtramuralEnglish +  Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(u2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  19.99442 45.18947 1.00279

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.42646e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 1.272806e-06 0.192242

Fixed effects: UGJT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender +      L1 + Age
                        Value Std.Error DF    t-value p-value
(Intercept)        1.5298143 0.9680131 68  1.580365  0.1187
ExtramuralEnglish -0.0033229 0.0010672 68 -3.113825  0.0027
Ctest              0.8024563 0.2101365 68  3.818738  0.0003
Dyslexdyslex       0.0249056 0.1504224 68  0.165571  0.8690
HISEI              0.0038697 0.0017457 68  2.216740  0.0300
Genderboy          0.0061866 0.0484986 68  0.127563  0.8989
L1not majority L   0.1754196 0.0917153 68  1.912654  0.0600
Age               -0.0998059 0.0672194 68 -1.484778  0.1422
```

```
 Correlation:
                  (Intr) ExtrnE Ctest  Dyslxd HISEI  Gndrby L1ntmL
ExtramuralEnglish  0.185
Ctest             -0.279 -0.287
Dyslexdyslex       0.367  0.093  0.022
HISEI             -0.122  0.063 -0.454 -0.096
Genderboy         -0.032 -0.184 -0.049 -0.084  0.151
L1not majority L   0.187 -0.062 -0.056  0.100  0.072  0.080
Age               -0.996 -0.188  0.248 -0.374  0.066  0.011 -0.200

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.99314496 -0.43322546  0.04334598  0.64133596  2.16650719

Number of Observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                     6
>
> mdat <- na.omit(dat[c("MKT", "ExtramuralEnglish", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> m2 <- lme(MKT ~ ExtramuralEnglish +  Ctest + Dyslex + HISEI + Gender + L1 + Age,
+           random= ~ 1 | School/Class_neu,data=mdat)
> summary(m2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -45.17108 -20.43763 33.58554

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06031491

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.009390771 0.1156093

Fixed effects: MKT ~ ExtramuralEnglish + Ctest + Dyslex + HISEI + Gender + L1 +      Age
                        Value Std.Error DF   t-value p-value
(Intercept)        0.5254883 0.5901782 65  0.890389  0.3765
ExtramuralEnglish -0.0018527 0.0007996 65 -2.317084  0.0237
Ctest              0.5405703 0.1375395 65  3.930293  0.0002
Dyslexdyslex      -0.0655177 0.0910446 65 -0.719623  0.4743
HISEI              0.0002352 0.0010993 65  0.213919  0.8313
Genderboy         -0.0575205 0.0304989 65 -1.885990  0.0638
L1not majority L  -0.1124225 0.0563259 65 -1.995930  0.0501
Age                0.0032965 0.0408995 65  0.080600  0.9360
```

```
 Correlation:
                  (Intr) ExtrnE Ctest  Dyslxd HISEI  Gndrby LIntML
ExtramuralEnglish  0.200
Ctest             -0.304 -0.358
Dyslexdyslex       0.348  0.064  0.048
HISEI             -0.116  0.057 -0.356 -0.071
Genderboy         -0.022 -0.240 -0.054 -0.097  0.128
LInot majority L  -0.198 -0.066 -0.062  0.093  0.095  0.101
Age               -0.993 -0.200  0.266 -0.359  0.051  0.005 -0.214

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0660454 -0.5149936  0.1458171  0.7677321  1.9793181

Number of Observations: 78
Number of Groups:
                School Class_neu %in% School
                     4                     6
```

9 Linear Mixed Models (Individual EE Activities – Austria only)

```
> ####################################
> ### Individual act., Austria only ####
> ####################################
>
> # first load other data file that includes only Austrian cases
>
> mdat <- na.omit(dat[c("ONT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> or2 <- lme(ONT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+                random= ~ 1 | School/Class_neu,data=mdat)
> summary(or2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.01691 9.098141 16.50846

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 8.884909e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.200506e-07 0.1275973

Fixed effects: ONT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       1.0444057 0.7704482 41  1.3555819  0.1827
Read_wkly         0.0006087 0.0034644 41  0.1757010  0.8614
Ctest             0.4589318 0.2028272 41  2.2626740  0.0290
Dyslexdyslex     -0.0901243 0.1035060 41 -0.8707149  0.3890
HISEI             0.0008966 0.0014230 41  0.6300712  0.5321
Genderboy         0.0190213 0.0406439 41  0.4679982  0.6423
LInot majority L -0.0079566 0.0699139 41 -0.1138058  0.9099
Age              -0.0343831 0.0525192 41 -0.6546773  0.5163
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby LIntML
Read_wkly         0.016
Ctest            -0.384 -0.346
Dyslexdyslex      0.391 -0.019  0.036
HISEI            -0.114 -0.037 -0.350 -0.111
Genderboy        -0.108 -0.158 -0.033 -0.140  0.229
LInot majority L  0.189 -0.018 -0.037  0.140  0.172  0.031
Age              -0.994  0.015  0.330 -0.406  0.054  0.081 -0.219

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.80396209 -0.37747998  0.01868795  0.79044767  1.45805875

Number of Observations: 54
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("EIT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> er2 <- lme(EIT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+                random= ~ 1 | School/Class_neu,data=mdat)
> summary(er2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.65241 15.54264 15.82621

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01899391

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.366815e-06 0.1589619

Fixed effects: EIT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.7699425 0.7873180 68  0.977931  0.3316
Read_wkly        -0.0014253 0.0032069 68 -0.444446  0.6581
Ctest             0.7129264 0.1764891 68  4.039494  0.0001
Dyslexdyslex     -0.0113940 0.1240517 68 -0.091849  0.9271
HISEI             0.0028681 0.0014571 68  1.968404  0.0531
Genderboy        -0.0492228 0.0395844 68 -1.243492  0.2180
LInot majority L  0.0340611 0.0760432 68  0.447918  0.6556
Age              -0.0474769 0.0546536 68 -0.868687  0.3881
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby LIntML
Read_wkly         0.006
Ctest            -0.230 -0.313
Dyslexdyslex      0.354 -0.007  0.055
HISEI            -0.136 -0.119 -0.380 -0.097
Genderboy         0.005 -0.067 -0.085 -0.071  0.169
LInot majority L  0.204  0.035 -0.085  0.104  0.075  0.070
Age              -0.995  0.022  0.188 -0.363  0.075 -0.028 -0.218

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.45244188 -0.58628124 -0.05573946  0.52449611  2.09009193

Number of Observations: 81
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("ATGJT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ar2 <- lme(ATGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+                random= ~ 1 | School/Class_neu,data=mdat)
> summary(ar2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -8.808967 16.23436 15.40448

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01623744
```

```
Fixed effects: ATGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                     Value Std.Error DF   t-value p-value
(Intercept)      -0.2692079 0.7888195 67 -0.341279  0.7340
Read_wkly         0.0012173 0.0032380 67  0.375944  0.7081
Ctest             0.6199062 0.1763781 67  3.514644  0.0008
Dyslexdyslex      0.1783921 0.1242497 67  1.435754  0.1557
HISEI             0.0016131 0.0015080 67  1.069695  0.2886
Genderboy        -0.0490965 0.0396654 67 -1.237768  0.2201
L1not majority L  0.0704882 0.0761247 67  0.925956  0.3578
Age               0.0284568 0.0547902 67  0.519377  0.6052
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Read_wkly          0.002
Ctest             -0.230 -0.307
Dyslexdyslex       0.355 -0.005  0.053
HISEI             -0.127 -0.148 -0.373 -0.096
Genderboy          0.004 -0.064 -0.084 -0.070  0.157
L1not majority L   0.204  0.034 -0.085  0.104  0.070  0.070
Age               -0.995  0.028  0.188 -0.363  0.063 -0.027 -0.217

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.82421646 -0.65220240  0.02250383  0.57866136  2.40699058

Number of Observations: 80
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("WTGJT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wr2 <- lme(WTGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wr2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.180522 19.01453 14.09026

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.78505e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 9.052339e-07 0.1635409

Fixed effects: WTGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                     Value Std.Error DF    t-value p-value
(Intercept)      -0.5908889 0.8092309 68 -0.7301858  0.4678
Read_wkly         0.0044297 0.0032780 68  1.3513487  0.1811
Ctest             0.4478226 0.1796460 68  2.4928052  0.0151
Dyslexdyslex      0.0814632 0.1274158 68  0.6393488  0.5247
HISEI             0.0001957 0.0014918 68  0.1311896  0.8960
Genderboy        -0.1178894 0.0406631 68 -2.8991770  0.0050
```

```
L1not majority L  0.0858306 0.0779045 68  1.1017405  0.2745
Age               0.0537800 0.0561763 68  0.9573426  0.3418
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Read_wkly          0.002
Ctest             -0.229 -0.302
Dyslexdyslex       0.357 -0.001  0.049
HISEI             -0.136 -0.114 -0.398 -0.101
Genderboy          0.002 -0.073 -0.081 -0.068  0.173
L1not majority L   0.202  0.030 -0.083  0.107  0.072  0.068
Age               -0.995  0.024  0.190 -0.365  0.076 -0.027 -0.215

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.027435847 -0.714599618  0.008778871  0.517791572  2.447812947

Number of Observations: 81
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("UGJT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ur2 <- lme(UGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ur2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  20.09648 45.29153 0.9517619

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02358094

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.163756e-06 0.1948674

Fixed effects: UGJT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                     Value Std.Error DF   t-value p-value
(Intercept)       2.1062762 0.9651720 68  2.182281  0.0325
Read_wkly        -0.0098041 0.0039318 68 -2.493517  0.0151
Ctest             0.7603880 0.2164047 68  3.513732  0.0008
Dyslexdyslex      0.0614499 0.1520772 68  0.404070  0.6874
HISEI             0.0046170 0.0017864 68  2.584569  0.0119
Genderboy        -0.0103005 0.0485270 68 -0.212264  0.8325
L1not majority L  0.1521153 0.0932272 68  1.631663  0.1074
Age              -0.1443302 0.0669997 68 -2.154193  0.0348
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Read_wkly          0.006
Ctest             -0.230 -0.313
Dyslexdyslex       0.354 -0.008  0.055
HISEI             -0.136 -0.120 -0.380 -0.097
Genderboy          0.005 -0.067 -0.085 -0.071  0.169
L1not majority L   0.205  0.035 -0.085  0.104  0.075  0.070
Age               -0.995  0.022  0.188 -0.363  0.075 -0.028 -0.218
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8042023 -0.5173632  0.0436665  0.5978905  2.3253837

Number of Observations: 81
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("MKT", "Read_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mr2 <- lme(MKT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mr2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -42.79372 -18.06028 32.39686

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06987227

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.457224e-06 0.1194503

Fixed effects: MKT ~ Read_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                     Value Std.Error DF    t-value p-value
(Intercept)       0.8062139 0.5985502 65  1.3469446  0.1827
Read_wkly        -0.0010441 0.0030167 65 -0.3461047  0.7304
Ctest             0.4388376 0.1400953 65  3.1324219  0.0026
Dyslexdyslex     -0.0502919 0.0939274 65 -0.5354340  0.5942
HISEI             0.0004118 0.0011463 65  0.3592470  0.7206
Genderboy        -0.0734712 0.0308154 65 -2.3842321  0.0200
L1not majority L -0.1223982 0.0581068 65 -2.1064372  0.0390
Age              -0.0165324 0.0415510 65 -0.3978816  0.6920
 Correlation:
                  (Intr) Rd_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Read_wkly         -0.051
Ctest             -0.224 -0.317
Dyslexdyslex       0.344 -0.042  0.086
HISEI             -0.122 -0.142 -0.291 -0.069
Genderboy          0.034 -0.125 -0.107 -0.078  0.161
L1not majority L   0.215  0.016 -0.092  0.097  0.097  0.086
Age               -0.992  0.083  0.174 -0.356  0.051 -0.056 -0.231

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0259512 -0.6454680  0.1881878  0.7658605  2.1390718

Number of Observations: 78
Number of Groups:
                School Class_neu %in% School
                     4                     6
```

```
> mdat <- na.omit(dat[c("ONT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ow2 <- lme(ONT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ow2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -16.35447 9.847823 19.17723

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.614349e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.05062959 0.1503926

Fixed effects: ONT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       1.0525091 0.5678039 67  1.853649  0.0682
Write_wkly        0.0028953 0.0031809 67  0.910209  0.3660
Ctest             0.4179262 0.1256670 67  3.325664  0.0014
Dyslexdyslex      0.0354333 0.0840947 67  0.421350  0.6748
HISEI             0.0004312 0.0012314 67  0.350212  0.7273
Genderboy         0.0456313 0.0360080 67  1.267260  0.2094
L1not majority L  0.0090355 0.0564085 67  0.160179  0.8732
Age              -0.0328580 0.0407349 67 -0.806628  0.4227
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Write_wkly         0.109
Ctest              0.032 -0.235
Dyslexdyslex       0.266  0.013  0.202
HISEI             -0.216 -0.026 -0.231 -0.043
Genderboy         -0.159  0.115 -0.054 -0.127  0.137
L1not majority L  0.210 -0.335  0.172  0.148 -0.016 -0.089
Age               -0.991 -0.102 -0.080 -0.286  0.116  0.127 -0.232

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.7881227 -0.3706560  0.1161230  0.6905422  1.3286349

Number of Observations: 88
Number of Groups:
               School Class_neu %in% School
                    7                   14
```

```
>
> mdat <- na.omit(dat[c("EIT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ew2 <- lme(EIT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ew2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.05546 14.13959 16.52773

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.04075651

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.280596e-06 0.1567721

Fixed effects: EIT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       1.1020426 0.8598954 68  1.281601  0.2043
Write_wkly        0.0045074 0.0053455 68  0.843209  0.4021
Ctest             0.6273709 0.1721386 68  3.644568  0.0005
Dyslexdyslex     -0.0021146 0.1249581 68 -0.016923  0.9865
HISEI             0.0026152 0.0014387 68  1.817715  0.0735
Genderboy        -0.0432291 0.0393841 68 -1.097628  0.2762
L1not majority L  0.0247486 0.0761919 68  0.324819  0.7463
Age              -0.0691498 0.0599536 68 -1.153388  0.2528
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Write_wkly         0.427
Ctest             -0.306 -0.221
Dyslexdyslex       0.391  0.189  0.021
HISEI             -0.110  0.027 -0.411 -0.084
Genderboy          0.060  0.123 -0.144 -0.053  0.158
L1not majority L  0.125 -0.143 -0.045  0.070  0.079  0.058
Age               -0.996 -0.436  0.274 -0.399  0.056 -0.080 -0.136

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.53041428 -0.56210512 -0.05771658  0.54377461  1.95590890

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                   6
>
> mdat <- na.omit(dat[c("ATGJT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> aw2 <- lme(ATGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(aw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.63946 13.40386 16.81973

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02110064

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.87467e-06 0.1568979

Fixed effects: ATGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.2299939 0.8531335 67  0.269587  0.7883
Write_wkly        0.0074436 0.0052310 67  1.423371  0.1593
Ctest             0.5980249 0.1690972 67  3.536575  0.0007
```

```
Dyslexdyslex      0.2143851 0.1250040 67  1.715026  0.0910
HISEI             0.0017602 0.0014730 67  1.194982  0.2363
Genderboy        -0.0423096 0.0392479 67 -1.078007  0.2849
L1not majority L  0.0522954 0.0759370 67  0.688668  0.4934
Age              -0.0079561 0.0595414 67 -0.133622  0.8941
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Write_wkly         0.412
Ctest             -0.295 -0.193
Dyslexdyslex       0.398  0.200  0.016
HISEI             -0.103  0.032 -0.436 -0.087
Genderboy          0.048  0.105 -0.128 -0.050  0.150
L1not majority L  0.122 -0.151 -0.047  0.070  0.071  0.056
Age               -0.996 -0.422  0.265 -0.406  0.047 -0.068 -0.132

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.855598209 -0.717670681  0.008346729  0.657674776  2.361693052

Number of Observations: 80
Number of Groups:
               School Class_neu %in% School
                    4                   6
>
> mdat <- na.omit(dat[c("WTGJT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ww2 <- lme(WTGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ww2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.83326 14.36179 16.41663

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.863107e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 8.338172e-07 0.1594822

Fixed effects: WTGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.2315854 0.8616793 68  0.2687605  0.7889
Write_wkly        0.0124622 0.0052276 68  2.3839216  0.0199
Ctest             0.4494332 0.1696866 68  2.6486082  0.0100
Dyslexdyslex      0.1445299 0.1270181 68  1.1378682  0.2592
HISEI             0.0005920 0.0014470 68  0.4091462  0.6837
Genderboy        -0.1053317 0.0397112 68 -2.6524429  0.0099
L1not majority L  0.0537989 0.0769000 68  0.6995957  0.4866
Age              -0.0073445 0.0601471 68 -0.1221091  0.9032
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Write_wkly         0.402
Ctest             -0.288 -0.177
Dyslexdyslex       0.403  0.207  0.012
HISEI             -0.106  0.048 -0.457 -0.090
```

```
Genderboy          0.039  0.090 -0.122 -0.048  0.169
Linot majority L   0.120 -0.158 -0.047  0.070  0.068  0.055
Age               -0.996 -0.413  0.259 -0.411  0.052 -0.060 -0.129

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0722963 -0.6789127 -0.1202403  0.7007592  2.2518123

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6

>
> mdat <- na.omit(dat[c("UGJT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uw2 <- lme(UGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(uw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  24.05351 49.24856 -1.026753

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05292903

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.5100344e-06 0.1992984

Fixed effects: UGJT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.9020350 1.0935118 68  1.7393823  0.0865
Write_wkly       -0.0039868 0.0068015 68 -0.5861762  0.5597
Ctest             0.5693491 0.2190078 68  2.5996748  0.0114
Dyslexdyslex      0.0223977 0.1588575 68  0.1409925  0.8883
HISEI             0.0037807 0.0018295 68  2.0665261  0.0426
Genderboy        -0.0159026 0.0500775 68 -0.3175601  0.7518
Linot majority L  0.1725976 0.0968730 68  1.7816888  0.0793
Age              -0.1232113 0.0762385 68 -1.6161308  0.1107
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby Lintml
Write_wkly         0.427
Ctest             -0.306 -0.223
Dyslexdyslex       0.391  0.188  0.021
HISEI             -0.111  0.026 -0.409 -0.084
Genderboy          0.061  0.123 -0.144 -0.053  0.157
Linot majority L   0.125 -0.143 -0.045  0.070  0.080  0.058
Age               -0.996 -0.436  0.274 -0.399  0.056 -0.080 -0.136
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.75659346 -0.48456863  0.06535317  0.60342620  2.15674068

Number of Observations: 81
```

```
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("MKT", "Write_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mw2 <- lme(MKT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mw2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -43.46281 -18.72937 32.73141

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07172886

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.052331e-06 0.1194325

Fixed effects: MKT ~ Write_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       0.8179076 0.6664277 65  1.2273013  0.2241
Write_wkly        0.0003445 0.0044596 65  0.0772570  0.9387
Ctest             0.4203610 0.1361361 65  3.0878006  0.0030
Dyslexdyslex     -0.0504269 0.0955620 65 -0.5276873  0.5995
HISEI             0.0003523 0.0011367 65  0.3099083  0.7576
Genderboy        -0.0745265 0.0307881 65 -2.4206277  0.0183
Linot majority L -0.1229717 0.0587474 65 -2.0932256  0.0402
Age              -0.0168879 0.0465081 65 -0.3631175  0.7177
 Correlation:
                  (Intr) Wrt_wk Ctest  Dyslxd HISEI  Gndrby Lintml
Write_wkly         0.442
Ctest             -0.318 -0.216
Dyslexdyslex       0.385  0.189  0.033
HISEI             -0.091  0.058 -0.360 -0.063
Genderboy          0.077  0.118 -0.176 -0.060  0.152
Linot majority L   0.126 -0.148 -0.056  0.067  0.090  0.070
Age               -0.994 -0.455  0.282 -0.396  0.030 -0.095 -0.138

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0918951 -0.6502995  0.1691366  0.7814326  2.1598405

Number of Observations: 78
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("ONT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ol2 <- lme(ONT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ol2)
Linear mixed-effects model fit by REML
 Data: mdat
```

```
       AIC      BIC    logLik
  -12.03578 8.079278 17.01789

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.11446e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.836775e-07 0.1275462

Fixed effects: ONT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.0390232 0.7701379 41  1.3491391  0.1847
List_wkly        -0.0014729 0.0056584 41 -0.2603095  0.7959
Ctest             0.4846411 0.1970031 41  2.4600689  0.0182
Dyslexdyslex     -0.0902135 0.1034592 41 -0.8719724  0.3883
HISEI             0.0009147 0.0014218 41  0.6433434  0.5236
Genderboy         0.0226400 0.0412451 41  0.5489152  0.5860
Linot majority L -0.0063587 0.0700739 41 -0.0907427  0.9281
Age              -0.0346691 0.0524953 41 -0.6604228  0.5127
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby Lintml
List_wkly          0.016
Ctest             -0.393 -0.261
Dyslexdyslex       0.392  0.016  0.026
HISEI             -0.114 -0.024 -0.367 -0.112
Genderboy         -0.107 -0.232 -0.029 -0.144  0.225
Linot majority L  -0.187 -0.075 -0.025  0.138  0.173  0.045
Age               -0.994  0.011  0.343 -0.406  0.055  0.079 -0.219

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.83363132 -0.42311385  0.02951567  0.76491828  1.48618871

Number of Observations: 54
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("EIT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> el2 <- lme(EIT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(el2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.66574 13.52931 16.83287

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.809515e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.200696e-06 0.1588343
```

```
Fixed effects: EIT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.7629828 0.7859424 68  0.970787  0.3351
List_wkly        -0.0061779 0.0058647 68 -1.053403  0.2959
Ctest             0.7493925 0.1724751 68  4.344931  0.0000
Dyslexdyslex     -0.0093973 0.1237775 68 -0.075921  0.9397
HISEI             0.0029053 0.0014395 68  2.018261  0.0475
Genderboy        -0.0451803 0.0399133 68 -1.131961  0.2616
Linot majority L  0.0374367 0.0756374 68  0.494950  0.6222
Age              -0.0479754 0.0545554 68 -0.879388  0.3823
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby Lintml
List_wkly         -0.002
Ctest             -0.231 -0.265
Dyslexdyslex       0.357  0.022  0.043
HISEI             -0.137 -0.006 -0.438 -0.102
Genderboy          0.003 -0.162 -0.060 -0.071  0.165
Linot majority L   0.202 -0.011 -0.071  0.106  0.076  0.071
Age               -0.995  0.021  0.194 -0.364  0.079 -0.028 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.45691825 -0.59275380 -0.08470376  0.51796249  2.04934537

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
```

```
>
> mdat <- na.omit(dat[c("ATGJT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> al2 <- lme(ATGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(al2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC  logLik
  -9.903002 15.14033 15.9515

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01814479

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 2.77963e-06 0.159294

Fixed effects: ATGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)      -0.2700400 0.7890138 67 -0.342250  0.7332
List_wkly         0.0006752 0.0059711 67  0.113073  0.9103
Ctest             0.6362559 0.1749973 67  3.635805  0.0005
Dyslexdyslex      0.1788820 0.1243053 67  1.439054  0.1548
HISEI             0.0016895 0.0014935 67  1.131210  0.2620
Genderboy        -0.0488487 0.0400723 67 -1.219015  0.2271
L1not majority L  0.0690773 0.0761394 67  0.907248  0.3675
Age               0.0280013 0.0547950 67  0.511019  0.6110
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly          0.001
Ctest             -0.231 -0.278
Dyslexdyslex       0.354  0.014  0.049
HISEI             -0.128 -0.032 -0.415 -0.097
Genderboy          0.004 -0.133 -0.061 -0.073  0.152
L1not majority L   0.204 -0.010 -0.072  0.104  0.076  0.073
Age               -0.995  0.021  0.193 -0.362  0.067 -0.028 -0.218

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.8504767 -0.6147190  0.0335814  0.5600578  2.3792079

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.8504767 -0.6147190  0.0335814  0.5600578  2.3792079

Number of Observations: 80
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("WTGJT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wl2 <- lme(WTGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wl2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -6.640557 18.5545 14.32028

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.670303e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 9.410496e-07 0.1643964

Fixed effects: WTGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF    t-value p-value
(Intercept)      -0.5953212 0.8134648 68 -0.7318340  0.4668
List_wkly         0.0062180 0.0060701 68  1.0243672  0.3093
Ctest             0.4727640 0.1785149 68  2.6483169  0.0100
Dyslexdyslex      0.0845255 0.1281120 68  0.6597784  0.5116
HISEI             0.0004161 0.0014899 68  0.2792888  0.7809
Genderboy        -0.1207313 0.0413110 68 -2.9224982  0.0047
L1not majority L  0.0815347 0.0782861 68  1.0414968  0.3013
Age               0.0531442 0.0564658 68  0.9411743  0.3499
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly         -0.002
Ctest             -0.231 -0.265
Dyslexdyslex       0.357  0.022  0.043
HISEI             -0.137 -0.006 -0.438 -0.102
Genderboy          0.003 -0.162 -0.060 -0.071  0.165
L1not majority L   0.202 -0.015 -0.071  0.106  0.076  0.071
Age               -0.995  0.021  0.194 -0.364  0.079 -0.028 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.06571696 -0.69808547 -0.05886911  0.53561789  2.45514217

Number of Observations: 81
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("UGJT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ul2 <- lme(UGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ul2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  17.85671 43.05176 2.071646

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.708404e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.357622e-06 0.1944296

Fixed effects: UGJT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       2.0948056 0.9620747 68  2.177383  0.0329
List_wkly        -0.0201084 0.0071791 68 -2.800983  0.0066
Ctest             0.7712981 0.2111274 68  3.653236  0.0005
Dyslexdyslex      0.0591078 0.1515165 68  0.390108  0.6977
HISEI             0.0042398 0.0017621 68  2.406144  0.0188
Genderboy         0.0005612 0.0488580 68  0.011487  0.9909
L1not majority L  0.1613914 0.0925880 68  1.743114  0.0858
Age              -0.1431467 0.0667814 68 -2.143510  0.0357
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly         -0.002
Ctest             -0.231 -0.265
Dyslexdyslex       0.357  0.022  0.043
HISEI             -0.137 -0.006 -0.438 -0.102
Genderboy          0.003 -0.162 -0.060 -0.071  0.165
L1not majority L   0.202 -0.015 -0.071  0.106  0.076  0.071
Age               -0.995  0.021  0.194 -0.364  0.079 -0.028 -0.216

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.06826570 -0.53173290  0.07013155  0.66192002  2.29683295

Number of Observations: 81
Number of Groups:
                School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("MKT", "List_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ml2 <- lme(MKT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ml2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC  logLik
  -44.70181 -19.96836 33.3509

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06588135

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.52149e-06 0.1190216

Fixed effects: MKT ~ List_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.8132256 0.5957161 65  1.365123  0.1769
List_wkly        -0.0050819 0.0052836 65 -0.961837  0.3397
Ctest             0.4682610 0.1396094 65  3.354080  0.0013
Dyslexdyslex     -0.0487561 0.0935306 65 -0.521284  0.6039
HISEI             0.0004169 0.0011309 65  0.368648  0.7136
Genderboy        -0.0691091 0.0310267 65 -2.227406  0.0294
L1not majority L -0.1203725 0.0578901 65 -2.079330  0.0415
Age              -0.0177392 0.0413190 65 -0.429223  0.6691
 Correlation:
                  (Intr) Lst_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
List_wkly         -0.028
Ctest             -0.231 -0.320
Dyslexdyslex       0.343 -0.028  0.081
HISEI             -0.129 -0.040 -0.327 -0.075
Genderboy          0.033 -0.190 -0.083 -0.077  0.151
L1not majority L   0.217 -0.022 -0.080  0.098  0.100  0.091
Age               -0.993  0.055  0.183 -0.355  0.061 -0.056 -0.234

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0011513 -0.6847597  0.1432536  0.8354116  2.0868029

Number of Observations: 78
Number of Groups:
                School Class_neu %in% School
                     4                     6
```

```
> mdat <- na.omit(dat[c("ONT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> os2 <- lme(ONT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(os2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.88415 7.230907 17.44207

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.184907e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.828845e-07 0.1273403

Fixed effects: ONT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.1127248 0.7835593 41  1.4200901  0.1631
Speak_wkly        0.0037329 0.0080156 41  0.4657033  0.6439
Ctest             0.4224679 0.2168901 41  1.9478432  0.0583
Dyslexdyslex     -0.0928321 0.1034870 41 -0.8970417  0.3749
HISEI             0.0010703 0.0014624 41  0.7318870  0.4684
Genderboy         0.0218287 0.0402161 41  0.5427833  0.5902
L1not majority L -0.0032754 0.0704156 41 -0.0465150  0.9631
Age              -0.0392454 0.0533800 41 -0.7352094  0.4664
 Correlation:
                 (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly        0.193
Ctest            -0.440 -0.483
Dyslexdyslex      0.371 -0.063  0.058
HISEI            -0.062  0.241 -0.445 -0.123
Genderboy        -0.087  0.090 -0.126 -0.149  0.240
L1not majority L  0.210  0.136 -0.106  0.129  0.198  0.040
Age              -0.994 -0.190  0.399 -0.386  0.006  0.065 -0.238
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.82699096 -0.45036616  0.02498007  0.76979168  1.46245742

Number of Observations: 54
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("EIT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> es2 <- lme(EIT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(es2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.896126 15.29893 15.94806
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02324672

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.86303e-06 0.1586467

Fixed effects: EIT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.7462636 0.7890700 68  0.945751  0.3476
Speak_wkly       -0.0015560 0.0036180 68 -0.430070  0.6685
Ctest             0.6980447 0.1713857 68  4.072946  0.0001
Dyslexdyslex     -0.0147819 0.1238982 68 -0.119307  0.9054
HISEI             0.0026983 0.0014510 68  1.859676  0.0673
Genderboy        -0.0476081 0.0397691 68 -1.197113  0.2354
L1not majority L  0.0348429 0.0759528 68  0.458744  0.6479
Age              -0.0448741 0.0547718 68 -0.819293  0.4155
 Correlation:
                 (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly        0.088
Ctest            -0.252 -0.204
Dyslexdyslex      0.354  0.018  0.052
HISEI            -0.127  0.082 -0.444 -0.095
Genderboy        -0.005 -0.127 -0.084 -0.075  0.149
L1not majority L  0.204  0.002 -0.077  0.103  0.081  0.073
Age              -0.995 -0.090  0.218 -0.362  0.069 -0.016 -0.219

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.46805606 -0.57544121 -0.08280161  0.54416493  2.11698763

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("ATGJT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> as2 <- lme(ATGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(as2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.47615 13.56717 16.73808

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.699188e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.839834e-07 0.1571431

Fixed effects: ATGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
```

```
                      Value Std.Error DF   t-value p-value
(Intercept)      -0.1604495 0.7805587 67 -0.205557  0.8378
Speak_wkly        0.0058478 0.0035597 67  1.642802  0.1051
Ctest             0.5805026 0.1678441 67  3.458582  0.0009
Dyslexdyslex      0.1829218 0.1224640 67  1.493679  0.1400
HISEI             0.0018986 0.0014709 67  1.290728  0.2012
Genderboy        -0.0565414 0.0393235 67 -1.437853  0.1551
L1not majority L  0.0707068 0.0748249 67  0.944963  0.3481
Age               0.0201804 0.0542082 67  0.372277  0.7109
 Correlation:
                 (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly        0.085
Ctest            -0.252 -0.191
Dyslexdyslex      0.357  0.022  0.046
HISEI            -0.120  0.077 -0.459 -0.099
Genderboy        -0.009 -0.130 -0.078 -0.071  0.141
L1not majority L  0.201 -0.005 -0.075  0.107  0.073  0.070
Age              -0.995 -0.087  0.220 -0.365  0.061 -0.012 -0.215

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.774973969 -0.691704389  0.006606379  0.531791223  2.520887532

Number of Observations: 80
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("WTGJT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ws2 <- lme(WTGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ws2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -7.128054 18.067 14.56403

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.150987e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 8.784262e-07 0.162755

Fixed effects: WTGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)      -0.4831085 0.8082927 68 -0.5976900  0.5520
Speak_wkly        0.0058868 0.0036861 68  1.5970102  0.1149
Ctest             0.4679246 0.1736557 68  2.6945533  0.0089
Dyslexdyslex      0.0860215 0.1268324 68  0.6782300  0.4999
HISEI             0.0006242 0.0014803 68  0.4216870  0.6746
Genderboy        -0.1223652 0.0407078 68 -3.0059403  0.0037
L1not majority L  0.0821029 0.0774970 68  1.0594329  0.2932
Age               0.0440302 0.0561087 68  0.7847314  0.4353
```

```
 Correlation:
                 (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly        0.085
Ctest            -0.251 -0.192
Dyslexdyslex      0.358  0.021  0.046
HISEI            -0.128  0.084 -0.462 -0.100
Genderboy        -0.009 -0.130 -0.080 -0.071  0.153
L1not majority L  0.201 -0.005 -0.075  0.107  0.076  0.070
Age              -0.995 -0.088  0.219 -0.365  0.072 -0.013 -0.215

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0592635 -0.6602157 -0.0538024  0.5508182  2.4399150

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("UGJT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> us2 <- lme(UGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(us2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  20.56384 45.75889 0.718082
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05013917

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 5.649947e-06 0.1936482

Fixed effects: UGJT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       1.9821386 0.9646494 68  2.0547762  0.0437
Speak_wkly       -0.0097340 0.0044486 68 -2.1881218  0.0321
Ctest             0.6439420 0.2124043 68  3.0316803  0.0034
Dyslexdyslex      0.0362652 0.1515832 68  0.2392430  0.8116
HISEI             0.0035199 0.0017817 68  1.9755669  0.0523
Genderboy         0.0005643 0.0486490 68  0.0115984  0.9908
L1not majority L  0.1627859 0.0931488 68  1.7475904  0.0850
Age              -0.1292586 0.0669420 68 -1.9309043  0.0577
 Correlation:
                  (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly         0.091
Ctest             -0.253 -0.217
Dyslexdyslex       0.349  0.013  0.061
HISEI             -0.127  0.077 -0.421 -0.090
Genderboy         -0.002 -0.123 -0.090 -0.079  0.144
L1not majority L  0.207  0.008 -0.079  0.100  0.084  0.075
Age               -0.995 -0.091  0.216 -0.359  0.067 -0.018 -0.222
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.59701833 -0.43507581  0.02421736  0.63759029  2.13720352

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("MKT", "Speak_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ms2 <- lme(MKT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ms2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -45.51843 -20.78499 33.75922

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06757318

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 0.007857876 0.1170174

Fixed effects: MKT ~ Speak_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.7241216 0.5870444 65  1.233504  0.2218
Speak_wkly       -0.0048831 0.0028045 65 -1.741206  0.0864
Ctest             0.4683464 0.1327324 65  3.528500  0.0008
Dyslexdyslex     -0.0535640 0.0919750 65 -0.582375  0.5623
HISEI             0.0001993 0.0011152 65  0.178737  0.8587
Genderboy        -0.0661337 0.0303606 65 -2.178273  0.0330
L1not majority L -0.1218427 0.0569151 65 -2.140778  0.0360
Age              -0.0102358 0.0406702 65 -0.251678  0.8021
 Correlation:
                  (Intr) Spk_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Speak_wkly         0.071
Ctest             -0.262 -0.195
Dyslexdyslex       0.342  0.008  0.074
HISEI             -0.124  0.078 -0.364 -0.074
Genderboy          0.016 -0.160 -0.119 -0.085  0.131
L1not majority L  0.216 -0.001 -0.090  0.097  0.099  0.088
Age               -0.993 -0.072  0.221 -0.354  0.057 -0.034 -0.232

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0434803 -0.6755828  0.1091909  0.7913665  2.1000509

Number of Observations: 78
Number of Groups:
               School Class_neu %in% School
                    4                    6
```

```
>
> mdat <- na.omit(dat[c("ONT", "Sing_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> os12 <- lme(ONT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(os12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -16.14725 3.967809 19.07362

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.055993e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 3.024192e-07 0.120786

Fixed effects: ONT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.7486736 0.7401494 41  1.0115170  0.3177
Sing_wkly        -0.0079219 0.0034189 41 -2.3170601  0.0256
Ctest             0.4866278 0.1802358 41  2.6999516  0.0100
Dyslexdyslex     -0.1214863 0.0989140 41 -1.2282016  0.2264
HISEI             0.0003594 0.0013666 41  0.2630305  0.7938
Genderboy        -0.0098416 0.0401364 41 -0.2452029  0.8075
L1not majority L  0.0092035 0.0665735 41  0.1382451  0.8907
Age              -0.0095045 0.0508691 41 -0.1868417  0.8527
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.171
Ctest             -0.403 -0.037
Dyslexdyslex       0.406  0.138  0.026
HISEI             -0.081  0.173 -0.387 -0.085
Genderboy         -0.044  0.322 -0.102 -0.091  0.266
L1not majority L  0.166 -0.110 -0.042  0.122  0.149 -0.009
Age               -0.994 -0.212  0.357 -0.422  0.016  0.009 -0.189

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8984387 -0.4908626  0.1557131  0.7109676  1.5221439

Number of Observations: 54
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("EIT", "Sing_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> es12 <- lme(EIT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(es12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -12.04758 13.14748 17.02379
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.712292e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.60062e-06 0.1576252

Fixed effects: EIT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.5869935 0.7885341 68  0.744411  0.4592
Sing_wkly        -0.0060502 0.0040326 68 -1.500317  0.1382
Ctest             0.7093514 0.1651386 68  4.295490  0.0001
Dyslexdyslex     -0.0267308 0.1235384 68 -0.216377  0.8293
HISEI             0.0025358 0.0014486 68  1.750531  0.0845
Genderboy        -0.0694293 0.0407819 68 -1.702454  0.0932
L1not majority L  0.0475735 0.0754308 68  0.630691  0.5304
Age              -0.0316232 0.0550624 68 -0.574316  0.5676
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.147
Ctest             -0.242 -0.033
Dyslexdyslex       0.367  0.109  0.047
HISEI             -0.109  0.166 -0.455 -0.082
Genderboy          0.044  0.285 -0.113 -0.034  0.204
L1not majority L  0.185 -0.100 -0.074  0.095  0.058  0.038
Age               -0.995 -0.183  0.209 -0.377  0.047 -0.076 -0.193

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.56967049 -0.58218069 -0.03846027  0.54484502  2.01483284

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("ATGJT", "Sing_wkly","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> as12 <- lme(ATGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(as12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.997511 15.04582 15.99876

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02731675

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.934341e-06 0.1576923
```

```
Fixed effects: ATGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    value Std.Error DF   t-value p-value
(Intercept)      -0.3911015 0.7916666 67 -0.494023  0.6229
Sing_wkly        -0.0039579 0.0041460 67 -0.954625  0.3432
Ctest             0.6614151 0.1678812 67  3.939781  0.0002
Dyslexdyslex      0.1677227 0.1237890 67  1.354908  0.1800
HISEI             0.0014496 0.0015049 67  0.963264  0.3389
Genderboy        -0.0601026 0.0411823 67 -1.459426  0.1491
L1not majority L  0.0744025 0.0759385 67  0.979773  0.3307
Age               0.0379999 0.0553160 67  0.686960  0.4945
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.159
Ctest             -0.248 -0.071
Dyslexdyslex       0.362  0.097  0.052
HISEI             -0.098  0.169 -0.435 -0.075
Genderboy          0.053  0.301 -0.129 -0.041  0.187
L1not majority L  -0.187 -0.095 -0.071  0.092  0.060  0.042
Age               -0.994 -0.194  0.215 -0.371  0.032 -0.083 -0.196

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.95481424 -0.54888059  0.03576277  0.58029383  2.29665033

Number of observations: 80
Number of Groups:
             School Class_neu %in% School
                  4                    6
```

```
>
> mdat <- na.omit(dat[c("WTGJT", "Sing_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ws12 <- lme(WTGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ws12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC  logLik
  -4.886604 20.30845 13.4433

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.502857e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 1.421009e-06 0.1655491

Fixed effects: WTGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    value Std.Error DF    t-value p-value
(Intercept)      -0.5753833 0.8281741 68 -0.6947612  0.4896
Sing_wkly         0.0006241 0.0042353 68  0.1473518  0.8833
Ctest             0.5203590 0.1734402 68  3.0002203  0.0038
Dyslexdyslex      0.0837769 0.1297488 68  0.6456856  0.5207
HISEI             0.0004620 0.0015214 68  0.3036615  0.7623
Genderboy        -0.1120883 0.0428320 68 -2.6169267  0.0109
L1not majority L  0.0815435 0.0792227 68  1.0292946  0.3070
Age               0.0503732 0.0578304 68  0.8710500  0.3868
```

```
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.147
Ctest             -0.242 -0.033
Dyslexdyslex       0.367  0.109  0.047
HISEI             -0.109  0.166 -0.455 -0.082
Genderboy          0.044  0.285 -0.113 -0.034  0.204
L1not majority L  0.185 -0.100 -0.074  0.095  0.058  0.038
Age               -0.995 -0.183  0.209 -0.377  0.047 -0.076 -0.193

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.06676960 -0.68491654 -0.04906508  0.58523828  2.38944680

Number of observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("UGJT", "Sing_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> us12 <- lme(UGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(us12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC      logLik
  22.08897 47.28403 -0.04448692

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0154148

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.066946e-06 0.1987372

Fixed effects: UGJT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    value Std.Error DF    t-value p-value
(Intercept)       1.8120754 0.9950247 68  1.8211361  0.0730
Sing_wkly        -0.0099993 0.0051136 68 -1.9554401  0.0546
Ctest             0.6211180 0.2089542 68  2.9725072  0.0041
Dyslexdyslex      0.0316523 0.1558259 68  0.2031259  0.8396
HISEI             0.0035736 0.0018289 68  1.9539837  0.0548
Genderboy        -0.0493019 0.0515408 68 -0.9565604  0.3422
L1not majority L  0.1770704 0.0952760 68  1.8584996  0.0674
Age              -0.1147389 0.0694811 68 -1.6513687  0.1033
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.150
Ctest             -0.243 -0.041
Dyslexdyslex       0.366  0.106  0.048
HISEI             -0.109  0.162 -0.450 -0.081
Genderboy          0.047  0.290 -0.117 -0.036  0.202
L1not majority L  0.185 -0.098 -0.073  0.094  0.061  0.039
Age               -0.995 -0.185  0.210 -0.375  0.046 -0.078 -0.194
```

```
Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.91915599 -0.41045339  0.02472928  0.56392860  2.23234436

Number of observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("MKT", "Sing_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ms12 <- lme(MKT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ms12)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -44.25975 -19.5263 33.12987

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06563981

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.064076e-06 0.1186045

Fixed effects: MKT ~ Sing_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    value Std.Error DF   t-value p-value
(Intercept)       0.6750804 0.6021018 65  1.121206  0.2663
Sing_wkly        -0.0039404 0.0033000 65 -1.194044  0.2368
Ctest             0.4451050 0.1328476 65  3.350492  0.0013
Dyslexdyslex     -0.0595515 0.0934234 65 -0.637436  0.5261
HISEI             0.0001937 0.0011361 65  0.170497  0.8651
Genderboy        -0.0872652 0.0321001 65 -2.718537  0.0084
L1not majority L -0.1157506 0.0578806 65 -1.999815  0.0497
Age              -0.0055108 0.0419594 65 -0.131337  0.8959
 Correlation:
                  (Intr) Sng_wk Ctest  Dyslxd HISEI  Gndrby L1ntML
Sing_wkly          0.170
Ctest             -0.269 -0.125
Dyslexdyslex       0.349  0.074  0.066
HISEI             -0.105  0.133 -0.370 -0.065
Genderboy          0.081  0.325 -0.186 -0.055  0.180
L1not majority L  0.198 -0.085 -0.080  0.091  0.087  0.056
Age               -0.993 -0.200  0.231 -0.361  0.035 -0.108 -0.210

Standardized within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0146486 -0.6419270  0.1802745  0.7593303  2.0500941

Number of observations: 78
Number of Groups:
             School Class_neu %in% School
                  4                    6
```

```
> mdat <- na.omit(dat[c("ONT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> owa2 <- lme(ONT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(owa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.85617 8.258885 16.92809

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 6.421063e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.742939e-07 0.1275519

Fixed effects: ONT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    value Std.Error DF   t-value p-value
(Intercept)       0.9586636 0.8382462 41  1.1436539  0.2594
watch_wkly       -0.0013080 0.0051832 41 -0.2523557  0.8020
Ctest             0.4830133 0.1958074 41  2.4667774  0.0179
Dyslexdyslex     -0.0939368 0.1047572 41 -0.8967097  0.3751
HISEI             0.0008710 0.0014282 41  0.6098327  0.5453
Genderboy         0.0217943 0.0406474 41  0.5361801  0.5947
L1not majority L -0.0020873 0.0733729 41 -0.0284476  0.9774
Age              -0.0284921 0.0576768 41 -0.4939957  0.6239
```

```
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly         0.395
Ctest             -0.454 -0.238
Dyslexdyslex       0.418  0.157 -0.008
HISEI             -0.066  0.097 -0.397 -0.094
Genderboy         -0.160 -0.160 -0.053 -0.166  0.206
L1not majority L  -0.045 -0.305  0.029  0.083  0.133  0.076
Age               -0.995 -0.414  0.415 -0.430  0.009  0.142 -0.063

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.82003497 -0.42706791  0.02586106  0.78840004  1.46756010

Number of Observations: 54
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("EIT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ewa2 <- lme(EIT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ewa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -10.53255 14.66251 16.26627

Random effects:
 Formula: ~1 | School
```

```
        (Intercept)
StdDev:  0.02553507

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 4.331129e-06 0.157985

Fixed effects: EIT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.5905303 0.8181495 68  0.721788  0.4729
watch_wkly       -0.0031492 0.0039813 68 -0.790993  0.4317
Ctest             0.7114441 0.1720649 68  4.134744  0.0001
Dyslexdyslex     -0.0246397 0.1240069 68 -0.198696  0.8431
HISEI             0.0026688 0.0014432 68  1.849267  0.0688
Genderboy        -0.0459617 0.0395417 68 -1.162359  0.2492
L1not majority L  0.0425469 0.0763346 68  0.557374  0.5791
Age              -0.0335470 0.0569387 68 -0.589177  0.5577
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly         0.290
Ctest             -0.291 -0.232
Dyslexdyslex       0.365  0.098  0.034
HISEI             -0.115  0.050 -0.434 -0.091
Genderboy         -0.026 -0.111 -0.085 -0.084  0.154
L1not majority L  0.157 -0.129 -0.046  0.089  0.074  0.087
Age               -0.995 -0.299  0.259 -0.373  0.058  0.007 -0.169

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.33564228 -0.57888504 -0.06228808  0.51440171  2.14021434

Number of Observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("ATGJT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> awa2 <- lme(ATGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(awa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.39476 15.64857 15.69738

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01291099

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.245012e-06 0.1592931

Fixed effects: ATGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)      -0.1369183 0.8239380 67 -0.166176  0.8685
watch_wkly        0.0022320 0.0040043 67  0.557398  0.5791
```

```
Ctest             0.6158282 0.1721784 67  3.576687  0.0007
Dyslexdyslex      0.1855019 0.1248284 67  1.486056  0.1420
HISEI             0.0017431 0.0014919 67  1.168345  0.2468
Genderboy        -0.0506452 0.0398219 67 -1.271792  0.2078
L1not majority L  0.0643406 0.0767046 67  0.838810  0.4046
Age               0.0183870 0.0573710 67  0.320493  0.7496
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly         0.289
Ctest             -0.290 -0.229
Dyslexdyslex       0.367  0.099  0.029
HISEI             -0.107  0.051 -0.447 -0.093
Genderboy         -0.030 -0.113 -0.078 -0.080  0.144
L1not majority L  0.154 -0.134 -0.044  0.091  0.067  0.085
Age               -0.996 -0.298  0.261 -0.375  0.049  0.010 -0.166

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.81001212 -0.73374955  0.04165723  0.57201989  2.37491959

Number of Observations: 80
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("WTGJT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wwa2 <- lme(WTGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -4.879322 20.31573 13.43966

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.075966e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 9.618051e-07 0.1655143

Fixed effects: WTGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF    t-value p-value
(Intercept)      -0.5368449 0.8553023 68 -0.6276668  0.5323
watch_wkly        0.0009519 0.0041547 68  0.2291058  0.8195
Ctest             0.5119165 0.1779774 68  2.8763014  0.0054
Dyslexdyslex      0.0846613 0.1295997 68  0.6532523  0.5158
HISEI             0.0004414 0.0015018 68  0.2939339  0.7697
Genderboy        -0.1149564 0.0413085 68 -2.7828793  0.0070
L1not majority L  0.0802181 0.0795566 68  1.0083149  0.3169
Age               0.0478849 0.0595244 68  0.8044583  0.4239
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly         0.288
Ctest             -0.289 -0.227
Dyslexdyslex       0.369  0.100  0.026
```

```
HISEI            -0.117  0.048 -0.455 -0.097
Genderboy        -0.030 -0.113 -0.079 -0.079  0.159
L1not majority L  0.153 -0.137 -0.044  0.092  0.069  0.084
Age              -0.996 -0.297  0.260 -0.376  0.062  0.010 -0.164

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.06678405 -0.71068576 -0.03682489  0.54439283  2.38214403

Number of Observations: 81
Number of Groups:
             School Class_neu %in% School
                  4                    6
>
> mdat <- na.omit(dat[c("UGJT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> uwa2 <- lme(UGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(uwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  20.58521 45.78026 0.7073957

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06081011

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.441826e-06 0.1930258

Fixed effects: UGJT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       1.5682329 1.0019299 68  1.5652122  0.1222
watch_wkly       -0.0103487 0.0048822 68 -2.1196906  0.0377
Ctest             0.6334050 0.2138060 68  2.9625225  0.0042
Dyslexdyslex      0.0039412 0.1519285 68  0.0259412  0.9794
HISEI             0.0035417 0.0017774 68  1.9925893  0.0503
Genderboy         0.0004478 0.0484591 68  0.0092410  0.9927
L1not majority L  0.1899553 0.0937020 68  2.0272287  0.0466
Age              -0.0986643 0.0697037 68 -1.4154819  0.1615
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
Watch_wkly         0.293
Ctest             -0.292 -0.237
Dyslexdyslex       0.360  0.096  0.043
HISEI             -0.114  0.050 -0.406 -0.083
Genderboy         -0.022 -0.108 -0.093 -0.089  0.147
L1not majority L  0.162 -0.123 -0.048  0.086  0.078  0.090
Age               -0.995 -0.301  0.258 -0.369  0.055  0.004 -0.174

Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.22969268 -0.44926979  0.07618173  0.64284327  2.00674371

Number of Observations: 81
Number of Groups:
```

```
               School Class_neu %in% School
                     4                     6
>
> mdat <- na.omit(dat[c("MKT", "watch_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mwa2 <- lme(MKT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mwa2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC       BIC   logLik
  -49.36173 -24.62828 35.68087

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.07155491

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.533396e-06 0.1138408
```

```
Fixed effects: MKT ~ watch_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.3606983 0.5936433 65  0.607601  0.5456
watch_wkly       -0.0082962 0.0031796 65 -2.609238  0.0112
Ctest             0.4822365 0.1289218 65  3.740534  0.0004
Dyslexdyslex     -0.0772198 0.0899711 65 -0.858274  0.3939
HISEI             0.0000519 0.0010874 65  0.047743  0.9621
Genderboy        -0.0617560 0.0295711 65 -2.088389  0.0407
L1not majority L -0.1011082 0.0560002 65 -1.805498  0.0756
Age               0.0169547 0.0413361 65  0.410167  0.6830
 Correlation:
                  (Intr) Wtch_w Ctest  Dyslxd HISEI  Gndrby L1ntML
watch_wkly        0.280
Ctest             0.290 -0.181
Dyslexdyslex      0.356  0.107  0.056
HISEI            -0.097  0.099 -0.366 -0.063
Genderboy        -0.021 -0.169 -0.120 -0.101  0.126
L1not majority L  0.164 -0.147 -0.062  0.080  0.084  0.112
Age              -0.993 -0.297  0.252 -0.368  0.031  0.007 -0.177

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.0643835 -0.5336603  0.1165142  0.6467055  2.1726177

Number of Observations: 78
Number of Groups:
               School Class_neu %in% School
                    4                     6
>
> mdat <- na.omit(dat[c("ONT", "Game_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> og2 <- lme(ONT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(og2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.63094 8.484115 16.81547
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.708509e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.757708e-07 0.1271874

Fixed effects: ONT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       1.0654563 0.7689435 41  1.3856107  0.1734
Game_wkly         0.0023189 0.0040483 41  0.5727980  0.5699
Ctest             0.4396554 0.1975301 41  2.2257635  0.0316
Dyslexdyslex     -0.0892159 0.1031589 41 -0.8648400  0.3922
HISEI             0.0009394 0.0014186 41  0.6621833  0.5116
Genderboy         0.0038701 0.0490720 41  0.0788650  0.9375
L1not majority L -0.0060523 0.0697397 41 -0.0867845  0.9313
Age              -0.0355045 0.0523726 41 -0.6779207  0.5016
 Correlation:
                  (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly         0.053
Ctest            -0.401 -0.279
Dyslexdyslex      0.392  0.009  0.027
HISEI            -0.111  0.041 -0.383 -0.111
Genderboy        -0.117 -0.579  0.088 -0.123  0.160
L1not majority L  0.191  0.042 -0.056  0.140  0.173 -0.001
Age              -0.994 -0.033  0.353 -0.406  0.053  0.088 -0.220

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.80011193 -0.33740197  0.01279031  0.76688496  1.44688691

Number of Observations: 54
Number of Groups:
               School Class_neu %in% School
                    4                     6
>
> mdat <- na.omit(dat[c("EIT", "Game_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> eg2 <- lme(EIT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(eg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.680044 15.51501 15.84002

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02703188

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.347955e-06 0.1585477
```

```
Fixed effects: EIT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.7789765 0.7859236 68  0.991161  0.3251
Game_wkly         0.0001986 0.0035635 68  0.055729  0.9557
Ctest             0.6764533 0.1704189 68  3.969355  0.0002
Dyslexdyslex     -0.0156431 0.1238691 68 -0.126287  0.8999
HISEI             0.0027171 0.0014499 68  1.874007  0.0652
Genderboy        -0.0506675 0.0471611 68 -1.074349  0.2865
L1not majority L  0.0348568 0.0760950 68  0.458070  0.6484
Age              -0.0469523 0.0545501 68 -0.860719  0.3924
 Correlation:
                  (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly         0.021
Ctest            -0.233 -0.163
Dyslexdyslex      0.352  0.002  0.058
HISEI            -0.136  0.060 -0.436 -0.096
Genderboy         0.017 -0.548 -0.006 -0.063  0.101
L1not majority L  0.204  0.051 -0.086  0.102  0.084  0.034
Age              -0.995  0.026  0.197 -0.361  0.078 -0.038 -0.218

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.49680224 -0.57505280 -0.05209869  0.54695338  2.13389674

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                     6
>
> mdat <- na.omit(dat[c("ATGJT", "Game_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ag2 <- lme(ATGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ag2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -9.04769 15.99564 15.52384

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01316253

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 3.000757e-06 0.1593825

Fixed effects: ATGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)      -0.2779977 0.7893822 67 -0.352171  0.7258
Game_wkly         0.0016422 0.0035282 67  0.465454  0.6431
Ctest             0.6270121 0.1693586 67  3.702274  0.0004
Dyslexdyslex      0.1791357 0.1242897 67  1.441276  0.1542
HISEI             0.0017478 0.0014944 67  1.169564  0.2463
Genderboy        -0.0601724 0.0472810 67 -1.272654  0.2075
L1not majority L  0.0717635 0.0761490 67  0.942409  0.3494
Age               0.0285569 0.0548125 67  0.520992  0.6041
```

```
 Correlation:
                (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly       -0.022
Ctest           -0.233 -0.139
Dyslexdyslex     0.355  0.009  0.052
HISEI           -0.129  0.068 -0.452 -0.098
Genderboy        0.015 -0.547 -0.013 -0.064  0.088
L1not majority L  0.202  0.049 -0.084  0.106  0.078  0.033
Age             -0.995  0.025  0.202 -0.363  0.069 -0.034 -0.216

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-1.826433554 -0.601112681  0.008198689  0.556048361  2.413688785

Number of Observations: 80
Number of Groups:
              School Class_neu %in% School
                   4                    6
>
> mdat <- na.omit(dat[c("WTGJT", "Game_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wg2 <- lme(WTGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(wg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -5.55363 19.64142 13.77681

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 1.848133e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 9.098859e-07 0.1644545

Fixed effects: WTGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF    t-value p-value
(Intercept)     -0.6119909 0.8139644 68 -0.7518644  0.4547
Game_wkly        0.0036131 0.0036185 68  0.9985100  0.3216
Ctest            0.4985389 0.1736899 68  2.8702809  0.0055
Dyslexdyslex     0.0832357 0.1281368 68  0.6495845  0.5181
HISEI            0.0005391 0.0014948 68  0.3606288  0.7195
Genderboy       -0.1404712 0.0487023 68 -2.8842845  0.0052
L1not majority L  0.0864241 0.0783936 68  1.1024375  0.2742
Age               0.0533182 0.0564904 68  0.9438444  0.3486
```

```
 Correlation:
                (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly       -0.023
Ctest           -0.235 -0.131
Dyslexdyslex     0.357  0.012  0.049
HISEI           -0.138  0.077 -0.461 -0.101
Genderboy        0.015 -0.547 -0.018 -0.064  0.097
L1not majority L  0.201  0.047 -0.083  0.107  0.080  0.033
Age             -0.995  0.025  0.202 -0.365  0.081 -0.034 -0.215
```

```
Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.07740430 -0.63251269 -0.04648405  0.56055988  2.41042219

Number of Observations: 81
Number of Groups:
              School Class_neu %in% School
                   4                    6
>
> mdat <- na.omit(dat[c("UGJT", "Game_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ug2 <- lme(UGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(ug2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  24.80743 50.00249 -1.403717

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05384067

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 5.660944e-06 0.1991584

Fixed effects: UGJT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF    t-value p-value
(Intercept)       2.1884871 0.9882837 68  2.2144321  0.0302
Game_wkly        -0.0028081 0.0045611 68 -0.6156648  0.5402
Ctest             0.5648475 0.2174704 68  2.5973536  0.0115
Dyslexdyslex      0.0400703 0.1559178 68  0.2569964  0.7980
HISEI             0.0037503 0.0018298 68  2.0495292  0.0443
Genderboy         0.0079920 0.0594414 68  0.1344509  0.8934
L1not majority L  0.1614206 0.0959702 68  1.6819860  0.0972
Age              -0.1438832 0.0685906 68 -2.0977118  0.0396
 Correlation:
                (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly       -0.018
Ctest           -0.232 -0.191
Dyslexdyslex     0.349 -0.007  0.066
HISEI           -0.136  0.045 -0.414 -0.091
Genderboy        0.018 -0.549  0.006 -0.062  0.105
L1not majority L  0.206  0.054 -0.088  0.099  0.086  0.035
Age             -0.995  0.027  0.193 -0.359  0.076 -0.040 -0.221

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-3.95711004 -0.45663691  0.09582301  0.63048104  2.08960444

Number of Observations: 81
Number of Groups:
              School Class_neu %in% School
                   4                    6
```

```
>
> mdat <- na.omit(dat[c("MKT", "Game_wkly","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mg2 <- lme(MKT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(mg2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -46.8759 -22.14245 34.43795

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.05893539

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev:  0.00789222 0.1164502

Fixed effects: MKT ~ Game_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                    Value Std.Error DF   t-value p-value
(Intercept)       0.8168988 0.5824483 65  1.402526  0.1655
Game_wkly        -0.0060443 0.0028418 65 -2.126947  0.0372
Ctest             0.4931633 0.1328536 65  3.712082  0.0004
Dyslexdyslex     -0.0485156 0.0915024 65 -0.530211  0.5978
HISEI             0.0003205 0.0011056 65  0.289907  0.7728
Genderboy        -0.0298522 0.0364799 65 -0.818318  0.4162
L1not majority L -0.1291687 0.0567417 65 -2.276432  0.0261
Age              -0.0180819 0.0403719 65 -0.447883  0.6557
 Correlation:
                (Intr) Gm_wkl Ctest  Dyslxd HISEI  Gndrby L1ntML
Game_wkly       -0.014
Ctest           -0.244 -0.232
Dyslexdyslex     0.343 -0.015  0.077
HISEI           -0.131  0.032 -0.359 -0.076
Genderboy        0.031 -0.576  0.011 -0.060  0.101
L1not majority L  0.214  0.070 -0.105  0.097  0.101  0.031
Age             -0.993  0.026  0.200 -0.355  0.065 -0.052 -0.230

Standardized within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.1148189 -0.6660274  0.1750809  0.7776111  1.9687130

Number of Observations: 78
Number of Groups:
              School Class_neu %in% School
                   4                    6
>
> mdat <- na.omit(dat[c("ONT", "ListMu_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> o1m2 <- lme(ONT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+            random= ~ 1 | School/Class_neu,data=mdat)
> summary(o1m2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -11.05697 9.058085 16.52849
```

```
Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 5.567073e-07

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.358153e-07 0.1254248

Fixed effects: ONT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF    t-value p-value
(Intercept)       1.0659010 0.7574576 41  1.4072088  0.1669
ListMu_wkly      -0.0020189 0.0015768 41 -1.2803617  0.2076
Ctest             0.5145801 0.1900647 41  2.7073942  0.0098
Dyslexdyslex     -0.0761242 0.1022818 41 -0.7442592  0.4610
HISEI             0.0006105 0.0014167 41  0.4309204  0.6688
Genderboy         0.0061173 0.0409451 41  0.1494015  0.8820
L1not majority L -0.0048486 0.0687492 41 -0.0705256  0.9441
Age              -0.0349895 0.0516204 41 -0.6778220  0.5017
 Correlation:
                  (Intr) ListM_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.024
Ctest             -0.392 -0.178
Dyslexdyslex       0.392 -0.104  0.049
HISEI             -0.116  0.163 -0.405 -0.126
Genderboy         -0.109  0.268 -0.138 -0.166  0.258
L1not majority L  0.190 -0.033 -0.040  0.142  0.164  0.019
Age               -0.994  0.007  0.351 -0.405  0.055  0.083 -0.219

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.8148934 -0.4002606  0.0114261  0.7323969  1.4531283

Number of Observations: 54
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("EIT", "ListMu_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> elm2 <- lme(EIT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(elm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -8.405062 16.78999 15.20253

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.02365477

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 4.786268e-06 0.1588121
```

```
Fixed effects: EIT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                      Value Std.Error DF   t-value p-value
(Intercept)       0.7769345 0.7868791 68  0.987362  0.3270
ListMu_wkly      -0.0001348 0.0018798 68 -0.071713  0.9430
Ctest             0.6851965 0.1720745 68  3.981975  0.0002
Dyslexdyslex     -0.0132175 0.1245058 68 -0.106159  0.9158
HISEI             0.0027350 0.0014557 68  1.878809  0.0644
Genderboy        -0.0502955 0.0402774 68 -1.248727  0.2160
L1not majority L  0.0349419 0.0760468 68  0.459478  0.6474
Age              -0.0469800 0.0546091 68 -0.860296  0.3926
 Correlation:
                  (Intr) ListM_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.008
Ctest             -0.233 -0.216
Dyslexdyslex       0.353 -0.089  0.075
HISEI             -0.136  0.104 -0.447 -0.105
Genderboy          0.004  0.197 -0.151 -0.089  0.178
L1not majority L  0.205 -0.012 -0.074  0.104  0.079  0.070
Age               -0.995 -0.004  0.201 -0.360  0.076 -0.028 -0.219
```

```
Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.48566342 -0.57391936 -0.05485149  0.53885686  2.12547575

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("ATGJT", "ListMu_wkly","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> alm2 <- lme(ATGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(alm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -8.238745 16.80458 15.11937

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.01791632

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 2.664348e-06 0.1585957

Fixed effects: ATGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 +      Age
                      Value Std.Error DF    t-value p-value
(Intercept)      -0.2750364 0.7855706 67 -0.350110  0.7274
ListMu_wkly       0.0015213 0.0018767 67  0.810699  0.4204
Ctest             0.6117256 0.1713561 67  3.569909  0.0007
Dyslexdyslex      0.1697729 0.1242334 67  1.366564  0.1763
HISEI             0.0018175 0.0014938 67  1.216682  0.2280
Genderboy        -0.0417394 0.0402148 67 -1.037911  0.3030
L1not majority L  0.0685054 0.0758027 67  0.903734  0.3694
Age               0.0277006 0.0545425 67  0.507871  0.6132
```

```
 Correlation:
                  (Intr) ListM_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.008
Ctest             -0.233 -0.215
Dyslexdyslex       0.354 -0.088  0.073
HISEI             -0.128  0.101 -0.451 -0.105
Genderboy          0.002  0.197 -0.147 -0.087  0.165
L1not majority L  0.204 -0.011 -0.074  0.105  0.074  0.069
Age               -0.995 -0.004  0.203 -0.361  0.067 -0.026 -0.218

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-1.85382376 -0.73968322  0.03003835  0.58095915  2.46815360

Number of Observations: 80
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("WTGJT", "ListMu_wkly","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> wlm2 <- lme(WTGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(wlm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -3.321802 21.87325 12.6609

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev: 2.015734e-06

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 9.744376e-07 0.1655738

Fixed effects: WTGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 +      Age
                      Value Std.Error DF    t-value p-value
(Intercept)      -0.5933544 0.8193100 68 -0.7242123  0.4714
ListMu_wkly       0.0000070 0.0019583 68  0.0035656  0.9972
Ctest             0.5210553 0.1775503 68  2.9346913  0.0045
Dyslexdyslex      0.0816586 0.1295027 68  0.6305552  0.5304
HISEI             0.0004254 0.0015094 68  0.2818019  0.7790
Genderboy        -0.1138589 0.0418777 68 -2.7188449  0.0083
L1not majority L  0.0827070 0.0788416 68  1.0490274  0.2979
Age               0.0519351 0.0568585 68  0.9134103  0.3643
 Correlation:
                  (Intr) ListM_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.007
Ctest             -0.233 -0.216
Dyslexdyslex       0.356 -0.088  0.068
HISEI             -0.137  0.108 -0.466 -0.111
Genderboy          0.001  0.197 -0.146 -0.084  0.183
L1not majority L  0.202 -0.009 -0.074  0.107  0.075  0.067
Age               -0.995 -0.005  0.203 -0.363  0.079 -0.025 -0.216
```

```
Standardized Within-Group Residuals:
        Min          Q1         Med          Q3         Max
-2.07457731 -0.66954575 -0.05566233  0.63313215  2.38186416

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
>
> mdat <- na.omit(dat[c("UGJT", "ListMu_wkly", "Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> ulm2 <- lme(UGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(ulm2)
Linear mixed-effects model fit by REML
 Data: mdat
      AIC      BIC    logLik
  26.31736 51.51241 -2.158679

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:   0.0647566

 Formula: ~1 | Class_neu %in% School
        (Intercept)  Residual
StdDev: 6.32296e-06 0.1984996

Fixed effects: UGJT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                       Value Std.Error DF    t-value p-value
(Intercept)        2.1892609 0.9853849 68  2.2217316  0.0296
ListMu_wkly        0.0008951 0.0023520 68  0.3805668  0.7047
Ctest              0.5048894 0.2190271 68  2.3051456  0.0242
Dyslexdyslex       0.0285812 0.1561723 68  0.1830106  0.8553
HISEI              0.0037812 0.0018351 68  2.0604556  0.0432
Genderboy         -0.0065602 0.0505424 68 -0.1297967  0.8971
L1not majority L   0.1651435 0.0956627 68  1.7263107  0.0888
Age               -0.1432603 0.0683637 68 -2.0955615  0.0398
 Correlation:
                  (Intr) LstMu_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.008
Ctest             -0.232 -0.217
Dyslexdyslex       0.347 -0.090  0.087
HISEI             -0.135  0.097 -0.414 -0.096
Genderboy          0.008  0.197 -0.161 -0.096  0.168
L1not majority L   0.208 -0.016 -0.075  0.099  0.083  0.073
Age               -0.994 -0.002  0.197 -0.356  0.073 -0.030 -0.223

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-3.9535723 -0.4991568  0.1283226  0.5611623  2.1044794

Number of Observations: 81
Number of Groups:
               School Class_neu %in% School
                    4                    6
```

```
>
> mdat <- na.omit(dat[c("MKT", "ListMu_wkly","Class_neu","School", "Ctest", "Dyslex", "HISEI", "Gender", "L1", "Age")])
> mlm2 <- lme(MKT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age,
+             random= ~ 1 | School/Class_neu,data=mdat)
> summary(mlm2)
Linear mixed-effects model fit by REML
 Data: mdat
       AIC      BIC    logLik
  -41.89985 -17.1664 31.94993

Random effects:
 Formula: ~1 | School
        (Intercept)
StdDev:  0.06988769

 Formula: ~1 | Class_neu %in% School
        (Intercept) Residual
StdDev: 6.319551e-06 0.118917

Fixed effects: MKT ~ ListMu_wkly + Ctest + Dyslex + HISEI + Gender + L1 + Age
                       Value Std.Error DF   t-value p-value
(Intercept)        0.8058160 0.5952447 65  1.353756  0.1805
ListMu_wkly       -0.0012105 0.0014211 65 -0.851782  0.3975
Ctest              0.4457689 0.1348933 65  3.304604  0.0016
Dyslexdyslex      -0.0443752 0.0938205 65 -0.472980  0.6378
HISEI              0.0002516 0.0011360 65  0.221499  0.8254
Genderboy         -0.0796803 0.0309719 65 -2.572665  0.0124
L1not majority L  -0.1210362 0.0578554 65 -2.092046  0.0403
Age               -0.0155870 0.0412244 65 -0.378102  0.7066
 Correlation:
                  (Intr) LstMu_w Ctest  Dyslxd HISEI  Gndrby L1ntML
ListMu_wkly       -0.020
Ctest             -0.245 -0.195
Dyslexdyslex       0.343 -0.091  0.092
HISEI             -0.132  0.106 -0.369 -0.084
Genderboy          0.024  0.185 -0.186 -0.099  0.162
L1not majority L   0.217 -0.022 -0.085  0.099  0.097  0.083
Age               -0.993  0.008  0.206 -0.353  0.064 -0.044 -0.233

Standardized Within-Group Residuals:
       Min         Q1        Med         Q3        Max
-2.1514861 -0.6695863  0.1418057  0.7504013  2.1424655

Number of Observations: 78
Number of Groups:
               School Class_neu %in% School
                    4                    6
```