

# ReadAnxietyMeta\_code

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## Code for **Reading Anxiety and Reading Achievement: A Meta-Analysis**

Hide

```
library(readxl)
ReadAnxiety_meta_data <- read_excel("dataset/ReadAnxiety_meta_data.xlsx")
View(ReadAnxiety_meta_data)
```

Hide

```
ReadAnxiety_meta_data [ReadAnxiety_meta_data == "NA"]=NA
```

needed packages

Hide

```
library(metafor)
library(tidyverse)
library(readxl)
library(robumeta)
library(clubSandwich)
```

## Add fisher Z and varince of Z in dataset

Hide

```
ReadAnxiety_meta_data <- escalc(measure="ZCOR", ri=Corr, ni=N, data=ReadAnxiety_meta_data)
#this is adding a fisher z , whihc (yi is z ) (vi is varience associated with z )
```

Hide

```
psych::describe(ReadAnxiety_meta_data$yi)
```

## main effect - random effects model

Overall Multivariate Model

Hide

```
MVmodel <- rma.mv(yi,
                 vi,
                 random = ~ 1 | StudyID/EffectsizeID,
                 test = "t",
                 data = ReadAnxiety_meta_data,
                 method = "REML")
summary(MVmodel)
```

Hide

```
Q = 828.7720
k = 113
I2 = ((Q-(k -1) )/ Q)*100
I2
```

## main effect corrected for dependent effect sizes

RVE for Robustness

Hide

```
mvcf <- coef_test(MVmodel,
                  cluster = ReadAnxiety_meta_data$StudyID,
                  vcov = "CR2")
mvcf
```

## convert Z to r correlation

Fisher's z to Pearson's r

Hide

```
library(DescTools)
r <- FisherZInv(-0.318)
r
```

## moderators

### year of publication

center year at 2020

Hide

```
ReadAnxiety_meta_data$YearPub_center2020 = ReadAnxiety_meta_data$YearPub - 2020
```

Moderator: year

Hide

```
MVregmodel_year <- rma.mv(yi,
  vi,
  random = ~ 1 | StudyID/EffectsizeID,
  mods = ~ YearPub_center2020,
  test = "t",
  data = ReadAnxiety_meta_data,
  method = "REML")
summary(MVregmodel_year)
```

RVE for Robustness

Hide

```
mvcf_year <- coef_test(MVregmodel_year,
  cluster = ReadAnxiety_meta_data$StudyID,
  vcov = "CR2")
mvcf_year
```

intercept line estimate is the effect size for at the center (year 2020) YearPub\_center2020 line estimate is the increase in effect size for every 1 year increase from center (year 2020)

## age

make sure variable is numeric

Hide

```
ReadAnxiety_meta_data$ageMean= (as.numeric(ReadAnxiety_meta_data$ageMean))
```

## age - continous moderator

center variable at age 10

Hide

```
ReadAnxiety_meta_data$ageMean_center = ReadAnxiety_meta_data$ageMean - 10
```

Moderator: year

Hide

```
MVregmodel_agecon <- rma.mv(yi,
  vi,
  random = ~ 1 | StudyID/EffectsizeID,
  mods = ~as.numeric(ageMean_center) ,
  test = "t",
  data = ReadAnxiety_meta_data,
  method = "REML")
summary(MVregmodel_agecon)
```

## RVE for Robustness

Hide

```

mvcf_age <- coef_test(MVregmodel_agecon,
                      cluster = ReadAnxiety_meta_data$StudyID,
                      vcov = "CR2")
mvcf_age

```

## age - categorical moderator

Hide

```
table(ReadAnxiety_meta_data$ageGroup)
```

## early elementary school vs other age groups

Hide

```

ReadAnxiety_meta_data$early_ele_com[ReadAnxiety_meta_data$ageGroup=="earlyE"]=0
ReadAnxiety_meta_data$early_ele_com[ReadAnxiety_meta_data$ageGroup=="lateE"]=1
ReadAnxiety_meta_data$early_ele_com[ReadAnxiety_meta_data$ageGroup=="middle"]=2
ReadAnxiety_meta_data$early_ele_com[ReadAnxiety_meta_data$ageGroup=="adult"]=3
ReadAnxiety_meta_data$early_ele_com[ReadAnxiety_meta_data$ageGroup=="college"]=3

```

Hide

```

MVregmodel_earlyE <- rma.mv(yi,
                           vi,
                           random = ~ 1 | StudyID/EffectsizeID,
                           mods = ~ as.factor(early_ele_com),
                           test = "t",
                           data = ReadAnxiety_meta_data,
                           method = "REML")
summary(MVregmodel_earlyE)

```

## RVE for Robustness

Hide

```

mvcf_earlyE <- coef_test(MVregmodel_earlyE,
                        cluster = ReadAnxiety_meta_data$StudyID,
                        vcov = "CR2")
mvcf_earlyE

```

## late elementary school vs other age groups

Hide

```

ReadAnxiety_meta_data$lateE[ReadAnxiety_meta_data$ageGroup=="earlyE"]=1
ReadAnxiety_meta_data$lateE[ReadAnxiety_meta_data$ageGroup=="lateE"]=0
ReadAnxiety_meta_data$lateE[ReadAnxiety_meta_data$ageGroup=="middle"]=2
ReadAnxiety_meta_data$lateE[ReadAnxiety_meta_data$ageGroup=="adult"]=3
ReadAnxiety_meta_data$lateE[ReadAnxiety_meta_data$ageGroup=="college"]=3

```

Hide

```

MVregmodel_lateE <- rma.mv(yi,
  vi,
  random = ~ 1 | StudyID/EffectsizeID,
  mods = ~ as.factor(lateE),
  test = "t",
  data = ReadAnxiety_meta_data,
  method = "REML")
summary(MVregmodel_lateE)

```

RVE for Robustness

Hide

```

mvcf_lateE <- coef_test(MVregmodel_lateE,
  cluster = ReadAnxiety_meta_data$StudyID,
  vcov = "CR2")
mvcf_lateE

```

## middle school vs other age groups

Hide

```

ReadAnxiety_meta_data$middle[ReadAnxiety_meta_data$ageGroup=="earlyE"]=1
ReadAnxiety_meta_data$middle[ReadAnxiety_meta_data$ageGroup=="lateE"]=0
ReadAnxiety_meta_data$middle[ReadAnxiety_meta_data$ageGroup=="middle"]=2
ReadAnxiety_meta_data$middle[ReadAnxiety_meta_data$ageGroup=="adult"]=3
ReadAnxiety_meta_data$middle[ReadAnxiety_meta_data$ageGroup=="college"]=3

```

Hide

```

MVregmodel_middle <- rma.mv(yi,
  vi,
  random = ~ 1 | StudyID/EffectsizeID,
  mods = ~ as.factor(middle),
  test = "t",
  data = ReadAnxiety_meta_data,
  method = "REML")
summary(MVregmodel_middle)

```

RVE for Robustness

Hide

```

mvcf_middle <- coef_test(MVregmodel_middle,
                        cluster = ReadAnxiety_meta_data$StudyID,
                        vcov = "CR2")
mvcf_middle

```

## adult vs other age groups

Hide

```

ReadAnxiety_meta_data$adult[ReadAnxiety_meta_data$ageGroup=="earlyE"]=1
ReadAnxiety_meta_data$adult[ReadAnxiety_meta_data$ageGroup=="lateE"]=0
ReadAnxiety_meta_data$adult[ReadAnxiety_meta_data$ageGroup=="middle"]=2
ReadAnxiety_meta_data$adult[ReadAnxiety_meta_data$ageGroup=="adult"]=3
ReadAnxiety_meta_data$adult[ReadAnxiety_meta_data$ageGroup=="college"]=3

```

Hide

```

MVregmodel_adult <- rma.mv(yi,
                          vi,
                          random = ~ 1 | StudyID/EffectsizeID,
                          mods = ~ as.factor(adult),
                          test = "t",
                          data = ReadAnxiety_meta_data,
                          method = "REML")
summary(MVregmodel_adult)

```

### RVE for Robustness

Hide

```

mvcf_adult <- coef_test(MVregmodel_adult,
                       cluster = ReadAnxiety_meta_data$StudyID,
                       vcov = "CR2")
mvcf_adult

```

## Read Domain

Hide

```
table(ReadAnxiety_meta_data$ReadDomain)
```

## effect size of reading anxiety corr with each reading domain

first I need to separate the dataset for each reading domain

Hide

```
domain_comp = ReadAnxiety_meta_data[ReadAnxiety_meta_data$ReadDomain=="Comp",]
domain_Fluency = ReadAnxiety_meta_data[ReadAnxiety_meta_data$ReadDomain=="Fluency",]
domain_Accuracy = ReadAnxiety_meta_data[ReadAnxiety_meta_data$ReadDomain=="Accuracy",]
domain_General = ReadAnxiety_meta_data[ReadAnxiety_meta_data$ReadDomain=="General",]
domain_LK = ReadAnxiety_meta_data[ReadAnxiety_meta_data$ReadDomain=="LK",]
```

## comprehension - corr with RA

Hide

```
MVmodel_comp <- rma.mv(yi,
                      vi,
                      random = ~ 1 | StudyID/EffectsizeID,
                      test = "t",
                      data = domain_comp,
                      method = "REML")
summary(MVmodel_comp)
```

### RVE for Robustness

Hide

```
mvcf_comp <- coef_test(MVmodel_comp,
                      cluster = domain_comp$StudyID,
                      vcov = "CR2")
mvcf_comp
```

### Fisher's z to Pearson's r

Hide

```
library(DescTools)
r <- FisherZInv(-0.33)
r
```

## Fluency - corr with RA

Hide

```
MVmodel_Fluency <- rma.mv(yi,
                          vi,
                          random = ~ 1 | StudyID/EffectsizeID,
                          test = "t",
                          data = domain_Fluency,
                          method = "REML")
summary(MVmodel_Fluency)
```

### RVE for Robustness



Hide

```

mvcf_Fluency <- coef_test(MVmodel_Fluency,
                        cluster = domain_Fluency$StudyID,
                        vcov = "CR2")
mvcf_Fluency

```

Fisher's z to Pearson's r

Hide

```

library(DescTools)
r <- FisherZInv(-0.257)
r

```

## Accuracy - corr with RA

Hide

```

MVmodel_Accuracy <- rma.mv(yi,
                          vi,
                          random = ~ 1 | StudyID/EffectsizeID,
                          test = "t",
                          data = domain_Accuracy,
                          method = "REML")
summary(MVmodel_Accuracy)

```

RVE for Robustness

Hide

```

mvcf_Accuracy <- coef_test(MVmodel_Accuracy,
                          cluster = domain_Accuracy$StudyID,
                          vcov = "CR2")
mvcf_Accuracy

```

Fisher's z to Pearson's r

Hide

```

#library(DescTools)
r <- FisherZInv(-0.28)
r

```

## General - corr with RA

Hide

```
MVmodel_General <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  test = "t",  
  data = domain_General,  
  method = "REML")  
summary(MVmodel_General)
```

RVE for Robustness

Hide

```
mvcf_General <- coef_test(MVmodel_General,  
  cluster = domain_General$StudyID,  
  vcov = "CR2")  
mvcf_General
```

Fisher's z to Pearson's r

Hide

```
#library(DescTools)  
r <- FisherZInv(-0.361)  
r
```

## LK - corr with RA

Hide

```
MVmodel_LK <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  test = "t",  
  data = domain_LK,  
  method = "REML")  
summary(MVmodel_LK)
```

RVE for Robustness

Hide

```
mvcf_LK <- coef_test(MVmodel_LK,  
  cluster = domain_LK$StudyID,  
  vcov = "CR2")  
mvcf_LK
```

Fisher's z to Pearson's r

Hide

```
#library(DescTools)
r <- FisherZInv(-0.0359)
r
```

## Read Domain - moderator

[Hide](#)

```
table(ReadAnxiety_meta_data$ReadDomain)
```

## comp vs fluency & accuracy

[Hide](#)

```
ReadAnxiety_meta_data$Comp[ReadAnxiety_meta_data$ReadDomain=="Comp"]=0
ReadAnxiety_meta_data$Comp[ReadAnxiety_meta_data$ReadDomain=="Fluency"]=1
ReadAnxiety_meta_data$Comp[ReadAnxiety_meta_data$ReadDomain=="Accuracy"]=2
```

[Hide](#)

```
MVregmodel_Comp <- rma.mv(yi,
                        vi,
                        random = ~ 1 | StudyID/EffectsizeID,
                        mods = ~ as.factor(Comp),
                        test = "t",
                        data = ReadAnxiety_meta_data,
                        method = "REML")
summary(MVregmodel_Comp)
```

## RVE for Robustness

[Hide](#)

```
mvcf_Comp <- coef_test(MVregmodel_Comp,
                      cluster = ReadAnxiety_meta_data$StudyID,
                      vcov = "CR2")
mvcf_Comp
```

## accuracy vs Accuracy & fluency

[Hide](#)

```
ReadAnxiety_meta_data$Accuracy[ReadAnxiety_meta_data$ReadDomain=="Accuracy"]=0
ReadAnxiety_meta_data$Accuracy[ReadAnxiety_meta_data$ReadDomain=="Fluency"]=1
ReadAnxiety_meta_data$Accuracy[ReadAnxiety_meta_data$ReadDomain=="Comp"]=2
```

[Hide](#)

```
MVregmodel_Accuracy <- rma.mv(yi,  
                             vi,  
                             random = ~ 1 | StudyID/EffectsizeID,  
                             mods = ~ as.factor(Accuracy),  
                             test = "t",  
                             data = ReadAnxiety_meta_data,  
                             method = "REML")  
summary(MVregmodel_Accuracy)
```

RVE for Robustness

Hide

```
mvcf_Accuracy <- coef_test(MVregmodel_Accuracy,  
                           cluster = ReadAnxiety_meta_data$StudyID,  
                           vcov = "CR2")  
mvcf_Accuracy
```

## disability status

### LD status

Hide

```
ReadAnxiety_meta_data$LD= (as.numeric(ReadAnxiety_meta_data$LD))  
class(ReadAnxiety_meta_data$LD)
```

Hide

```
Hmisc::describe(ReadAnxiety_meta_data$LD)
```

### LD status - moderator

center variable at 50%

Hide

```
ReadAnxiety_meta_data$LD_center = ReadAnxiety_meta_data$LD - 50
```

Moderator:

Hide

```
MVregmodel_LD <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  mods = ~ as.numeric(LD_center),  
  test = "t",  
  data = ReadAnxiety_meta_data,  
  method = "REML")  
summary(MVregmodel_LD)
```

RVE for Robustness

Hide

```
mvcf_LD <- coef_test(MVregmodel_LD,  
  cluster = ReadAnxiety_meta_data$StudyID,  
  vcov = "CR2")  
mvcf_LD
```

## struggling reader

make sure it is numeric

Hide

```
ReadAnxiety_meta_data$struggleRead= (as.numeric(ReadAnxiety_meta_data$struggleRead))  
class(ReadAnxiety_meta_data$struggleRead)
```

Hide

```
Hmisc::describe(ReadAnxiety_meta_data$struggleRead)
```

## struggling reader - moderator

center variable at 50%

Hide

```
ReadAnxiety_meta_data$struggleRead_center = ReadAnxiety_meta_data$struggleRead - 50
```

Moderator: year

Hide

```
MVregmodel_struggleRead <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  mods = ~ as.numeric(struggleRead_center),  
  test = "t",  
  data = ReadAnxiety_meta_data,  
  method = "REML")  
summary(MVregmodel_struggleRead)
```

RVE for Robustness

Hide

```
mvcf_struggleRead <- coef_test(MVregmodel_struggleRead,  
  cluster = ReadAnxiety_meta_data$StudyID,  
  vcov = "CR2")  
mvcf_struggleRead
```

## gender

make sure it is numeric

Hide

```
ReadAnxiety_meta_data$Boy= (as.numeric(ReadAnxiety_meta_data$Boy))  
class(ReadAnxiety_meta_data$Boy)
```

Hide

```
psych::describe(ReadAnxiety_meta_data$Boy)
```

## gender - moderator

center variable at 50%

Hide

```
ReadAnxiety_meta_data$Boy_center = ReadAnxiety_meta_data$Boy - 50
```

Moderator: gender

Hide

```
MVregmodel_gender <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  mods = ~ as.numeric(Boy_center) ,  
  test = "t",  
  data = ReadAnxiety_meta_data,  
  method = "REML")  
summary(MVregmodel_gender)
```

RVE for Robustness

Hide

```
mvcf_gender <- coef_test(MVregmodel_gender,  
  cluster = ReadAnxiety_meta_data$StudyID,  
  vcov = "CR2")  
mvcf_gender
```

## study quality

make sure it is numeric

Hide

```
ReadAnxiety_meta_data$Quality= (as.numeric(ReadAnxiety_meta_data$Quality))  
  
class(ReadAnxiety_meta_data$Quality)
```

## study quality - moderator

Moderator: study quality

Hide

```
MVregmodel_Quality <- rma.mv(yi,  
  vi,  
  random = ~ 1 | StudyID/EffectsizeID,  
  mods = ~ as.numeric(Quality) ,  
  test = "t",  
  data = ReadAnxiety_meta_data,  
  method = "REML")  
summary(MVregmodel_Quality)
```

RVE for Robustness

Hide

```

mvcf_Quality <- coef_test(MVregmodel_Quality,
                          cluster = ReadAnxiety_meta_data$StudyID,
                          vcov = "CR2")
mvcf_Quality

```

## RA measure Reliability

make sure it is numeric

Hide

```

ReadAnxiety_meta_data$cronbachRA= (as.numeric(ReadAnxiety_meta_data$cronbachRA))
class(ReadAnxiety_meta_data$cronbachRA)

```

## RA measure Reliability - moderator

center variable at 0.80

Hide

```

ReadAnxiety_meta_data$cronbachRA_center = ReadAnxiety_meta_data$cronbachRA - 0.80

```

Moderator:

Hide

```

MVregmodel_cronbachRA <- rma.mv(yi,
                                vi,
                                random = ~ 1 | StudyID/EffectsizeID,
                                mods = ~ as.numeric(cronbachRA_center) ,
                                test = "t",
                                data = ReadAnxiety_meta_data,
                                method = "REML")
summary(MVregmodel_cronbachRA)

```

RVE for Robustness

Hide

```

mvcf_cronbachRA <- coef_test(MVregmodel_cronbachRA,
                              cluster = ReadAnxiety_meta_data$StudyID,
                              vcov = "CR2")
mvcf_cronbachRA

```

## who read RA questions (categorical)



Hide

```
table(ReadAnxiety_meta_data$readRA)
```

Hide

```
class(ReadAnxiety_meta_data$readRA)
```

Hide

```
table(ReadAnxiety_meta_data$readRA)
```

## who read RA questions (categorical) - moderator

Hide

```
ReadAnxiety_meta_data$readRA[ReadAnxiety_meta_data$readRA=="participant"]=0
ReadAnxiety_meta_data$readRA[ReadAnxiety_meta_data$readRA=="researcher"]=1
```

Hide

```
MVregmodel_readRA <- rma.mv(yi,
  vi,
  random = ~ 1 | StudyID/EffectsizeID,
  mods = ~ as.factor(readRA),
  test = "t",
  data = ReadAnxiety_meta_data,
  method = "REML")
summary(MVregmodel_readRA)
```

RVE for Robustness

Hide

```
mvcf_readRA <- coef_test(MVregmodel_readRA,
  cluster = ReadAnxiety_meta_data$StudyID,
  vcov = "CR2")
mvcf_readRA
```

## Number of items in the RA measure

make sure it is numeric

Hide

```
ReadAnxiety_meta_data$RAnum= (as.numeric(ReadAnxiety_meta_data$RAnum))

class(ReadAnxiety_meta_data$RAnum)
```

## Number of items in the RA measure - moderator

center variable at mean

Hide

```
ReadAnxiety_meta_data$RAnum_center = ReadAnxiety_meta_data$RAnum - mean(ReadAnxiety_meta_data$RAnum, na.rm=TRUE)
```

Moderator:

Hide

```
MVregmodel_RAnum <- rma.mv(yi,
                          vi,
                          random = ~ 1 | StudyID/EffectsizeID,
                          mods = ~ as.numeric(RAnum_center) ,
                          test = "t",
                          data = ReadAnxiety_meta_data,
                          method = "REML")

summary(MVregmodel_RAnum)
```

RVE for Robustness

Hide

```
mvcf_RAnum <- coef_test(MVregmodel_RAnum,
                       cluster = ReadAnxiety_meta_data$StudyID,
                       vcov = "CR2")

mvcf_RAnum
```

## RA measure - created vs addapted vs existing

Hide

```
table(ReadAnxiety_meta_data$createRA)
```

## RA measure - moderator

Hide

```
MVregmodel_createRA <- rma.mv(yi,  
                             vi,  
                             random = ~ 1 | StudyID/EffectsizeID,  
                             mods = ~ as.factor(createRA),  
                             test = "t",  
                             data = ReadAnxiety_meta_data,  
                             method = "REML")  
summary(MVregmodel_createRA)
```

RVE for Robustness

Hide

```
mvcf_createRA <- coef_test(MVregmodel_createRA,  
                           cluster = ReadAnxiety_meta_data$StudyID,  
                           vcov = "CR2")  
mvcf_createRA
```

## Language

Hide

```
table(ReadAnxiety_meta_data$Language)
```

## publication bias

### publication status - moderator

Moderator:

Hide

```
MVregmodel_PubStatus <- rma.mv(yi,  
                               vi,  
                               random = ~ 1 | StudyID/EffectsizeID,  
                               mods = ~ as.factor(PubStatus),  
                               test = "t",  
                               data = ReadAnxiety_meta_data,  
                               method = "REML")  
summary(MVregmodel_PubStatus)
```

RVE for Robustness

Hide

```
mvcf_PubStatus <- coef_test(MVregmodel_PubStatus,  
                           cluster = ReadAnxiety_meta_data$StudyID,  
                           vcov = "CR2")  
mvcf_PubStatus
```

Hide

```
mvcf <- coef_test(MVmodel,  
                 cluster = ReadAnxiety_meta_data$StudyID,  
                 vcov = "CR2")  
mvcf
```

## Funnel plot

Hide

```
funnel(MVmodel)
```

save funnel plot as pdf

Hide

```
pdf("funnelPlot.pdf")  
funnel(MVmodel)
```

## Egger Yeager test

Hide

```
MVmodelo <- rma(yi ~ 1 | StudyID/EffectsizeID, vi, data = ReadAnxiety_meta_data)  
regtest(MVmodelo)
```

#trim & fill for the whole analysis

Hide

```
trimfill(MVmodelo)
```

estimated number of missing studies on the left side: 0 so we conclude there no publication bias

#Fail safe N for whole anaysis the number of file-drawer studies you would need in order to make the main effect non-significant

Hide

```
fsn(yi, vi, data = ReadAnxiety_meta_data)
```

the number of file drawer papers (unpunished papers) with a null effect that would need to exist to make it so that the effect size was insignificant and there was truly no group difference

## forest plot

Hide

```
ReadAnxiety_meta_data$Citation = paste(ReadAnxiety_meta_data$AuthorName, ReadAnxiety_meta_data$YearPub)
```

Hide

```
forest(MVmodel, slab=ReadAnxiety_meta_data$Citation, addcred = TRUE)
```

Hide

```
pdf("forest_all.pdf",
    width=8,
    height = 15)
forest(MVmodel, slab=ReadAnxiety_meta_data$Citation, addcred = TRUE)
```

Hide

```
forest(MVmodel_comp, slab=domain_comp$AuthorName, addcred = TRUE)
```

Hide

```
pdf("forest_comp.pdf",
    width=8,
    height = 10)
forest(MVmodel_comp, slab=domain_comp$AuthorName, addcred = TRUE)
```

Hide

```
forest(MVmodel_LK, slab=domain_LK$AuthorName, addcred = TRUE)
```

## Reliability across coders

subset data

Hide

```
#for all coders - dont use this one
#each rater needs their own column
relyData <- select(ReadAnxiety_meta_data, coder1, coder2)
```

Two-Way Random Effects for all coders

Hide

```
#dont use this one
library(irr)
agree(relyData)
icc(relyData, model = "twoway", type = "agreement")
```

## Fixed effects model

Overall Multivariate Model

Hide

```
FE_model <- rma.mv(yi,
                  vi,
                  random = ~ 1 | StudyID/EffectsizeID,
                  test = "t",
                  data = ReadAnxiety_meta_data,
                  method = "FE")
summary(FE_model)
```

## main effect corrected for dependent effect sizes

RVE for Robustness

Hide

```
mvcf_FE <- coef_test(FE_model,
                    cluster = ReadAnxiety_meta_data$StudyID,
                    vcov = "CR2")
mvcf_FE
```