1. Fix the coloring of the section “Stata code”. The correct coloring is shown below.

**Stata code:**

\*Data generation

clear

version 15

set seed 123

\*500 leaders (note: “a” is the unobserved effect)

set obs 500

gen lead\_n = \_n

gen a = rnormal()

gen z = round(25 + 2\*rnormal() + .2\*a)

\*10 raters for each leader

expand 10

bys lead\_n: gen rater = \_n

gen x = a + rnormal()

gen y = .5\*x - .5\*z + 5\*a + 2\*rnormal()

\*Data estimation

\*1 OLS with Level 1 and Level 2 predictor

reg y x z, vce(cluster lead\_n)

\*2 OLS with cluster dummies and Level 1 predictor

reg y x i.lead\_n, vce(cluster lead\_n)

\*3 GLS FE with Level 1 predictor

xtset lead\_n rater

xtreg y x, fe vce(cluster lead\_n)

\*4 OLS with Level 1 predictor and its cluster mean

bys lead\_n: egen x\_cl = mean(x)

reg y x x\_cl, cluster(lead\_n)

\*5 OLS with Level 1 predictor, its cluster mean, and Level 2 predictor

reg y x x\_cl z, cluster(lead\_n)

\*6 GLS RE with Level 1 predictor, its cluster mean, and Level 2 predictor

xtreg y x x\_cl z, cluster(lead\_n) robust

test x\_cl

\*7 MLE RE with Level 1 predictor, its cluster mean, and Level 2 predictor

mixed y x x\_cl z || lead\_n:

est store one

\*compare above estimate with below using likelihood ratio test

mixed y x z || lead\_n:

est store two

lrtest one two

\*8 ML RE with cluster-mean centered Level 1 predictor and Level 2 predictor

gen x\_grp\_cen = x - x\_cl

mixed y x\_grp\_cen z || lead\_n:

\*9 GLS RE with cluster-mean centered Level 1 predictor and Level 2 predictor

xtreg y x z, cluster(lead\_n) robust

\*Wald test of the random effects assumption (equivalent to test x\_cl of

\*model 6

xtoverid

\*10 GLS RE with grand-mean centered Level 1 predictor and Level 2 predictor

egen x\_grnd\_mean = mean(x)

gen x\_grnd\_cen = x - x\_grnd\_mean

xtreg y x\_grnd\_cen z, cluster(lead\_n)

\*11 ML RE with grand-mean centered Level 1 predictor and Level 2 predictor

mixed y x\_grp\_cen x\_cl z || lead\_n:

2. Ensure that when copy-pasted from the PDF to a text editor, Stata code and R code retain correct formatting. There are currently at least two problems:

1. Line breaks are lost. For example, copy-pasting
“\*Data generation
clear
version 15
set seed 123”
results in
“\*Data generation
clear version 15 set seed 123”
2. = and + and possibly other characters are converted to special characters. For example, copy-pasting
“gen z = round(25 + 2\*rnormal() + .2\*a)”
produces
“gen z 1⁄4 round(25 þ 2\*rnormal() þ .2\*a)”