Statistics/Data Analysis

```
      name:  <unnamed>
       log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_1_
> ibl_mi100_linear_clusts_101019.smcl
  log type:  smcl
 opened on:  18 Oct 2019, 20:29:01

1 .
2 . ** -------------------------------------------------------
3 . ** FULLY NESTED MIXED-EFFECTS LINEAR MODELS (100 IMPUTATIONS) PT 1: RACE & POVERTY -
  > > IBL
4 . ** -------------------------------------------------------
5 .
6 . * 0. controls only1.
7 . *mi xeq 1 / 5: mixed inquiry_full_log primary middle high lnage lnstudents urban pct
  > pdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructured)
8 . mi est, dots post: mixed inquiry_full_log primary middle high lnage lnstudents urban
  >  pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructured)

  Imputations (100):
    .........10.........20.........30.........40.........50.........60.........70.......
  > ..80.........90.........100 done

  Multiple-imputation estimates                     Imputations      =        100
  Mixed-effects ML regression                       Number of obs    =      5,784
```

Group Variable	No. of Groups	Observations per Group Minimum	Average	Maximum
_all	**1**	**5,784**	**5,784.0**	**5,784**
geodistrict	**1,481**	**1**	**3.9**	**251**

```
                                                    Average RVI      =     0.0000
                                                    Largest FMI      =     0.0000
  DF adjustment:   Large sample                     DF:     min      =   3.92e+64
                                                            avg      =   3.92e+64
                                                            max      =          .
  Model F test:       Equal FMI                     F(   7, 1.3e+67) =      10.20
                                                    Prob > F         =     0.0000
```

inquiry_full_log	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
primary	.0013426	.003901	0.34	0.731	-.0063031	.0089884
middle	-.0124991	.0058186	-2.15	0.032	-.0239033	-.001095
high	-.0097576	.0046736	-2.09	0.037	-.0189177	-.0005976
lnage	-.0048955	.0016684	-2.93	0.003	-.0081654	-.0016256
lnstudents	.0099569	.0018209	5.47	0.000	.0063881	.0135258
urban	.0059421	.0039068	1.52	0.128	-.001715	.0135992
pctpdfs	.118419	.0318136	3.72	0.000	.0560655	.1807726
_cons	.0756538	.0130765	5.79	0.000	.0500244	.1012832

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
_all: Identity sd(R.cmoname)	.0770352	.0042986	.0690544	.0859384
_all: Identity sd(R.state)	.0264266	.00484	.0184563	.0378388
geodistrict: Identity sd(_cons)	.041052	.0030242	.0355327	.0474286
sd(Residual)	.1007134	.0011072	.0985665	.1029071

```
9 . est store ibl0

10. est save "models/1a_ibl_controls_mi100_linear_clusts.ster", replace
  (note: file models/1a_ibl_controls_mi100_linear_clusts.ster not found)
  file models/1a_ibl_controls_mi100_linear_clusts.ster could not be opened
  r(603);

  end of do-file

  r(603);

11. do "/90days/jhaber/STATATMP/SD09282.000000"

12. est save "model_estimates/1a_ibl_controls_mi100_linear_clusts.ster", replace
  (note: file model_estimates/1a_ibl_controls_mi100_linear_clusts.ster not found)
  file model_estimates/1a_ibl_controls_mi100_linear_clusts.ster saved

13. outreg2 using "tables/1a_ibl_controls_mi100_linear_clusts.rtf", replace word label o
  > necol addstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob >
  > F, r(p), R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > addnote("", "Sources: American Community Survey 2012-16 (U.S. Census Bureau 2018), C
  > ommon Core of Data 2015-16 (NCES 2018), and the author's data collection.") ///
  > title("TABLE 2", "Mixed Effects Models: Effects of Poverty & Race on IBL Emphasis")
  > ///
  > ctitle("M0: Controls only")
  (note: file tables/1a_ibl_controls_mi100_linear_clusts.rtf not found)
  tables/1a_ibl_controls_mi100_linear_clusts.rtf
  seeout

14.
15. * 1. school poverty
16. *mi xeq 1 / 5: mixed inquiry_full_log povertyschool primary middle high lnage lnstud
  > ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructu
  > red)
17. mi est, dots post: mixed inquiry_full_log povertyschool primary middle high lnage ln
  > students urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstr
  > uctured)

  Imputations (100):
    ...——Break——
  r(1);

  end of do-file

  ——Break——
  r(1);

18. do "/90days/jhaber/STATATMP/SD09282.000000"

19. mi xeq 1 / 5: quietly xtmixed povertyschoolprop primary middle high lnage lnstudents
  >  urban || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured) ; xtmrh
  > o
  ——Break——
  r(1);

  end of do-file

  ——Break——
  r(1);
```

```
20. log close
        name:  <unnamed>
         log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_1_
  > ibl_mi100_linear_clusts_101019.smcl
    log type:  smcl
   closed on:  24 Oct 2019, 10:27:51
  -------------------------------------------------------------------------------------
  -------------------------------------------------------------------------------------
        name:  <unnamed>
         log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/results_1_
  > ibl_mi100_linear_clusts_101019.smcl
    log type:  smcl
   opened on:  24 Oct 2019, 21:22:01

21. 
22. ** ----------------------------------------------------
23. ** FULLY NESTED MIXED-EFFECTS LINEAR MODELS (100 IMPUTATIONS) PT 1: RACE & POVERTY -
  > > IBL
24. ** ----------------------------------------------------
25. 
26. * 0. controls only1.
27. *mi xeq 1 / 5: mixed inquiry_full_log primary middle high lnage lnstudents urban pct
  > pdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructured)
28. *mi est, dots post: mixed inquiry_full_log primary middle high lnage lnstudents urba
  > n pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructured)
29. *est store ibl0
30. 
31. *est save "model_estimates/1a_ibl_controls_mi100_linear_clusts.ster", replace
32. *outreg2 using "tables/1a_ibl_controls_mi100_linear_clusts.rtf", replace word label
  > onecol addstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob >
  >  F, r(p), R-squared, e(r2)) ///
  > *alpha(.001, .01, .05) symbol(***, **, *) ///
  > *addnote("", "Sources: American Community Survey 2012-16 (U.S. Census Bureau 2018),
  > Common Core of Data 2015-16 (NCES 2018), and the author's data collection.") ///
  > *title("TABLE 2", "Mixed Effects Models: Effects of Poverty & Race on IBL Emphasis")
  >  ///
  > *ctitle("M0: Controls only")
33. 
34. * 1. school poverty
35. *mi xeq 1 / 5: mixed inquiry_full_log povertyschool primary middle high lnage lnstud
  > ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructu
  > red)
36. mi est, dots post: mixed inquiry_full_log povertyschool primary middle high lnage ln
  > students urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstr
  > uctured)

  Imputations (100):
    .........10.........20.........30.........40.........50.........60.........70.......
  > ..80.........90.........100 done

  Multiple-imputation estimates                  Imputations       =        100
  Mixed-effects ML regression                    Number of obs     =      5,784
```

Group Variable	No. of Groups	Observations per Group Minimum	Average	Maximum
_all	**1**	**5,784**	**5,784.0**	**5,784**
geodistrict	**1,481**	**1**	**3.9**	**251**

```
                                                 Average RVI       =     0.0066
                                                 Largest FMI       =     0.0617
  DF adjustment:   Large sample                  DF:     min       =  26,033.03
                                                         avg       =   4.18e+07
                                                         max       =   1.95e+08
  Model F test:       Equal FMI                  F(   8, 8.4e+06)  =      24.95
                                                 Prob > F          =     0.0000
```

inquiry_full_log	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
povertyschool	**-.0006155**	**.000056**	**-10.98**	**0.000**	**-.0007253**	**-.0005056**
primary	**.0009136**	**.0038633**	**0.24**	**0.813**	**-.0066584**	**.0084856**
middle	**-.0114743**	**.0057657**	**-1.99**	**0.047**	**-.0227749**	**-.0001738**
high	**-.0108276**	**.0046291**	**-2.34**	**0.019**	**-.0199005**	**-.0017547**
lnage	**-.0046904**	**.0016506**	**-2.84**	**0.004**	**-.0079255**	**-.0014553**
lnstudents	**.0085119**	**.0018054**	**4.71**	**0.000**	**.0049734**	**.0120505**
urban	**.011086**	**.0038492**	**2.88**	**0.004**	**.0035417**	**.0186304**
pctpdfs	**.1154506**	**.0314486**	**3.67**	**0.000**	**.0538124**	**.1770888**
_cons	**.1156428**	**.0133717**	**8.65**	**0.000**	**.0894347**	**.1418509**

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
_all: Identity sd(R.cmoname)	**.0777008**	**.0043004**	**.0697132**	**.0866037**
_all: Identity sd(R.state)	**.0243343**	**.0046507**	**.0167317**	**.0353913**
geodistrict: Identity sd(_cons)	**.0382639**	**.0030563**	**.0327191**	**.0447485**
sd(Residual)	**.0999777**	**.0010997**	**.0978455**	**.1021564**

```
37. est store ibl1

38. est save "model_estimates/1b_ibl_povsch_mi100_linear_clusts.ster", replace
  (note: file model_estimates/1b_ibl_povsch_mi100_linear_clusts.ster not found)
  file model_estimates/1b_ibl_povsch_mi100_linear_clusts.ster saved

39. outreg2 using "tables/1b_ibl_povsch_mi100_linear_clusts.rtf", replace word label one
  > col addstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F,
  >  r(p), R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > ctitle("M1: School poverty")
  (note: file tables/1b_ibl_povsch_mi100_linear_clusts.rtf not found)
  tables/1b_ibl_povsch_mi100_linear_clusts.rtf
  seeout

40.
41. * 2. school race
42. *mi xeq 1 / 5: mixed inquiry_full_log pocschoolprop primary middle high lnage lnstud
  > ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructu
  > red)
43. mi est, dots post: mixed inquiry_full_log pocschoolprop primary middle high lnage ln
  > students urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstr
  > uctured)

  Imputations (100):
    .........10.........20.........30.........40.........50.........60.........70.......
  > ..80.........90.........100 done

  Multiple-imputation estimates                   Imputations      =        100
  Mixed-effects ML regression                     Number of obs    =      5,784
```

Group Variable	No. of Groups	Observations per Group Minimum	Average	Maximum
_all	**1**	**5,784**	**5,784.0**	**5,784**
geodistrict	**1,481**	**1**	**3.9**	**251**

```
                                                Average RVI       =     0.0000
                                                Largest FMI       =     0.0000
DF adjustment:   Large sample                   DF:     min       =   1.10e+62
                                                        avg       =   1.10e+62
                                                        max       =          .
Model F test:       Equal FMI                   F(   8, 4.2e+64)  =     29.26
                                                Prob > F          =     0.0000
```

inquiry_full_log	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
pocschoolprop	-.0800771	.0063159	-12.68	0.000	-.0924561	-.0676981
primary	.0053163	.0038603	1.38	0.168	-.0022496	.0128823
middle	-.0064426	.0057603	-1.12	0.263	-.0177326	.0048473
high	-.0050006	.0046254	-1.08	0.280	-.0140661	.004065
lnage	-.006588	.0016513	-3.99	0.000	-.0098244	-.0033516
lnstudents	.0112313	.0017995	6.24	0.000	.0077044	.0147582
urban	.0192292	.0039827	4.83	0.000	.0114232	.0270352
pctpdfs	.120683	.0313639	3.85	0.000	.0592109	.1821551
_cons	.1104719	.0132795	8.32	0.000	.0844445	.1364993

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
_all: Identity sd(R.cmoname)	.0765915	.0042572	.0686859	.085407
_all: Identity sd(R.state)	.0276024	.0049309	.0194485	.0391747
geodistrict: Identity sd(_cons)	.0398612	.0031052	.0342169	.0464366
sd(Residual)	.0993919	.0011026	.0972542	.1015765

```
44. est store ibl2

45. est save "model_estimates/1c_ibl_pocsch_mi100_linear_clusts.ster", replace
  (note: file model_estimates/1c_ibl_pocsch_mi100_linear_clusts.ster not found)
  file model_estimates/1c_ibl_pocsch_mi100_linear_clusts.ster saved

46. outreg2 using "tables/1c_ibl_pocsch_mi100_linear_clusts.rtf", replace word label one
  > col addstat(Log-Likelihood, e(ll), chi-square test, r(chi2), F-test, e(p), Prob > F,
  >  r(p), R-squared, e(r2)) ///
  > alpha(.001, .01, .05) symbol(***, **, *) ///
  > ctitle("M2: School race")
  (note: file tables/1c_ibl_pocsch_mi100_linear_clusts.rtf not found)
  tables/1c_ibl_pocsch_mi100_linear_clusts.rtf
  seeout

47.
48. * 3. school district poverty
49. *mi xeq 1 / 5: mixed inquiry_full_log povertysd primary middle high lnage lnstudents
  >  urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructured)
50. mi est, dots post: mixed inquiry_full_log povertysd primary middle high lnage lnstud
  > ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , cov(unstructu
  > red)

  Imputations (100):
    .........10.........20.........30.........40.........50.........60.........70.......
```