Appendix 3. R script for LMMs

```
### ~ Pre value ####

fit0a<-lmer(Pre_TAeK_vsum ~ 1 + module_theme + age + Female +
  Desired_work_sector + residence + Family_primary_sector + Work_rural_nature +
  Leisure_garden + desired_residence + (1|class), data = schools_prepost,REML =
  FALSE)

summary(fit0a)

fit0b<-lmer(Pre_TAeK_vsum ~ 1 + age + Female + Desired_work_sector + residence
  + Family_primary_sector + Work_rural_nature + Leisure_garden +
  desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit0a,fit0b)
summary(fit0b)

fit1<-lmer(Pre_TAeK_vsum ~ 1 + age + Female + residence + Family_primary_sector
  + Work_rural_nature + Leisure_garden + desired_residence + (1|class), data =
  schools_prepost,REML = FALSE)

anova(fit0b,fit1)
summary(fit1)

fit2<-lmer(Pre_TAeK_vsum ~ 1 + age + Female + residence + Work_rural_nature +
  Leisure_garden + desired_residence + (1|class), data = schools_prepost,REML =
  FALSE)

anova(fit1,fit2)
summary (fit2)

fit3<-lmer(Pre_TAeK_vsum ~ 1 + age + Female + residence + Leisure_garden +
  desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit2,fit3)
summary(fit3)

fit4<-lmer(Pre_TAeK_vsum ~ 1 + age + Female + residence + Leisure_garden +
  (1|class), data = schools_prepost,REML = FALSE)

anova(fit3,fit4)
summary(fit4)

fit5<-lmer(Pre_TAeK_vsum ~ 1 + age + residence + Leisure_garden + (1|class), data =
  schools_prepost,REML = FALSE)

anova(fit4,fit5)
summary(fit5)
```

```
fit6<-lmer(Pre_TAeK_vsum ~ 1 + age + Leisure_garden + (1|class), data =
  schools_prepost,REML = FALSE)

anova(fit5,fit6)
summary(fit6)

fitfinalvalue<-lmer(Pre_TAeK_vsum ~ 1 + age + Leisure_garden + (1|class), data =
  schools_prepost,REML = TRUE)

summary(fitfinalvalue)
anova(fitfinalvalue)
plot(fitfinalvalue)
plot(allEffects(fitfinalvalue))
ranef(fitfinalvalue)

### ~ Pre transmission ####

fit0a<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Female +
  Desired_work_sector + residence + Family_primary_sector + Work_rural_nature +
  Leisure_garden + desired_residence + (1|class), data = schools_prepost,REML =
  FALSE)

summary(fit0a)

fit1<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Desired_work_sector +
  residence + Family_primary_sector + Work_rural_nature + Leisure_garden +
  desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit0a,fit1)
summary(fit1)

fit2<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Desired_work_sector +
  residence + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
  data = schools_prepost,REML = FALSE)

anova(fit1,fit2)
summary(fit2)

fit3<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Desired_work_sector +
  Work_rural_nature + Leisure_garden + desired_residence + (1|class), data =
  schools_prepost,REML = FALSE)

anova(fit2,fit3)
summary(fit3)

fit4<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Desired_work_sector +
  Work_rural_nature + Leisure_garden + (1|class), data = schools_prepost,REML =
  FALSE)

anova(fit3,fit4)
```

```
summary(fit4)

fit5<-lmer(Pre_TAeK_asum ~ 1 + module_theme + Desired_work_sector +
   Work_rural_nature + Leisure_garden + (1|class), data = schools_prepost,REML =
   FALSE)

anova(fit4,fit5)

schools_prepost_test3<-schools_prepost%>%
  na.exclude(age)

fit4<-lmer(Pre_TAeK_asum ~ 1 + module_theme + age + Desired_work_sector +
   Work_rural_nature + Leisure_garden + (1|class), data =
   schools_prepost_test3,REML = FALSE)

fit5<-lmer(Pre_TAeK_asum ~ 1 + module_theme + Desired_work_sector +
   Work_rural_nature + Leisure_garden + (1|class), data =
   schools_prepost_test3,REML = FALSE)

anova(fit4,fit5)
summary(fit5)

fitfinaltransmission<-lmer(Pre_TAeK_asum ~ 1 + module_theme +
   Desired_work_sector + Work_rural_nature + Leisure_garden + (1|class), data =
   schools_prepost,REML = TRUE)

summary(fitfinaltransmission)
anova(fitfinaltransmission)
plot(fitfinaltransmission)
plot(allEffects(fitfinaltransmission))
ranef(fitfinaltransmission)

#### ~ Value/Pre-post~ ####

fit0<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + module_theme +
   age + Female + Desired_work_sector + residence + Family_primary_sector +
   Work_rural_nature + Leisure_garden + desired_residence + (1|class), data =
   schools_prepost,REML = FALSE)
summary(fit0)

fit1<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + module_theme +
   age + Female + Desired_work_sector + residence + Family_primary_sector +
   Leisure_garden + desired_residence + (1|class), data = schools_prepost,REML =
   FALSE)

anova(fit0,fit1)
summary(fit1)
```

```
fit2<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + age + Female +
   Desired_work_sector + residence + Family_primary_sector + Leisure_garden +
   desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit1,fit02)
summary(fit2)

fit3<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + age + Female +
   Desired_work_sector + Family_primary_sector + Leisure_garden +
   desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit2,fit3)
summary(fit3)


fit4<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + age + Female +
   Desired_work_sector + Leisure_garden + desired_residence + (1|class), data =
   schools_prepost,REML = FALSE)

anova(fit3,fit4)
summary(fit4)

fit5<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + age + Female +
   Desired_work_sector + desired_residence + (1|class), data = schools_prepost,REML
   = FALSE)

anova(fit4,fit5)
summary(fit5)

fit6<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + Female +
   Desired_work_sector + desired_residence + (1|class), data = schools_prepost,REML
   = FALSE)

anova(fit5,fit6)

schools_prepost_test<-schools_prepost%>%
  na.exclude(age)

fit5<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + age + Female +
   Desired_work_sector + desired_residence + (1|class), data =
   schools_prepost_test,REML = FALSE)

fit6<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + Female +
   Desired_work_sector + desired_residence + (1|class), data =
   schools_prepost_test,REML = FALSE)

anova(fit5,fit6)
summary(fit6)
```

```
fit7<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + Female +
   Desired_work_sector + (1|class), data = schools_prepost,REML = FALSE)

anova(fit6,fit7)
summary(fit7)

fitfinalvalue<-lmer(Post_TAeK_vsum ~ 1 + Pre_TAeK_vsum + Treatment + Female +
   Desired_work_sector + (1|class), data = schools_prepost, REML = TRUE)

summary(fitfinalvalue)
anova(fitfinalvalue)
plot(fitfinalvalue)
plot(allEffects(fitfinalvalue))
ranef(fitfinalvalue)

#### ~ Transmission/Pre-post~ ####

fit0<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + module_theme + age +
Female + Desired_work_sector + residence + Family_primary_sector + Work_rural_nature +
Leisure_garden + desired_residence + (1|class), data = schools_prepost,REML = FALSE)

summary(fit0)


fit1<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + module_theme + age +
Female + residence + Family_primary_sector + Work_rural_nature + Leisure_garden +
desired_residence + (1|class), data = schools_prepost,REML = FALSE)

anova(fit0,fit1)

summary(fit1)


fit2<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age + Female + residence +
Family_primary_sector + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
data = schools_prepost,REML = FALSE)

anova(fit1, fit2)

summary(fit2)


fit3<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age + residence +
Family_primary_sector + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
data = schools_prepost,REML = FALSE)

anova(fit2,fit3)

summary(fit3)
```

```
fit4<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
data = schools_prepost,REML = FALSE)

anova(fit3,fit4)

schools_prepost_test<-schools_prepost%>%

  na.exclude(residence)

fit3<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age + residence +
Family_primary_sector + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
data = schools_prepost_test,REML = FALSE)

fit4<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + Work_rural_nature + Leisure_garden + desired_residence + (1|class),
data = schools_prepost_test,REML = FALSE)

anova(fit3,fit4)

summary(fit4)


fit5<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + Work_rural_nature + desired_residence + (1|class), data =
schools_prepost,REML = FALSE)

anova(fit4,fit5)

summary(fit5)


fit6<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + desired_residence + (1|class), data = schools_prepost,REML =
FALSE)

anova(fit5,fit6)

schools_prepost_test<-schools_prepost%>%

  na.exclude(Work_rural_nature)

fit5<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + Work_rural_nature + desired_residence + (1|class), data =
schools_prepost_test,REML = FALSE)

fit6<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age +
Family_primary_sector + desired_residence + (1|class), data = schools_prepost_test,REML =
FALSE)

anova(fit5,fit6)

summary(fit6)


fit7<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age  + desired_residence +
(1|class), data = schools_prepost,REML = FALSE)
```

```
anova(fit6,fit7)

summary(fit7)


fit8<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + desired_residence +
(1|class), data = schools_prepost,REML = FALSE)

anova(fit7,fit8)

schools_prepost_test<-schools_prepost%>%

  na.exclude(age)

fit7<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + age  + desired_residence +
(1|class), data = schools_prepost_test,REML = FALSE)

fit8<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment + desired_residence +
(1|class), data = schools_prepost_test,REML = FALSE)

anova(fit7,fit8)

summary(fit8)


fitfinaltransmission<-lmer(Post_TAeK_asum ~ 1 + Pre_TAeK_asum + Treatment +
desired_residence + (1|class), data = schools_prepost,REML = TRUE)

summary(fitfinaltransmission)

anova(fitfinaltransmission)

plot(fitfinaltransmission)

plot(allEffects(fitfinaltransmission))

ranef(fitfinaltransmission)
```