Statistics/Data Analysis

```
      name:  <unnamed>
       log:  /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/nesting_mi
> _linear_101019.smcl
  log type:  smcl
 opened on:  18 Oct 2019, 14:59:42

1 . ** ------------------------------------------------------
2 . ** CHECK NESTING IN EACH MODEL
3 . ** ------------------------------------------------------
4 .
5 . ** NESTING IN MIXED-EFFECTS LINEAR MODELS PT 1: RACE & POVERTY -> IBL
6 .
7 . * Check nesting without crossed random effects (less accurate):
8 . mi xeq 1 / 5: quietly mixed inquiry_full_log primary middle high age students urban
> pctpdfs || state: || cmoname: || geodistrict: , nolog cov(unstructured) ; estat ic ;
>  estat icc

m=1 data:
-> quietly mixed inquiry_full_log primary middle high age students urban pctpdfs || st
> ate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> estat ic

Akaike's information criterion and Bayesian information criterion

------------------------------------------------------------------------------
       Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
-------------+----------------------------------------------------------------
           . |      5,784         .   4512.219      12   -9000.438  -8920.484
------------------------------------------------------------------------------
               Note: N=Obs used in calculating BIC; see [R] BIC note.
-> estat icc

Residual intraclass correlation

------------------------------------------------------------------------------
                       Level |        ICC   Std. Err.     [95% Conf. Interval]
-----------------------------+------------------------------------------------
                       state |   .0159953    .012545      .0033969    .0719465
                cmoname|state |   .2847338   .0256958      .2371465    .3376438
   geodistrict|cmoname|state |   .3837629   .0228346      .3400986    .4293854
------------------------------------------------------------------------------

m=2 data:
-> quietly mixed inquiry_full_log primary middle high age students urban pctpdfs || st
> ate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> estat ic

Akaike's information criterion and Bayesian information criterion

------------------------------------------------------------------------------
       Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
-------------+----------------------------------------------------------------
           . |      5,784         .   4512.219      12   -9000.438  -8920.484
------------------------------------------------------------------------------
               Note: N=Obs used in calculating BIC; see [R] BIC note.
-> estat icc

Residual intraclass correlation

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                       Level |        ICC   Std. Err.     [95% Conf. Interval]
-----------------------------+------------------------------------------------
                       state |   .0159953    .012545      .0033969    .0719465
                cmoname|state |   .2847338   .0256958      .2371465    .3376438
   geodistrict|cmoname|state |   .3837629   .0228346      .3400986    .4293854
------------------------------------------------------------------------------
```

m=3 data:
-> **quietly mixed inquiry_full_log primary middle high age students urban pctpdfs || st**
> ate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	.	**4512.219**	**12**	**-9000.438**	**-8920.484**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.0159953**	**.012545**	**.0033969**	**.0719465**
cmoname|state	**.2847338**	**.0256958**	**.2371465**	**.3376438**
geodistrict|cmoname|state	**.3837629**	**.0228346**	**.3400986**	**.4293854**

m=4 data:
-> **quietly mixed inquiry_full_log primary middle high age students urban pctpdfs || st**
> ate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	.	**4512.219**	**12**	**-9000.438**	**-8920.484**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.0159953**	**.012545**	**.0033969**	**.0719465**
cmoname|state	**.2847338**	**.0256958**	**.2371465**	**.3376438**
geodistrict|cmoname|state	**.3837629**	**.0228346**	**.3400986**	**.4293854**

m=5 data:
-> **quietly mixed inquiry_full_log primary middle high age students urban pctpdfs || st**
> ate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	.	**4512.219**	**12**	**-9000.438**	**-8920.484**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.0159953**	**.012545**	**.0033969**	**.0719465**
cmoname|state	**.2847338**	**.0256958**	**.2371465**	**.3376438**
geodistrict|cmoname|state	**.3837629**	**.0228346**	**.3400986**	**.4293854**

```
9 .
10. * Compare rho for full IBL dictionary (50 terms) from each of five imputations, usin
  > g mixed linear models:
11. mi xeq 1 / 5: quietly xtmixed inquiry_full_log primary middle high lnage lnstudents
  > urban pctpdfs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  > ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all state geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.32182


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.03716


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.09079



  m=2 data:
  -> quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all state geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.32182


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.03716


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.09079



  m=3 data:
  -> quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all state geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.32182


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.03716
```

level **3**
Intraclass correlation (ICC): **rho3** = **0.09079**

m=4 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all state geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.32182**

level **2**
Intraclass correlation (ICC): **rho2** = **0.03716**

level **3**
Intraclass correlation (ICC): **rho3** = **0.09079**

m=5 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all state geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.32182**

level **2**
Intraclass correlation (ICC): **rho2** = **0.03716**

level **3**
Intraclass correlation (ICC): **rho3** = **0.09079**

12. mi xeq 1 / 5: quietly xtmixed inquiry_full_log primary middle high lnage lnstudents
> urban pctpdfs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
> ; xtmrho

m=1 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03612**

level **2**
Intraclass correlation (ICC): **rho2** = **0.30510**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08713**

m=2 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03612**

level **2**
Intraclass correlation (ICC): **rho2** = **0.30510**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08713**

m=3 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03612**

level **2**
Intraclass correlation (ICC): **rho2** = **0.30510**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08713**

m=4 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03612**

level **2**
Intraclass correlation (ICC): **rho2** = **0.30510**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08713**

m=5 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03612**

level **2**
Intraclass correlation (ICC): **rho2** = **0.30510**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08713**

13. * Comparing different model parameters. These should all be the same (CMO x state wi
> th district nested therein):
14. mi xeq 1: quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urba
> n pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured
>) ; xtmrho

m=1 data:
-> **quietly xtmixed inquiry_full_log primary middle high lnage lnstudents urban pctpdfs**
> || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.33409**

level **2**
Intraclass correlation (ICC): **rho2** = **0.09488**

15. mi xeq 1: quietly xtmixed inquiry_full_log povertyschoolprop primary middle high lna
> ge lnstudents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolo
> g cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed inquiry_full_log povertyschoolprop primary middle high lnage lnstud**
> ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(uns
> tructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.34547**

level **2**
Intraclass correlation (ICC): **rho2** = **0.08316**

16. mi xeq 1: quietly xtmixed inquiry_full_log pocschoolprop primary middle high lnage l
> nstudents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog co
> v(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed inquiry_full_log pocschoolprop primary middle high lnage lnstudents**
> urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstruc
> tured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.33843**

level **2**
Intraclass correlation (ICC): **rho2** = **0.09167**

```
17. mi xeq 1: quietly xtmixed inquiry_full_log povertysd primary middle high lnage lnstu
  > dents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(un
  > structured) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_full_log povertysd primary middle high lnage lnstudents urb
  > an pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructure
  > d)
  -> xtmrho

  Levels: _all _all geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.33901


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.08310



18. mi xeq 1: quietly xtmixed inquiry_full_log pocsd primary middle high lnage lnstudent
  > s urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstru
  > ctured) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_full_log pocsd primary middle high lnage lnstudents urban p
  > ctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all _all geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.33346


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.09212



19.
20. * Check against other measures of IBL
21.
22. * Seed dictionary (5 terms)
23. mi xeq 1: quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urba
  > n pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured
  > ) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all _all geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.19628


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.04540
```

```
24. mi xeq 1: quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urba
  > n pctpdfs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured) ; xt
  > mrho

  m=1 data:
  -> quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all state geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.18982


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.03285


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.04408



25. mi xeq 1: quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urba
  > n pctpdfs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured) ; xt
  > mrho

  m=1 data:
  -> quietly xtmixed inquiry_seed_log primary middle high lnage lnstudents urban pctpdfs
  >  || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all cmoname geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.03372


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.16920


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.03938



26. * Narrow dictionary (20 terms)
27. mi xeq 1: quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents ur
  > ban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructur
  > ed) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents urban pctpd
  > fs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all _all geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.28748


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.08883
```

28. mi xeq 1: quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents ur
> ban pctpdfs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured) ;
> xtmrho

m=1 data:
-> **quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents urban pctpd**
> fs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all state geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.27577**

level **2**
Intraclass correlation (ICC): **rho2** = **0.04103**

level **3**
Intraclass correlation (ICC): **rho3** = **0.08542**

29. mi xeq 1: quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents ur
> ban pctpdfs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured) ;
> xtmrho

m=1 data:
-> **quietly xtmixed inquiry_narrow_log primary middle high lnage lnstudents urban pctpd**
> fs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all cmoname geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.03879**

level **2**
Intraclass correlation (ICC): **rho2** = **0.25614**

level **3**
Intraclass correlation (ICC): **rho3** = **0.07984**

30. * Full dictionary without "hands-on" (49 terms)
31. mi xeq 1: quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstude
> nts urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unst
> ructured) ; xtmrho

m=1 data:
-> **quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstudents urban**
> pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.33180**

level **2**
Intraclass correlation (ICC): **rho2** = **0.09286**

```
32. mi xeq 1: quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstude
  > nts urban pctpdfs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructur
  > ed) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstudents urban
  >  pctpdfs || _all:R.cmoname || state: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all state geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.31733


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.04415


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.08813



33. mi xeq 1: quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstude
  > nts urban pctpdfs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructur
  > ed) ; xtmrho

  m=1 data:
  -> quietly xtmixed inquiry_full_nohands_log primary middle high lnage lnstudents urban
  >  pctpdfs || _all:R.state || cmoname: || geodistrict: , nolog cov(unstructured)
  -> xtmrho

  Levels: _all cmoname geodistrict

  level 1
  Intraclass correlation  (ICC):  rho1 = 0.04270


  level 2
  Intraclass correlation  (ICC):  rho2 = 0.29695


  level 3
  Intraclass correlation  (ICC):  rho3 = 0.08891



34.
35.
36. ** NESTING IN MIXED-EFFECTS LINEAR MODELS PT 2: IBL, ACADEMICS -> POVERTY
37.
38. * Check nesting without crossed random effects (less accurate):
39. mi xeq 1 / 5: quietly mixed povertyschoolprop primary middle high age students urban
  >  pctpdfs || state: || cmoname: || geodistrict: , nolog cov(unstructured) ; estat ic
  > ; estat icc

  m=1 data:
  -> quietly mixed povertyschoolprop primary middle high age students urban pctpdfs || s
  > tate: || cmoname: || geodistrict: , nolog cov(unstructured)
  -> estat ic

  Akaike's information criterion and Bayesian information criterion

+-----------------------------------------------------------------------------+
|       Model |        Obs  ll(null)  ll(model)      df         AIC        BIC |
|-------------+---------------------------------------------------------------|
|           . |      5,784         .  -499.2627      12    1022.525    1102.48 |
+-----------------------------------------------------------------------------+
                Note: N=Obs used in calculating BIC; see [R] BIC note.
  -> estat icc
```

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	.1836822	.0428259	.113912	.2825591
cmoname|state	.33706	.0392621	.2648705	.4177439
geodistrict|cmoname|state	.5309485	.0283939	.4751437	.58599

m=2 data:
-> **quietly mixed povertyschoolprop primary middle high age students urban pctpdfs || s**
> tate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	5,784	.	-501.4039	12	1026.808	1106.762

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	.1792987	.041856	.1111938	.2761564
cmoname|state	.3353298	.0386714	.2642023	.4148108
geodistrict|cmoname|state	.5338084	.0277877	.4791592	.5876581

m=3 data:
-> **quietly mixed povertyschoolprop primary middle high age students urban pctpdfs || s**
> tate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	5,784	.	-485.3356	12	994.6711	1074.625

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	.183572	.0425831	.1141322	.2818197
cmoname|state	.3399882	.039011	.2681392	.4200399
geodistrict|cmoname|state	.5374522	.0279806	.4823795	.591626

m=4 data:
-> **quietly mixed povertyschoolprop primary middle high age students urban pctpdfs || s**
> tate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	**.**	**-496.8943**	**12**	**1017.789**	**1097.743**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.1853563**	**.0428885**	**.115356**	**.2841884**
cmoname|state	**.3458604**	**.0389728**	**.2739022**	**.4256411**
geodistrict|cmoname|state	**.5374826**	**.0281573**	**.4820615**	**.5919927**

m=5 data:
-> **quietly mixed povertyschoolprop primary middle high age students urban pctpdfs || s**
> tate: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	**.**	**-475.8409**	**12**	**975.6819**	**1055.636**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.1809781**	**.0426732**	**.1116499**	**.2797964**
cmoname|state	**.3412347**	**.0389864**	**.2693906**	**.4211933**
geodistrict|cmoname|state	**.540953**	**.0277746**	**.4862435**	**.5946927**

40.
41. mi xeq 1 / 5: quietly xtmixed povertyschoolprop primary middle high lnage lnstudents
> urban || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured) ;
> xtmrho

m=1 data:
-> **quietly xtmixed povertyschoolprop primary middle high lnage lnstudents urban || _al**
> l:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16336**

level **2**
Intraclass correlation (ICC): **rho2** = **0.26020**

m=2 data:
-> **quietly xtmixed povertyschoolprop primary middle high lnage lnstudents urban || _al**
> l:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16646**

level **2**
Intraclass correlation (ICC): **rho2** = **0.27363**

m=3 data:
-> **quietly xtmixed povertyschoolprop primary middle high lnage lnstudents urban || _al**
> l:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16817**

level **2**
Intraclass correlation (ICC): **rho2** = **0.26945**

m=4 data:
-> **quietly xtmixed povertyschoolprop primary middle high lnage lnstudents urban || _al**
> l:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.17778**

level **2**
Intraclass correlation (ICC): **rho2** = **0.25801**

m=5 data:
-> **quietly xtmixed povertyschoolprop primary middle high lnage lnstudents urban || _al**
> l:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16972**

level **2**
Intraclass correlation (ICC): **rho2** = **0.26693**

42. mi xeq 1: quietly xtmixed povertyschoolprop inquiry_full_log primary middle high lna
> ge lnstudents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolo
> g cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed povertyschoolprop inquiry_full_log primary middle high lnage lnstud**
> ents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(uns
> tructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.17679**

level **2**
Intraclass correlation (ICC): **rho2** = **0.24766**

43. mi xeq 1: quietly xtmixed povertyschoolprop readall14 mathall14 primary middle high
> lnage lnstudents urban readlevel14 mathlevel14 || _all:R.cmoname || _all:R.state ||
> geodistrict: , nolog cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed povertyschoolprop readall14 mathall14 primary middle high lnage lns**
> tudents urban readlevel14 mathlevel14 || _all:R.cmoname || _all:R.state || geodistri
> ct: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.19370**

level **2**
Intraclass correlation (ICC): **rho2** = **0.19615**

44. mi xeq 1: quietly xtmixed povertyschoolprop inquiry_full_log readall14 mathall14 pri
> mary middle high lnage lnstudents urban readlevel14 mathlevel14 || _all:R.cmoname ||
> _all:R.state || geodistrict: , nolog cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed povertyschoolprop inquiry_full_log readall14 mathall14 primary midd**
> le high lnage lnstudents urban readlevel14 mathlevel14 || _all:R.cmoname || _all:R.s
> tate || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.20036**

level **2**
Intraclass correlation (ICC): **rho2** = **0.18947**

45.
46.
47. ** NESTING IN MIXED-EFFECTS LINEAR MODELS PT 3: IBL, ACADEMICS -> RACE
48.
49. * Check nesting without crossed random effects (less accurate):
50. mi xeq 1 / 5: quietly mixed pocschoolcount primary middle high age students urban pc
> tpdfs || state: || cmoname: || geodistrict: , nolog cov(unstructured) ; estat ic ; e
> stat icc

m=1 data:
-> **quietly mixed pocschoolcount primary middle high age students urban pctpdfs || stat**
> e: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	.	**-38130.83**	**12**	**76285.65**	**76365.61**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	.3870607	.064589	.2702652	.5184688
cmoname|state	.8191842	.0202541	.7760553	.8555531
geodistrict|cmoname|state	.8445798	.0174179	.8073113	.8757496

m=2 data:
-> **quietly mixed pocschoolcount primary middle high age students urban pctpdfs || stat**
> e: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	5,784	.	-38130.83	12	76285.65	76365.61

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

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cmoname|state	.8191842	.0202541	.7760553	.8555531
geodistrict|cmoname|state	.8445798	.0174179	.8073113	.8757496

m=3 data:
-> **quietly mixed pocschoolcount primary middle high age students urban pctpdfs || stat**
> e: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	5,784	.	-38130.83	12	76285.65	76365.61

Note: N=Obs used in calculating BIC; see **[R] BIC note**.
-> **estat icc**

Residual intraclass correlation

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cmoname|state	.8191842	.0202541	.7760553	.8555531
geodistrict|cmoname|state	.8445798	.0174179	.8073113	.8757496

m=4 data:
-> **quietly mixed pocschoolcount primary middle high age students urban pctpdfs || stat**
> e: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	**.**	**-38130.83**	**12**	**76285.65**	**76365.61**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.3870607**	**.064589**	**.2702652**	**.5184688**
cmoname|state	**.8191842**	**.0202541**	**.7760553**	**.8555531**
geodistrict|cmoname|state	**.8445798**	**.0174179**	**.8073113**	**.8757496**

m=5 data:
-> **quietly mixed pocschoolcount primary middle high age students urban pctpdfs || stat**
> e: || cmoname: || geodistrict: , nolog cov(unstructured)
-> **estat ic**

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	**5,784**	**.**	**-38130.83**	**12**	**76285.65**	**76365.61**

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

-> **estat icc**

Residual intraclass correlation

Level	ICC	Std. Err.	[95% Conf.	Interval]
state	**.3870607**	**.064589**	**.2702652**	**.5184688**
cmoname|state	**.8191842**	**.0202541**	**.7760553**	**.8555531**
geodistrict|cmoname|state	**.8445798**	**.0174179**	**.8073113**	**.8757496**

51.
52. mi xeq 1 / 5: quietly xtmixed pocschoolprop primary middle high lnage lnstudents urb
> an || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstructured) ; xtm
> rho

m=1 data:
-> **quietly xtmixed pocschoolprop primary middle high lnage lnstudents urban || _all:R.**
> cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.13952**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48431**

m=2 data:
-> **quietly xtmixed pocschoolprop primary middle high lnage lnstudents urban || _all:R.**
> cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.13952**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48431**

m=3 data:
-> **quietly xtmixed pocschoolprop primary middle high lnage lnstudents urban || _all:R.**
> cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.13952**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48431**

m=4 data:
-> **quietly xtmixed pocschoolprop primary middle high lnage lnstudents urban || _all:R.**
> cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.13952**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48431**

m=5 data:
-> **quietly xtmixed pocschoolprop primary middle high lnage lnstudents urban || _all:R.**
> cmoname || _all:R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.13952**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48431**

53. mi xeq 1: quietly xtmixed pocschoolprop inquiry_full_log primary middle high lnage l
> nstudents urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog co
> v(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed pocschoolprop inquiry_full_log primary middle high lnage lnstudents**
> urban pctpdfs || _all:R.cmoname || _all:R.state || geodistrict: , nolog cov(unstruc
> tured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.14288**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48664**

54. mi xeq 1: quietly xtmixed pocschoolprop readall14 mathall14 primary middle high lnag
> e lnstudents urban readlevel14 mathlevel14 || _all:R.cmoname || _all:R.state || geod
> istrict: , nolog cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed pocschoolprop readall14 mathall14 primary middle high lnage lnstude**
> nts urban readlevel14 mathlevel14 || _all:R.cmoname || _all:R.state || geodistrict:
> , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16571**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48270**

55. mi xeq 1: quietly xtmixed pocschoolprop inquiry_full_log readall14 mathall14 primary
> middle high lnage lnstudents urban readlevel14 mathlevel14 pctpdfs || _all:R.cmonam
> e || _all:R.state || geodistrict: , nolog cov(unstructured) ; xtmrho

m=1 data:
-> **quietly xtmixed pocschoolprop inquiry_full_log readall14 mathall14 primary middle h**
> igh lnage lnstudents urban readlevel14 mathlevel14 pctpdfs || _all:R.cmoname || _all
> :R.state || geodistrict: , nolog cov(unstructured)
-> **xtmrho**

Levels: **_all _all geodistrict**

level **1**
Intraclass correlation (ICC): **rho1** = **0.16459**

level **2**
Intraclass correlation (ICC): **rho2** = **0.48710**

56.
57. log close
name: **<unnamed>**
log: **/hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/nesting_mi**
> _linear_101019.smcl
log type: **smcl**
closed on: **18 Oct 2019, 18:56:49**
