



```

name: <unnamed>
log: /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/robust_fil
> tpoc_mi5_linear_030220.smcl
log type: smcl
opened on: 2 Mar 2020, 17:40:39

```

```

1 . *
2 . * 4C. FILTERED DATA: DISTRICTS WITH ABOVE-AVERAGE POC
3 . *
4 .
5 . egen povertysdmean = mean(povertysd)
6 . egen pocsdmean = mean(pocsd)
7 .
8 . drop if pocsd < pocsdmean
   (9,719 observations deleted)
9 .
10 . * PT 1:
11 . * 0. controls only
12 . mi est, dots: mixed inquiry_full_log primary middle high lnage lnstudents urban pctp
    > dfs || cmoname: ,
    (system variable _mi_id updated due to changed number of obs.)
    (88 m>0 marginal obs. added)

```

Imputations (5):
..... done

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727
Group variable: cmoname	Number of groups	=	275
	Obs per group:		
	min	=	1
	avg	=	9.9
	max	=	1,553
	Average RVI	=	0.0000
	Largest FMI	=	0.0000
DF adjustment: Large sample	DF: min	=	.
	avg	=	.
	max	=	.
Model F test: Equal FMI	F(7, .)	=	3.81
	Prob > F	=	0.0004

inquir~l_log	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
primary	-.0046662	.0060311	-0.77	0.439	-.0164868	.0071545
middle	-.0209346	.008153	-2.57	0.010	-.0369143	-.004955
high	-.0175956	.0071903	-2.45	0.014	-.0316883	-.003503
lnage	-.0014879	.0023849	-0.62	0.533	-.0061623	.0031865
lnstudents	.0032684	.0028506	1.15	0.252	-.0023187	.0088554
urban	.0161704	.0053993	2.99	0.003	.0055881	.0267528
pctpdfs	.1046563	.0492839	2.12	0.034	.0080616	.201251
_cons	.0879244	.0186681	4.71	0.000	.0513356	.1245132

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
sd(_cons)	.0741928	.0051213	.0648046	.084941
sd(Residual)	.1050455	.0014895	.1021662	.1080058

13. * 1. school poverty

14. mi est, dots: mixed inquiry_full_log povertyschool primary middle high lnage lnstude
> nts urban pctpdfs || cmoname: ,

Imputations (5):
..... done

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727
Group variable: cmoname	Number of groups	=	275
	Obs per group:		
	min	=	1
	avg	=	9.9
	max	=	1,553
	Average RVI	=	0.0068
	Largest FMI	=	0.0560
DF adjustment: Large sample	DF: min	=	1,343.28
	avg	=	2550304.66
	max	=	9245341.98
Model F test: Equal FMI	F(8, 326019.2)	=	12.10
	Prob > F	=	0.0000

inquir~l_log	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
povertysch~l	-.0005643	.0000692	-8.15	0.000	-.0007	-.0004285
primary	-.004905	.0059581	-0.82	0.410	-.0165827	.0067728
middle	-.0185776	.008055	-2.31	0.021	-.0343652	-.00279
high	-.0174581	.0071016	-2.46	0.014	-.0313769	-.0035393
lnage	-.0005964	.0023584	-0.25	0.800	-.0052187	.0040259
lnstudents	.0021664	.0028188	0.77	0.442	-.0033583	.007691
urban	.0188796	.0053466	3.53	0.000	.0084004	.0293587
pctpdfs	.1026278	.048786	2.10	0.035	.0070086	.198247
_cons	.128886	.0190911	6.75	0.000	.0914681	.1663039

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
sd(_cons)	.0743434	.0051283	.0649419	.0851059
sd(Residual)	.1036214	.0014729	.1007744	.1065487

15. * 2. school race

16. mi est, dots: mixed inquiry_full_log pocschoolprop primary middle high lnage lnstude
> nts urban pctpdfs || cmoname: ,

Imputations (5):
..... done

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727
Group variable: cmoname	Number of groups	=	275
	Obs per group:		
	min	=	1
	avg	=	9.9
	max	=	1,553
	Average RVI	=	0.0000
	Largest FMI	=	0.0000
DF adjustment: Large sample	DF: min	=	.
	avg	=	.
	max	=	.
Model F test: Equal FMI	F(8, .)	=	15.97
	Prob > F	=	0.0000

inquir~l_log	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
pocschoolp~p	-.0994326	.0099375	-10.01	0.000	-.1189098	-.0799554
primary	.0009665	.0059504	0.16	0.871	-.010696	.012629
middle	-.013394	.0080434	-1.67	0.096	-.0291588	.0023708
high	-.0120133	.0070842	-1.70	0.090	-.025898	.0018714
lnage	-.0023574	.002344	-1.01	0.315	-.0069516	.0022368
lnstudents	.0040869	.0028009	1.46	0.145	-.0014028	.0095766
urban	.0248848	.0053742	4.63	0.000	.0143515	.035418
pctpdfs	.1137538	.0484018	2.35	0.019	.0188879	.2086197
_cons	.1590723	.0196626	8.09	0.000	.1205344	.1976102

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
sd(_cons)	.072578	.0050859	.063264	.0832632
sd(Residual)	.1031943	.0014649	.1003627	.1061057

```
17. * 3. school district poverty
18. mi est, dots: mixed inquiry_full_log povertysd primary middle high lnage lnstudents
> urban pctpdfs || cmoname: ,
```

Imputations (5):

.x
estimation sample varies between $m=1$ and $m=2$; click [here](#) for details
r(459);

end of do-file

r(459);

```
19. do "/90days/jhaber/STATATMP/SD21621.000000"
```

```
20. mi xeq 0 1 2: mixed inquiry_full_log povertysd primary middle high lnage lnstudents
> urban pctpdfs || cmoname: ,
```

$m=0$ data:

```
-> mixed inquiry_full_log povertysd primary middle high lnage lnstudents urban pctpdfs
> || cmoname: ,
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log likelihood = 2135.6134
Iteration 1: log likelihood = 2135.6134
```

Computing standard errors:

Mixed-effects ML regression
Group variable: **cmoname**

```
Number of obs    = 2,699
Number of groups = 271
```

Obs per group:

```
min = 1
avg  = 10.0
max  = 1,542
```

Log likelihood = 2135.6134

```
Wald chi2(8) = 56.32
Prob > chi2   = 0.0000
```

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
povertysd	-.1888957	.0336992	-5.61	0.000	-.2549449	-.1228465
primary	-.0050787	.006029	-0.84	0.400	-.0168953	.0067379
middle	-.0226463	.0081525	-2.78	0.005	-.0386249	-.0066676
high	-.0173524	.0071814	-2.42	0.016	-.0314277	-.0032772
lnage	-.0004874	.002392	-0.20	0.839	-.0051757	.0042009
lnstudents	.0022403	.0028616	0.78	0.434	-.0033683	.0078488
urban	.021426	.0055036	3.89	0.000	.0106391	.0322129
pctpdfs	.1026985	.0490695	2.09	0.036	.006524	.198873
_cons	.1228057	.0197763	6.21	0.000	.0840449	.1615666

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
var(_cons)	.005497	.0007576	.0041957	.0072018
var(Residual)	.0108813	.0003099	.0102905	.011506

LR test vs. linear model: chibar2(01) = 365.41 Prob >= chibar2 = 0.0000

m=1 data:

```
-> mixed inquiry_full_log povertysd primary middle high lnage lnstudents urban pctpdfs
> || cmoname: ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = 2143.7857

Iteration 1: log likelihood = 2143.7857

Computing standard errors:

Mixed-effects ML regression
Group variable: **cmoname**

Number of obs = 2,712
Number of groups = 274

Obs per group:

min = 1
avg = 9.9
max = 1,546

Log likelihood = 2143.7857

Wald chi2(8) = 57.74
Prob > chi2 = 0.0000

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
povertysd	-.1895256	.0335899	-5.64	0.000	-.2553606	-.1236906
primary	-.0050821	.0060113	-0.85	0.398	-.0168641	.0066998
middle	-.0226055	.0081303	-2.78	0.005	-.0385406	-.0066704
high	-.0173072	.0071647	-2.42	0.016	-.0313497	-.0032647
lnage	-.0008029	.0023843	-0.34	0.736	-.0054761	.0038703
lnstudents	.002415	.002854	0.85	0.397	-.0031788	.0080088
urban	.0219198	.0054937	3.99	0.000	.0111523	.0326873
pctpdfs	.1049437	.0491033	2.14	0.033	.0087031	.2011844
_cons	.1225521	.0197176	6.22	0.000	.0839063	.1611979

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
var(_cons)	.0056093	.0007687	.004288	.0073378
var(Residual)	.0108798	.0003094	.0102899	.0115035

LR test vs. linear model: chibar2(01) = 368.18 Prob >= chibar2 = 0.0000

```
m=2 data:
-> mixed inquiry_full_log povertysd primary middle high lnage lnstudents urban pctpdfs
> || cmoname: ,
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log likelihood = 2138.9692
Iteration 1: log likelihood = 2138.9692
```

Computing standard errors:

```
Mixed-effects ML regression      Number of obs    =    2,706
Group variable: cmoname          Number of groups  =     273

Obs per group:
    min =          1
    avg =         9.9
    max =        1,544

Wald chi2(8)    =    56.15
Prob > chi2     =    0.0000

Log likelihood = 2138.9692
```

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
povertysd	-.188552	.0336657	-5.60	0.000	-.2545355	-.1225685
primary	-.0048317	.006027	-0.80	0.423	-.0166444	.006981
middle	-.0224359	.0081508	-2.75	0.006	-.0384111	-.0064606
high	-.0170048	.0071749	-2.37	0.018	-.0310674	-.0029422
lnage	-.0005816	.0023862	-0.24	0.807	-.0052585	.0040952
lnstudents	.0022237	.0028515	0.78	0.435	-.0033651	.0078126
urban	.0213169	.0055047	3.87	0.000	.0105278	.032106
pctpdfs	.1050848	.049113	2.14	0.032	.0088251	.2013444
_cons	.1233722	.0197461	6.25	0.000	.0846706	.1620738

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
var(_cons)	.0056222	.0007714	.0042966	.0073569
var(Residual)	.0108812	.0003098	.0102907	.0115056

LR test vs. linear model: chibar2(01) = 367.36 Prob >= chibar2 = 0.0000

```
21. * 4. school district race
22. mi est, dots: mixed inquiry_full_log pocsd primary middle high lnage lnstudents urba
> n pctpdfs || cmoname: ,
```

Imputations (5):

.x

estimation sample varies between m=1 and m=2; click [here](#) for details

r(459);

end of do-file

r(459);

23. do "/90days/jhaber/STATATMP/SD21621.000000"

24. mi xeq 0 1 2: mixed inquiry_full_log pocsd primary middle high lnage lnstudents urba
> n pctpdfs || cmoname: ,

m=0 data:

-> mixed inquiry_full_log pocsd primary middle high lnage lnstudents urban pctpdfs ||
> cmoname: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **2120.0464**

Iteration 1: log likelihood = **2120.0464**

Computing standard errors:

Mixed-effects ML regression
Group variable: **cmoname**

Number of obs = **2,699**
Number of groups = **271**

Obs per group:

min = **1**
avg = **10.0**
max = **1,542**

Log likelihood = **2120.0464**

Wald chi2(8) = **24.69**
Prob > chi2 = **0.0018**

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
pocsd	-.0033775	.0172444	-0.20	0.845	-.037176	.0304211
primary	-.0040338	.0060636	-0.67	0.506	-.0159181	.0078506
middle	-.0200178	.0081898	-2.44	0.015	-.0360694	-.0039662
high	-.0168073	.0072284	-2.33	0.020	-.0309747	-.00264
lnage	-.0011269	.0024037	-0.47	0.639	-.0058381	.0035843
lnstudents	.0030237	.0028784	1.05	0.293	-.0026178	.0086652
urban	.0155759	.0054429	2.86	0.004	.004908	.0262437
pctpdfs	.1036588	.0493118	2.10	0.036	.0070095	.2003082
_cons	.0890948	.0206773	4.31	0.000	.048568	.1296216

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
var(_cons)	.00537	.0007489	.0040857	.007058
var(Residual)	.0110312	.0003141	.0104324	.0116644

LR test vs. linear model: chibar2(01) = 351.68 Prob >= chibar2 = **0.0000**

m=1 data:

-> mixed inquiry_full_log pocsd primary middle high lnage lnstudents urban pctpdfs ||
> cmoname: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **2128.0232**

Iteration 1: log likelihood = **2128.0232**

Computing standard errors:

Mixed-effects ML regression
Group variable: **cmoname**

Number of obs = **2,712**
Number of groups = **274**

Obs per group:

min = 1
 avg = 9.9
 max = 1,546

Log likelihood = 2128.0232

Wald chi2(8) = 25.70
 Prob > chi2 = 0.0012

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
pocsd	-.0043131	.0171981	-0.25	0.802	-.0380208	.0293946
primary	-.0040662	.0060459	-0.67	0.501	-.0159159	.0077835
middle	-.0201594	.0081694	-2.47	0.014	-.0361711	-.0041478
high	-.0167803	.0072116	-2.33	0.020	-.0309148	-.0026458
lnage	-.0014304	.0023962	-0.60	0.551	-.0061269	.003266
lnstudents	.0032192	.0028708	1.12	0.262	-.0024074	.0088458
urban	.0160174	.0054326	2.95	0.003	.0053697	.0266652
pctpdfs	.1060429	.0493502	2.15	0.032	.0093183	.2027675
_cons	.0890594	.0205985	4.32	0.000	.0486872	.1294317

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity				
var(_cons)	.0054864	.0007608	.0041807	.0072
var(Residual)	.0110303	.0003137	.0104323	.0116625

LR test vs. linear model: chibar2(01) = 354.42 Prob >= chibar2 = 0.0000

m=2 data:

```
-> mixed inquiry_full_log pocsd primary middle high lnage lnstudents urban pctpdfs ||
> cmoname: ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = 2123.4393
 Iteration 1: log likelihood = 2123.4393

Computing standard errors:

Mixed-effects ML regression
 Group variable: **cmoname**

Number of obs = 2,706
 Number of groups = 273

Obs per group:

min = 1
 avg = 9.9
 max = 1,544

Log likelihood = 2123.4393

Wald chi2(8) = 24.60
 Prob > chi2 = 0.0018

inquir~l_log	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
pocsd	-.0037823	.0172355	-0.22	0.826	-.0375633	.0299987
primary	-.0038064	.0060617	-0.63	0.530	-.0156872	.0080744
middle	-.0198134	.0081882	-2.42	0.016	-.035862	-.0037649
high	-.0164663	.0072215	-2.28	0.023	-.0306202	-.0023124
lnage	-.0012454	.0023976	-0.52	0.603	-.0059446	.0034539
lnstudents	.0030399	.0028681	1.06	0.289	-.0025814	.0086612
urban	.0154547	.0054435	2.84	0.005	.0047855	.0261238
pctpdfs	.1060413	.0493509	2.15	0.032	.0093153	.2027673
_cons	.0897841	.0206305	4.35	0.000	.0493489	.1302192

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
cmoname: Identity var(_cons)	.0054743	.0007601	.0041701	.0071864
var(Residual)	.011033	.000314	.0104344	.0116659

LR test vs. linear model: chibar2(01) = 353.17 Prob >= chibar2 = **0.0000**

25.
26. * PT 2:
27. * 0. controls only
28. mi est, dots: mixed povertyschoolprop primary middle high lnage lnstudents urban ||
> geodistrict: ,

Imputations (5):
..... done

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727
Group variable: geodistrict	Number of groups	=	358
	Obs per group:		
	min	=	1
	avg	=	7.6
	max	=	251
	Average RVI	=	0.0524
	Largest FMI	=	0.0837
DF adjustment: Large sample	DF: min	=	613.96
	avg	=	1,997.55
	max	=	4,008.07
Model F test: Equal FMI	F(6, 6313.0)	=	2.68
	Prob > F	=	0.0134

povertysch~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
primary	.0092418	.014607	0.63	0.527	-.0194438	.0379275
middle	.0454648	.0196185	2.32	0.021	.0069861	.0839434
high	-.0004208	.0172922	-0.02	0.981	-.034351	.0335094
lnage	.0023968	.0058203	0.41	0.681	-.0090162	.0138098
lnstudents	-.017577	.0071086	-2.47	0.014	-.0315344	-.0036195
urban	.0047561	.0189392	0.25	0.802	-.0323791	.0418913
_cons	.7185081	.0441754	16.26	0.000	.6318862	.8051299

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity sd(_cons)	.1895665	.0117909	.1678036	.2141519
sd(Residual)	.2441108	.0036118	.2371285	.2512986

29. * 1. IBL
30. mi est, dots: mixed povertyschoolprop inquiry_full_log primary middle high lnage lns
> tudents urban pctpdfs || geodistrict: ,

Imputations (5):
..... done

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727

Group variable: **geodistrict**Number of groups = **358**

Obs per group:

min = **1**avg = **7.6**max = **251**Average RVI = **0.0681**Largest FMI = **0.1798**DF adjustment: **Large sample**DF: min = **141.33**avg = **1,671.22**max = **3,436.14**Model F test: **Equal FMI**F(**8**, **5184.8**) = **9.86**Prob > F = **0.0000**

povertysch~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inquir~l_log	-.3496014	.0441045	-7.93	0.000	-.436154	-.2630488
primary	.009734	.0144601	0.67	0.501	-.0186673	.0381353
middle	.0392319	.0194132	2.02	0.043	.0011572	.0773066
high	-.0036105	.0170896	-0.21	0.833	-.037142	.0299211
lnage	.0030237	.0057589	0.53	0.600	-.0082694	.0143167
lnstudents	-.0159038	.007044	-2.26	0.024	-.0297373	-.0020704
urban	.015458	.0187047	0.83	0.409	-.0212178	.0521337
pctpdfs	.1012206	.1161792	0.87	0.385	-.1284532	.3308944
_cons	.7476764	.0437021	17.11	0.000	.6619893	.8333634

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity				
sd(_cons)	.1847863	.0116146	.1633614	.2090211
sd(Residual)	.2414137	.0035828	.2344865	.2485456

31. * 2. academic performance

32. mi est, dots: mixed povertyschoolprop readall14 mathall14 primary middle high lnage
> lnstudents urban readlevel14 mathlevel14 || geodistrict: ,

Imputations (5):

.x

estimation sample varies between m=1 and m=2; click [here](#) for details

r(459);

end of do-file

r(459);

33. do "/90days/jhaber/STATATMP/SD21621.000000"

34. mi xeq 0 1 2: mixed povertyschoolprop readall14 mathall14 primary middle high lnage
> lnstudents urban readlevel14 mathlevel14 || geodistrict: ,

m=0 data:

> **mixed povertyschoolprop readall14 mathall14 primary middle high lnage lnstudents ur**
> **ban readlevel14 mathlevel14 || geodistrict: ,**

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **112.60178**Iteration 1: log likelihood = **112.60178**

Computing standard errors:

Mixed-effects ML regression
Group variable: **geodistrict**Number of obs = **2,109**Number of groups = **317**

Obs per group:

min = 1
 avg = 6.7
 max = 217

Log likelihood = 112.60178

Wald chi2(10) = 511.20
 Prob > chi2 = 0.0000

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.5058431	.0455664	-11.10	0.000	-.5951516	-.4165346
mathall14	-.0266341	.0453669	-0.59	0.557	-.1155515	.0622833
primary	.0060513	.0140587	0.43	0.667	-.0215033	.0336059
middle	.0262919	.0192914	1.36	0.173	-.0115186	.0641024
high	.031604	.0167673	1.88	0.059	-.0012594	.0644674
lnage	.0129909	.0064134	2.03	0.043	.0004209	.0255609
lnstudents	-.0117467	.0088444	-1.33	0.184	-.0290814	.0055881
urban	.0050211	.0179553	0.28	0.780	-.0301707	.0402129
readlevel14	.0012512	.0016088	0.78	0.437	-.0019019	.0044044
mathlevel14	-.0014124	.0015921	-0.89	0.375	-.0045328	.0017079
_cons	.8990452	.0581246	15.47	0.000	.7851231	1.012967

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity var(_cons)	.0371027	.0044602	.0293145	.0469602
var(Residual)	.0432518	.0014391	.0405213	.0461663

LR test vs. linear model: chibar2(01) = 1021.77 Prob >= chibar2 = 0.0000

m=1 data:

```
-> mixed povertyschoolprop readall14 mathall14 primary middle high lnage lnstudents ur
> ban readlevel14 mathlevel14 || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = -17.479896

Iteration 1: log likelihood = -17.479896

Computing standard errors:

Mixed-effects ML regression
 Group variable: geodistrict

Number of obs = 2,724
 Number of groups = 358

Obs per group:

min = 1
 avg = 7.6
 max = 251

Log likelihood = -17.479896

Wald chi2(10) = 468.78
 Prob > chi2 = 0.0000

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.3888269	.0367224	-10.59	0.000	-.4608014	-.3168524
mathall14	-.086858	.0363272	-2.39	0.017	-.1580581	-.0156579
primary	.0115385	.0130868	0.88	0.378	-.0141111	.0371881
middle	.0491462	.0180339	2.73	0.006	.0138004	.084492
high	.0140212	.0157149	0.89	0.372	-.0167796	.0448219
lnage	.0123618	.0053188	2.32	0.020	.0019372	.0227864
lnstudents	.003415	.0072382	0.47	0.637	-.0107716	.0176015
urban	.012946	.0172542	0.75	0.453	-.0208717	.0467637
readlevel14	-.0011613	.0013474	-0.86	0.389	-.0038022	.0014795
mathlevel14	.0020912	.0013284	1.57	0.115	-.0005124	.0046947
_cons	.7703959	.0466806	16.50	0.000	.6789036	.8618882

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity var(_cons)	.0310925	.0037213	.0245911	.0393127
var(Residual)	.0511504	.0014733	.0483427	.0541212

LR test vs. linear model: $\text{chibar2}(01) = 1266.67$ Prob >= chibar2 = **0.0000**

m=2 data:

```
-> mixed povertyschoolprop readall14 mathall14 primary middle high lnage lnstudents ur
> ban readlevel14 mathlevel14 || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **-44.848677**

Iteration 1: log likelihood = **-44.848677**

Computing standard errors:

Mixed-effects ML regression
Group variable: **geodistrict**

Number of obs = **2,721**
Number of groups = **356**

Obs per group:
min = **1**
avg = **7.6**
max = **251**

Log likelihood = **-44.848677**

Wald chi2(10) = **441.27**
Prob > chi2 = **0.0000**

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.3790125	.0375806	-10.09	0.000	-.452669	-.3053559
mathall14	-.0908078	.0371348	-2.45	0.014	-.1635907	-.0180249
primary	.0095406	.0132073	0.72	0.470	-.0163452	.0354264
middle	.0381504	.0181974	2.10	0.036	.0024841	.0738167
high	.011763	.0159056	0.74	0.460	-.0194115	.0429375
lnage	.0115968	.0053927	2.15	0.032	.0010273	.0221662
lnstudents	.0017603	.007216	0.24	0.807	-.0123828	.0159035
urban	.002431	.0175028	0.14	0.890	-.031874	.0367359
readlevel14	-.0005132	.0013816	-0.37	0.710	-.0032211	.0021946
mathlevel14	.0011406	.0013896	0.82	0.412	-.0015829	.0038641
_cons	.7896449	.0467993	16.87	0.000	.6979198	.8813699

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity var(_cons)	.0324749	.0038915	.0256772	.0410723
var(Residual)	.0521038	.0015028	.0492401	.0551341

LR test vs. linear model: $\text{chibar2}(01) = 1280.25$ Prob >= chibar2 = **0.0000**

```

35. * 3. fully specified
36. mi xeq 0 1 2: mixed povertyschoolprop inquiry_full_log readall14 mathall14 primary m
> iddle high lnage lnstudents urban pctpdfs readlevel14 mathlevel14 || geodistrict: ,

m=0 data:
-> mixed povertyschoolprop inquiry_full_log readall14 mathall14 primary middle high ln
> age lnstudents urban pctpdfs readlevel14 mathlevel14 || geodistrict: ,

```

Performing EM optimization:

Performing gradient-based optimization:

```

Iteration 0: log likelihood = 135.79054
Iteration 1: log likelihood = 135.79054

```

Computing standard errors:

```

Mixed-effects ML regression      Number of obs    =      2,109
Group variable: geodistrict      Number of groups  =       317

Obs per group:
      min =          1
      avg =         6.7
      max =        217

Wald chi2(12)    =      569.08
Prob > chi2      =      0.0000

Log likelihood = 135.79054

```

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2915264	.0430692	-6.77	0.000	-.3759406	-.2071122
readall14	-.4572956	.0456288	-10.02	0.000	-.5467265	-.3678647
mathall14	-.0583244	.045119	-1.29	0.196	-.146756	.0301072
primary	.0071709	.0139141	0.52	0.606	-.0201003	.034442
middle	.0218665	.019125	1.14	0.253	-.0156178	.0593508
high	.0285688	.0166017	1.72	0.085	-.0039698	.0611075
lnage	.0117812	.0063563	1.85	0.064	-.0006769	.0242393
lnstudents	-.0092075	.0087594	-1.05	0.293	-.0263755	.0079605
urban	.0142123	.0177701	0.80	0.424	-.0206164	.049041
pctpdfs	.1970269	.1089959	1.81	0.071	-.0166012	.410655
readlevel14	.001365	.0015926	0.86	0.391	-.0017564	.0044864
mathlevel14	-.0014395	.0015759	-0.91	0.361	-.0045283	.0016493
_cons	.9073338	.0575132	15.78	0.000	.79461	1.020058

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity				
var(_cons)	.0354823	.0043001	.0279805	.0449954
var(Residual)	.0424147	.0014113	.0397369	.045273

LR test vs. linear model: chibar2(01) = 981.61 Prob >= chibar2 = 0.0000

```

m=1 data:
-> mixed povertyschoolprop inquiry_full_log readall14 mathall14 primary middle high ln
> age lnstudents urban pctpdfs readlevel14 mathlevel14 || geodistrict: ,

```

Performing EM optimization:

Performing gradient-based optimization:

```

Iteration 0: log likelihood = 3.7340016
Iteration 1: log likelihood = 3.7340018

```

Computing standard errors:

```

Mixed-effects ML regression      Number of obs    =      2,724
Group variable: geodistrict      Number of groups  =       358

```

Obs per group:

```

min = 1
avg = 7.6
max = 251

```

Log likelihood = 3.7340018

```

Wald chi2(12) = 519.02
Prob > chi2 = 0.0000

```

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2624807	.0401321	-6.54	0.000	-.3411382	-.1838232
readall14	-.3554723	.0368034	-9.66	0.000	-.4276055	-.283339
mathall14	-.1075281	.0361916	-2.97	0.003	-.1784624	-.0365938
primary	.0128196	.0129968	0.99	0.324	-.0126537	.0382929
middle	.0452411	.0179326	2.52	0.012	.0100939	.0803884
high	.0107775	.0156155	0.69	0.490	-.0198283	.0413832
lnage	.0124133	.0052814	2.35	0.019	.002062	.0227647
lnstudents	.0041568	.0071864	0.58	0.563	-.0099282	.0182419
urban	.0211368	.0170877	1.24	0.216	-.0123545	.054628
pctpdfs	.0767859	.0986936	0.78	0.437	-.1166501	.2702219
readlevel14	-.0010984	.0013387	-0.82	0.412	-.0037221	.0015254
mathlevel14	.0020083	.0013198	1.52	0.128	-.0005785	.0045952
_cons	.7882959	.0464045	16.99	0.000	.6973448	.879247

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity				
var(_cons)	.0294249	.0035681	.0232004	.0373193
var(Residual)	.0505258	.001455	.047753	.0534595

LR test vs. linear model: chibar2(01) = 1209.84 Prob >= chibar2 = 0.0000

m=2 data:

```

-> mixed povertyschoolprop inquiry_full_log readall14 mathall14 primary middle high ln
> age lnstudents urban pctpdfs readlevel14 mathlevel14 || geodistrict: ,

```

Performing EM optimization:

Performing gradient-based optimization:

```

Iteration 0: log likelihood = -21.369225
Iteration 1: log likelihood = -21.369225

```

Computing standard errors:

```

Mixed-effects ML regression
Group variable: geodistrict

```

```

Number of obs = 2,721
Number of groups = 356

```

Obs per group:

```

min = 1
avg = 7.6
max = 251

```

Log likelihood = -21.369225

```

Wald chi2(12) = 496.34
Prob > chi2 = 0.0000

```

povertysch~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2787887	.0404662	-6.89	0.000	-.3581009	-.1994764
readall14	-.346219	.0375914	-9.21	0.000	-.4198969	-.2725411
mathall14	-.1100468	.0369364	-2.98	0.003	-.1824408	-.0376529
primary	.0106187	.0131052	0.81	0.418	-.0150671	.0363045
middle	.0342566	.018079	1.89	0.058	-.0011776	.0696909
high	.0084011	.0157926	0.53	0.595	-.0225518	.0393541
lnage	.0116871	.0053506	2.18	0.029	.0012001	.0221741
lnstudents	.0027528	.0071594	0.38	0.701	-.0112794	.016785
urban	.0114881	.0173227	0.66	0.507	-.0224637	.04544

pctpdfs	.0632937	.0996616	0.64	0.525	-.1320394	.2586268
readlevel14	-.0003422	.0013717	-0.25	0.803	-.0030306	.0023462
mathlevel14	.0009928	.0013797	0.72	0.472	-.0017113	.003697
_cons	.8072589	.0464773	17.37	0.000	.7161651	.8983528

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
geodistrict: Identity var(_cons)	.0306888	.0037294	.0241846	.0389422
var(Residual)	.051381	.0014818	.0485574	.0543689

LR test vs. linear model: $\chi^2(01) = 1224.81$ Prob >= χ^2 = 0.0000

```
37.
38. * PT 3:
39. * 0. controls only
40. mi est, dots: mixed pocschoolprop primary middle high lnage lnstudents urban || stat
> e: || geodistrict: ,
```

Imputations (5):
..... done

Multiple-imputation estimates Imputations = 5
Mixed-effects ML regression Number of obs = 2,727

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
state	36	1	75.8	617
geodistrict	362	1	7.5	251

DF adjustment: **Large sample** Average RVI = 0.0000
Largest FMI = 0.0000
DF: min = .
 avg = .
 max = .
Model F test: **Equal FMI** F(6, .) = 12.99
Prob > F = 0.0000

pocschoolp~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
primary	.0584348	.0106602	5.48	0.000	.0375412	.0793284
middle	.0857973	.0146031	5.88	0.000	.0571757	.114419
high	.0667684	.0127717	5.23	0.000	.0417362	.0918005
lnage	-.0144932	.0043587	-3.33	0.001	-.0230362	-.0059503
lnstudents	-.0013498	.0052318	-0.26	0.796	-.0116039	.0089044
urban	.0517523	.0141416	3.66	0.000	.0240353	.0794693
_cons	.7214106	.0391377	18.43	0.000	.6447021	.7981191

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity sd(_cons)	.114023	.0217953	.0783948	.1658433
geodistrict: Identity sd(_cons)	.1293717	.0103776	.1105502	.1513976
sd(Residual)	.1861242	.0027369	.1808365	.1915665

```
41. * 1. IBL
42. mi est, dots: mixed pocschoolprop inquiry_full_log primary middle high lnage lnstude
   > nts urban pctpdfs || state: || geodistrict: ,
```

```
Imputations (5):
..... done
```

Multiple-imputation estimates	Imputations	=	5
Mixed-effects ML regression	Number of obs	=	2,727

Group Variable	No. of Groups	Observations per Minimum	Group Average	Maximum
state	36	1	75.8	617
geodistrict	362	1	7.5	251

		Average RVI	=	0.0000
		Largest FMI	=	0.0000
DF adjustment:	Large sample	<u>DF</u> : min	=	9.00e+60
		avg	=	3.68e+61
		max	=	.
Model F test:	Equal FMI	F(8, 5.7e+62)	=	26.24
		Prob > F	=	0.0000

pocschoolp-p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inquir~l_log	-.3625794	.0320991	-11.30	0.000	-.4254925	-.2996663
primary	.0588876	.0104096	5.66	0.000	.0384852	.0792899
middle	.0788661	.0142805	5.52	0.000	.0508768	.1068554
high	.0633221	.0124765	5.08	0.000	.0388686	.0877756
lnage	-.0141079	.0042585	-3.31	0.001	-.0224543	-.0057614
lnstudents	.0003525	.0051136	0.07	0.945	-.0096699	.0103749
urban	.0618839	.0139049	4.45	0.000	.0346308	.089137
pctpdfs	.140928	.0800221	1.76	0.078	-.0159124	.2977685
_cons	.7530723	.0387077	19.46	0.000	.6772066	.828938

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity sd(_cons)	.1150634	.0214783	.0798082	.1658925
geodistrict: Identity sd(_cons)	.1287144	.0101911	.110213	.1503217
sd(Residual)	.1815984	.0026726	.1764351	.1869128

```
43. * 2. academic performance
44. mi est, dots: mixed pocschoolprop readall14 mathall14 primary middle high lnage lntst
    > uidents urban readlevel14 mathlevel14 || state: || geodistrict: ,
```

Imputations (5):

estimation sample varies between $m=1$ and $m=2$; click [here](#) for details
r(459);

end of do-file

r(459);

45. do "/90days/jhaber/STATATMP/SD21621.000000"

46. mi xeq 0 1 2: mixed pocschoolprop readall14 mathall14 primary middle high lnage lnst
> uidents urban readlevel14 mathlevel14 || state: || geodistrict: ,

m=0 data:

-> mixed pocschoolprop readall14 mathall14 primary middle high lnage lnstudents urban
> readlevel14 mathlevel14 || state: || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = 521.0626
Iteration 1: log likelihood = 521.0642
Iteration 2: log likelihood = 521.0642

Computing standard errors:

Mixed-effects ML regression Number of obs = 2,244

Group Variable	No. of Groups	Observations per Group Minimum Average Maximum
state	34	1 66.0 533
geodistrict	331	1 6.8 217

Log likelihood = 521.0642 Wald chi2(10) = 424.36
Prob > chi2 = 0.0000

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.3343062	.0372132	-8.98	0.000	-.4072427	-.2613697
mathall14	-.0541468	.0374615	-1.45	0.148	-.1275701	.0192764
primary	.0560361	.0113289	4.95	0.000	.0338318	.0782403
middle	.0805143	.0157447	5.11	0.000	.0496553	.1113734
high	.0843266	.013662	6.17	0.000	.0575495	.1111037
lnage	.0012471	.0052458	0.24	0.812	-.0090346	.0115287
lnstudents	.0174114	.0072367	2.41	0.016	.0032277	.031595
urban	.0447381	.0144112	3.10	0.002	.0164927	.0729834
readlevel14	.0004703	.0013349	0.35	0.725	-.0021461	.0030868
mathlevel14	-.000425	.0013157	-0.32	0.747	-.0030037	.0021537
_cons	.7495736	.0509837	14.70	0.000	.6496474	.8494998

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity				
var(_cons)	.0098273	.0036736	.0047233	.0204469
geodistrict: Identity				
var(_cons)	.0154235	.0026509	.0110124	.0216015
var(Residual)	.031298	.0010309	.0293414	.0333851

LR test vs. linear model: chi2(2) = 442.54 Prob > chi2 = 0.0000

Note: LR test is conservative and provided only for reference.

m=1 data:

-> mixed pocschoolprop readall14 mathall14 primary middle high lnage lnstudents urban
> readlevel14 mathlevel14 || state: || geodistrict: ,

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **683.10558**
 Iteration 1: log likelihood = **683.10637**
 Iteration 2: log likelihood = **683.10637**

Computing standard errors:

Mixed-effects ML regression Number of obs = **2,724**

Group Variable	No. of Groups	Observations per Group Minimum Average Maximum
state	36	1 75.7 617
geodistrict	362	1 7.5 251

Log likelihood = **683.10637** Wald chi2(10) = **454.29**
 Prob > chi2 = **0.0000**

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.2810468	.0285697	-9.84	0.000	-.3370424	-.2250513
mathall14	-.0577309	.028429	-2.03	0.042	-.1134507	-.0020112
primary	.05575	.0100843	5.53	0.000	.0359851	.0755149
middle	.078589	.0139189	5.65	0.000	.0513085	.1058696
high	.0785999	.0121239	6.48	0.000	.0548374	.1023624
lnage	-.0083618	.0041161	-2.03	0.042	-.0164293	-.0002943
lnstudents	.0080261	.0056119	1.43	0.153	-.002973	.0190252
urban	.0503862	.0133976	3.76	0.000	.0241274	.0766451
readlevel14	-.0016421	.0010387	-1.58	0.114	-.0036779	.0003938
mathlevel14	.0011765	.0010238	1.15	0.250	-.0008301	.0031831
_cons	.8024907	.0415741	19.30	0.000	.721007	.8839744

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity				
var(_cons)	.0127757	.0046276	.0062815	.0259842
geodistrict: Identity				
var(_cons)	.0159293	.0025195	.0116832	.0217186
var(Residual)	.0303668	.0008963	.0286598	.0321754

LR test vs. linear model: chi2(2) = **563.94** Prob > chi2 = **0.0000**

Note: LR test is conservative and provided only for reference.

m=2 data:

```
-> mixed pocschoolprop readall14 mathall14 primary middle high lnage lnstudents urban
> readlevel14 mathlevel14 || state: || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = **686.61697**
 Iteration 1: log likelihood = **686.61792**
 Iteration 2: log likelihood = **686.61792**

Computing standard errors:

Mixed-effects ML regression Number of obs = **2,721**

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
state	36	1	75.6	616
geodistrict	360	1	7.6	251

Log likelihood = **686.61792** Wald chi2(10) = **452.55**
 Prob > chi2 = **0.0000**

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
readall14	-.2950027	.0289302	-10.20	0.000	-.3517048	-.2383005
mathall14	-.0417789	.0287359	-1.45	0.146	-.0981003	.0145425
primary	.0571158	.0100697	5.67	0.000	.0373795	.076852
middle	.0782339	.0139019	5.63	0.000	.0509867	.1054811
high	.0793855	.0121408	6.54	0.000	.05559	.103181
lnage	-.0073794	.0041301	-1.79	0.074	-.0154743	.0007155
lnstudents	.0081987	.0055297	1.48	0.138	-.0026394	.0190368
urban	.0447641	.0133265	3.36	0.001	.0186446	.0708836
readlevel14	-.0008047	.0010545	-0.76	0.445	-.0028714	.001262
mathlevel14	.0003263	.0010599	0.31	0.758	-.001751	.0024036
_cons	.8032971	.041421	19.39	0.000	.7221134	.8844808

Random-effects Parameters		Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity					
	var(_cons)	.0131627	.0047532	.0064858	.026713
geodistrict: Identity					
	var(_cons)	.0150912	.0024063	.0110407	.0206277
	var(Residual)	.0303818	.0008945	.0286783	.0321866

LR test vs. linear model: chi2(2) = **558.30** Prob > chi2 = **0.0000**

Note: LR test is conservative and provided only for reference.

```
47. * 3. fully specified
48. mi xeq 0 1 2: mixed pocschoolprop inquiry_full_log readall14 mathall14 primary middl
> e high lnage lnstudents urban pctpdfs readlevel14 mathlevel14 || state: || geodistri
> ct: ,
```

m=0 data:

```
-> mixed pocschoolprop inquiry_full_log readall14 mathall14 primary middle high lnage
> lnstudents urban pctpdfs readlevel14 mathlevel14 || state: || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log likelihood = 552.29958
Iteration 1: log likelihood = 552.30078
Iteration 2: log likelihood = 552.30078
```

Computing standard errors:

Mixed-effects ML regression Number of obs = **2,244**

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
state	34	1	66.0	533
geodistrict	331	1	6.8	217

Log likelihood = **552.30078** Wald chi2(12) = **499.77**
 Prob > chi2 = **0.0000**

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2756077	.034867	-7.90	0.000	-.3439457	-.2072697
readall14	-.2900537	.0370947	-7.82	0.000	-.362758	-.2173493
mathall14	-.0817032	.0370856	-2.20	0.028	-.1543895	-.0090168
primary	.0579787	.0111697	5.19	0.000	.0360865	.0798709
middle	.0767421	.0155323	4.94	0.000	.0462994	.1071848
high	.0823988	.0134664	6.12	0.000	.0560051	.1087924
lnage	.000146	.0051764	0.03	0.977	-.0099995	.0102915
lnstudents	.0194254	.007141	2.72	0.007	.0054292	.0334216
urban	.0530995	.0143022	3.71	0.000	.0250677	.0811313
pctpdfs	.1536153	.0860583	1.79	0.074	-.0150559	.3222865
readlevel14	.0005258	.0013157	0.40	0.689	-.002053	.0031046
mathlevel14	-.0004677	.0012969	-0.36	0.718	-.0030096	.0020742
_cons	.7601972	.0503603	15.10	0.000	.6614929	.8589015

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity				
var(_cons)	.0096468	.003634	.0046104	.0201852
geodistrict: Identity				
var(_cons)	.0155174	.0026278	.0111346	.0216254
var(Residual)	.0303523	.0009997	.0284548	.0323764

LR test vs. linear model: chi2(2) = **426.58** Prob > chi2 = **0.0000**

Note: LR test is conservative and provided only for reference.

m=1 data:

```
-> mixed pocschoolprop inquiry_full_log readall14 mathall14 primary middle high lnage
> lnstudents urban pctpdfs readlevel14 mathlevel14 || state: || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log likelihood = 730.40801
Iteration 1: log likelihood = 730.40854
Iteration 2: log likelihood = 730.40854
```

Computing standard errors:

Mixed-effects ML regression Number of obs = **2,724**

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
state	36	1	75.7	617
geodistrict	362	1	7.5	251

Log likelihood = **730.40854** Wald chi2(12) = **566.68**
 Prob > chi2 = **0.0000**

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2996094	.0306436	-9.78	0.000	-.3596697	-.2395491
readall14	-.2419315	.0283362	-8.54	0.000	-.2974695	-.1863935
mathall14	-.079292	.0280035	-2.83	0.005	-.1341778	-.0244061
primary	.0569894	.0099046	5.75	0.000	.0375768	.076402
middle	.0734973	.0136842	5.37	0.000	.0466768	.1003178
high	.074584	.0119146	6.26	0.000	.0512318	.0979362
lnage	-.0085096	.0040443	-2.10	0.035	-.0164363	-.000583
lnstudents	.0086338	.0055138	1.57	0.117	-.0021731	.0194406
urban	.0588532	.0132539	4.44	0.000	.0328759	.0848304
pctpdfs	.1176318	.0755463	1.56	0.119	-.0304363	.2656999
readlevel14	-.001592	.0010197	-1.56	0.118	-.0035907	.0004066
mathlevel14	.0010986	.0010052	1.09	0.274	-.0008716	.0030688
_cons	.8248665	.041049	20.09	0.000	.7444119	.9053211

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity				
var(_cons)	.0125755	.0045517	.0061863	.0255633
geodistrict: Identity				
var(_cons)	.0160341	.0024915	.0118244	.0217426
var(Residual)	.029235	.0008631	.0275914	.0309765

LR test vs. linear model: $\chi^2(2) = 544.32$ Prob > $\chi^2 = 0.0000$

Note: LR test is conservative and provided only for reference.

m=2 data:

```
-> mixed pocschoolprop inquiry_full_log readall14 mathall14 primary middle high lnage
> lnstudents urban pctpdfs readlevel14 mathlevel14 || state: || geodistrict: ,
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log likelihood = 733.82951
Iteration 1: log likelihood = 733.83017
Iteration 2: log likelihood = 733.83017
```

Computing standard errors:

Mixed-effects ML regression Number of obs = 2,721

Group Variable	No. of Groups	Observations per Group Minimum Average Maximum
state	36	1 75.6 616
geodistrict	360	1 7.6 251

Log likelihood = 733.83017 Wald $\chi^2(12) = 564.61$
Prob > $\chi^2 = 0.0000$

pocschoolp~p	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
inquir~l_log	-.2997842	.0306079	-9.79	0.000	-.3597745	-.2397938
readall14	-.2586263	.0286635	-9.02	0.000	-.3148057	-.2024469
mathall14	-.0602511	.0282882	-2.13	0.033	-.1156949	-.0048073
primary	.0580649	.0098914	5.87	0.000	.038678	.0774518
middle	.0734771	.0136693	5.38	0.000	.0466858	.1002684
high	.0755347	.0119332	6.33	0.000	.052146	.0989234
lnage	-.0074841	.0040587	-1.84	0.065	-.0154391	.0004709
lnstudents	.0089748	.0054336	1.65	0.099	-.0016749	.0196246
urban	.0535816	.0131785	4.07	0.000	.0277522	.0794111

pctpdfs	.0886314	.0755367	1.17	0.241	-.0594179	.2366807
readlevel14	-.0006446	.0010357	-0.62	0.534	-.0026746	.0013854
mathlevel14	.0001817	.0010411	0.17	0.861	-.0018589	.0022223
_cons	.8244872	.0408671	20.17	0.000	.7443891	.9045853

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
state: Identity				
var(_cons)	.0128913	.0046475	.0063595	.0261318
geodistrict: Identity				
var(_cons)	.015106	.0023678	.0111104	.0205386
var(Residual)	.029266	.0008617	.0276249	.0310046

LR test vs. linear model: $\chi^2(2) = 534.61$ Prob > $\chi^2 = 0.0000$

Note: LR test is conservative and provided only for reference.

```

49.
50. log close
    name: <unnamed>
    log: /hdir/0/jhaber/Projects/charter_data/sorting-schools-2019/logs/robust_fil
> tpoc_mi5_linear_030220.smcl
    log type: smcl
    closed on: 2 Mar 2020, 17:43:05

```