Exercises: Module 5

If you have any questions as you go through these, feel free to ask them in the forum. For all of these, **you will need the long version of the data set**.

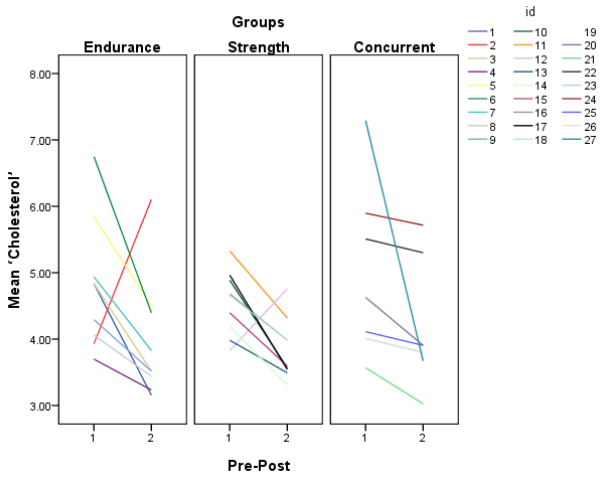
1. If you haven't done so, read the references listed on the module 5 page.

For each data set, do the following steps, where applicable. There are further instructions for each one:

a. If you don't already have one from previous exercises, plot (using either line or scatter plot with a regression line fit to each subject) the outcome against Time. Create a separate line for each subject and panel your graph by any between-subject factors.
b. Run an empty random intercept model to establish baseline model fit and variance of the outcome variable.
c. Add the fixed predictors to the model. How do the model fit, the ICC, the between-subjects variance and the residual variance compare in the two models?

2. For the Physical Training Data, use:

Outcome: CHL
Fixed predictors: time, group, and their interaction
Subject: Subject
Time: Time



2. Pre-Post[a]

Pre-Post	Mean	Std. Error	df	95% Confidence Interval	
				Lower Bound	Upper Bound
1	4.730	.165	45.099	4.397	5.062
2	3.962	.165	45.099	3.630	4.295

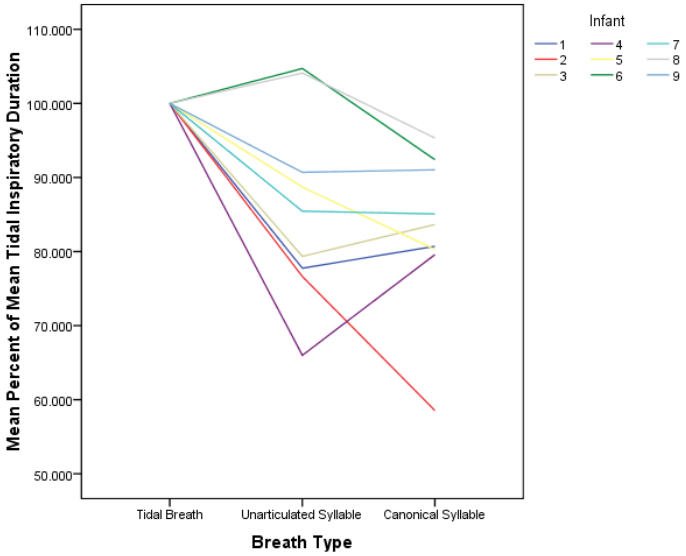
a. Dependent Variable: CHL 'Cholesterol'.

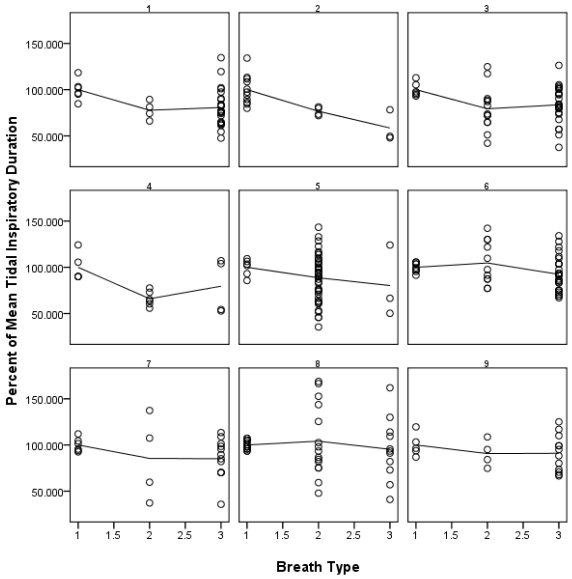
	-2LL	BIC	Residual Variance	Intercept Variance	ICC	Significant fixed effects
b. Empty RI model						
c. Full RI model						

What do you conclude about the effects of training regimen on CHL?

3. For the Infant data, do only parts a-d.

Outcome: percITD
Fixed predictors: breath
Subject: Subject
Time: Breath

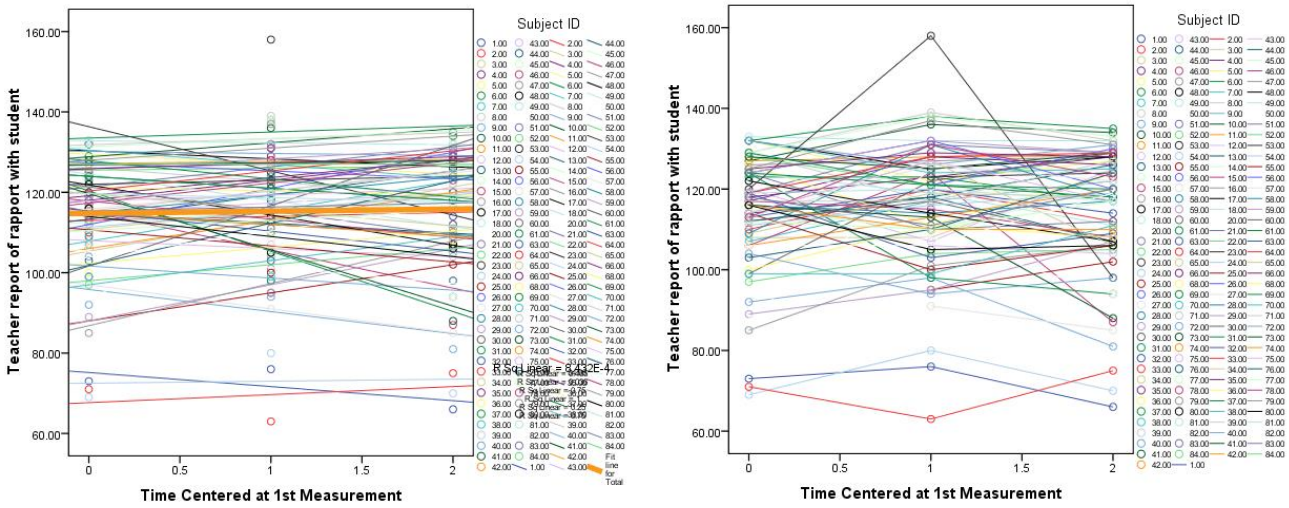




	-2LL	BIC	Residual Variance	Intercept Variance	ICC	Significant fixed effects
b. Empty RI model						
c. Full RI model						

4. For the Teacher data, use:

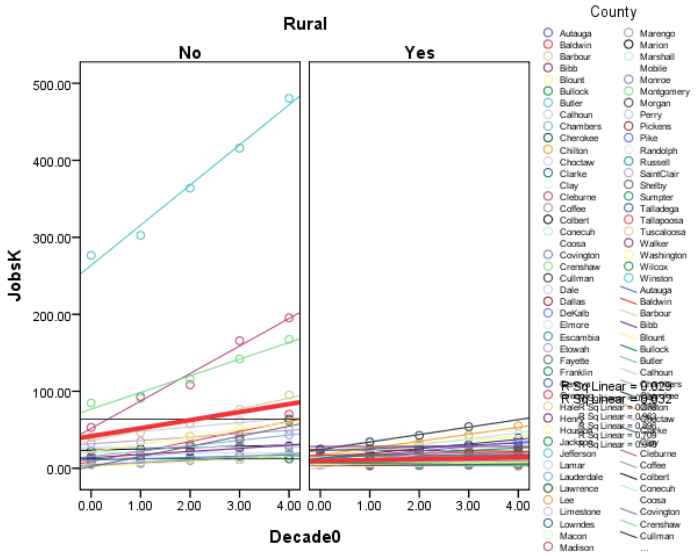
Outcome: STRS
Fixed predictors: time, children's summer expectancies, and their interaction
Subject: Student
Time: Recode Time so that 0 is the first measurement



	-2LL	BIC	Residual Variance	Intercept Variance	ICC	Significant fixed effects
b. Empty RI model						
c. Full RI model						

5. For the County data, use:

Outcome: Jobs in thousands
Fixed predictors: Decade, rural status, and their interaction
Subject: County
Time: Recode Decade so that 0 is the 1960 measurement



	-2LL	BIC	Residual Variance	Intercept Variance	ICC	Significant fixed effects
b. Empty RI model						
c. Full RI model						

6. For the Swallowing data, make sure you restrict the data to the anterior bulb and delete task=AMAXTP.

Outcome: RiseSlope in cm (you may have to compute this—just divide RiseSlope by 10)
Fixed predictors: Task
Subject: Subject
Time: Task

	-2LL	BIC	Residual Variance	Intercept Variance	ICC	Significant fixed effects
b. Empty RI model						
c. Full RI model						