

# CMO 2023

## TECHNICAL APPENDIX

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# State Level Match Rates

The tables below provide the match rates for various subpopulations within the study. The detailed match rates can be useful for assessing the composition of the larger results provided in the study and can allow for better understanding of the representativeness of the overall results to smaller subpopulations.

## Match rates by State, by charter group

State	Charter Group	Match Rate	State	Charter Group	Match Rate
AR	SCS	86.5%	NJ	SCS	78.2%
AR	CMO	84.4%	NJ	CMO	87.2%
AZ	SCS	79.8%	NM	SCS	73.3%
AZ	CMO	83.4%	NM	CMO	88.0%
CA	SCS	83.5%	NV	SCS	83.9%
CA	CMO	88.0%	NV	CMO	91.8%
CO	SCS	84.4%	NY	SCS	74.5%
CO	CMO	85.9%	NY	CMO	75.7%
DC	SCS	67.9%	NYC	SCS	79.8%
DC	CMO	76.0%	NYC	CMO	76.2%
FL	SCS	87.9%	OR	SCS	74.3%
FL	CMO	90.4%	OR	CMO	81.5%
IL	SCS	86.4%	PA	SCS	80.7%
IL	CMO	87.6%	PA	CMO	86.7%
IN	SCS	85.6%	RI	SCS	69.2%
IN	CMO	88.6%	RI	CMO	71.9%
LA	SCS	78.1%	SC	SCS	83.7%
LA	CMO	85.0%	SC	CMO	94.9%
MA	SCS	74.8%	TN	SCS	87.2%
MA	CMO	63.4%	TN	CMO	89.4%
MI	SCS	82.6%	TX	SCS	86.5%
MI	CMO	84.8%	TX	CMO	85.0%
MN	SCS	79.9%	UT	SCS	87.4%
MN	CMO	85.4%	UT	CMO	88.8%
MO	SCS	69.4%	WA	SCS	86.1%
MO	CMO	79.5%	WA	CMO	83.2%
NC	SCS	88.5%	WI	SCS	74.9%
NC	CMO	88.8%	WI	CMO	80.9%

### Match rates by Grade Span, by charter group

Grade Span	Charter Group	Match Rate
Elementary	SCS	78.0%
Elementary	CMO	83.5%
Middle	SCS	87.9%
Middle	CMO	88.5%

Grade Span	Charter Group	Match Rate
High	SCS	80.3%
High	CMO	80.6%
Multilevel	SCS	85.9%
Multilevel	CMO	87.2%

### Match rates by Locale, by charter group

Locale	Charter Group	Match Rate
Urban	SCS	81.1%
Urban	CMO	84.1%
Suburban	SCS	84.8%
Suburban	CMO	87.0%
Rural	SCS	74.7%

Locale	Charter Group	Match Rate
Rural	CMO	79.1%
Town	SCS	80.6%
Town	CMO	85.7%
Virtual	SCS	91.6%
Virtual	CMO	93.2%

### Match rates by racial/ethnic group, by charter group

Race/Ethnicity	Charter Group	Match Rate
White	SCS	86.3%
White	CMO	88.5%
Black	SCS	81.7%
Black	CMO	86.0%
Hispanic	SCS	84.2%
Hispanic	CMO	87.3%

Race/Ethnicity	Charter Group	Match Rate
Asian/PI	SCS	68.4%
Asian/PI	CMO	67.3%
Native American	SCS	40.7%
Native American	CMO	40.6%
Multiracial	SCS	58.6%
Multiracial	CMO	65.1%

### Match rates by poverty/non-poverty, by charter group

Poverty Status	Charter Group	Match Rate
Non-Poverty	SCS	82.1%
Non-Poverty	CMO	84.2%
Poverty	SCS	82.8%

### Match rates by English Language Learner (ELL) status, by charter group

ELL status	Charter Group	Match Rate
Non-ELL	SCS	83.1%
Non-ELL	CMO	86.1%
ELL	SCS	73.8%
ELL	CMO	78.2%

### Match rates by Special Education (SPED) status, by charter group

SPED Status	Charter Group	Match Rate
Non-SPED	SCS	84.7%
Non-SPED	CMO	87.1%
SPED	SCS	62.5%
SPED	CMO	67.7%

### Match rates by poverty/non-poverty and racial/ethnic group, by charter group

Poverty Status	Race/Ethnicity	Charter Group	Match Rate
Non-Poverty	White	SCS	88.0%
Non-Poverty	White	CMO	90.3%
Non-Poverty	Black	SCS	74.1%
Non-Poverty	Black	CMO	80.1%
Non-Poverty	Hispanic	SCS	80.1%
Non-Poverty	Hispanic	CMO	85.1%
Non-Poverty	Asian/Pacific Islander	SCS	69.7%
Non-Poverty	Asian/Pacific Islander	CMO	70.2%
Non-Poverty	Native American	SCS	35.1%
Non-Poverty	Native American	CMO	39.6%
Non-Poverty	Multiracial	SCS	59.6%
Non-Poverty	Multiracial	CMO	67.3%
Poverty	White	SCS	81.7%
Poverty	White	CMO	84.6%
Poverty	Black	SCS	84.2%
Poverty	Black	CMO	87.4%
Poverty	Hispanic	SCS	86.1%
Poverty	Hispanic	CMO	88.0%
Poverty	Asian/Pacific Islander	SCS	66.0%

Poverty Status	Race/Ethnicity	Charter Group	Match Rate
Poverty	Asian/Pacific Islander	CMO	61.4%
Poverty	Native American	SCS	44.6%
Poverty	Native American	CMO	41.3%
Poverty	Multiracial	SCS	57.0%
Poverty	Multiracial	CMO	62.8%

### Match rates by English Language Learner (ELL) status for Hispanic Students, by charter group

ELL status	Race/Ethnicity	Charter Group	Match Rate
Non-ELL	Hispanic	SCS	%85.0
Non-ELL	Hispanic	CMO	%88.2
ELL	Hispanic	SCS	%79.9
ELL	Hispanic	CMO	%83.4

## Average Starting Achievement

This tables in this section provides the average starting achievement of the student-year records by sector in reading and math.

**Table. Reading Scores By State**

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
AR	100534	0.069	0.069	-0.001	0.999
AZ	588898	0.267	0.267	-0.057	0.955
CA	1433914	0.052	0.052	-0.057	0.955
CO	340178	0.09	0.09	-0.031	0.976
DC	70282	-0.086	-0.084	-0.187	0.852
FL	1005396	0.192	0.192	-0.105	0.916
IL	157356	-0.313	-0.313	-0.129	0.897
IN	91806	-0.284	-0.284	-0.038	0.969
LA	228500	-0.145	-0.145	-0.036	0.971
MA	122180	-0.067	-0.067	-0.041	0.968
MI	363502	-0.338	-0.337	-0.171	0.864
MN	142150	-0.199	-0.199	-0.043	0.966
MO	58576	-0.484	-0.484	-0.053	0.958
NC	271408	0.304	0.304	-0.026	0.979
NJ	156828	-0.174	-0.173	-0.354	0.723

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
NM	81634	0.098	0.099	-0.049	0.961
NV	106350	0.211	0.211	0.045	0.964
NY	57526	-0.218	-0.217	-0.079	0.937
NYC	275794	0.074	0.075	-0.328	0.743
OR	61518	0.129	0.129	0.045	0.964
PA	336656	-0.462	-0.461	-0.168	0.867
RI	18082	-0.051	-0.05	-0.113	0.910
SC	85424	0.14	0.14	0.001	0.999
TN	110860	-0.379	-0.379	-0.015	0.988
TX	910306	0.055	0.055	-0.016	0.987
UT	207188	0.005	0.005	0.048	0.961
WA	7894	-0.171	-0.171	-0.021	0.984
WI	123876	-0.111	-0.111	-0.065	0.948

Table. Math Scores By State

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
AR	98612	0.013	0.013	0	1.000
AZ	536286	0.228	0.228	0.045	0.964
CA	1470082	0.014	0.015	-0.034	0.973
CO	327630	0.083	0.083	-0.051	0.959
DC	66118	-0.086	-0.085	-0.235	0.814
FL	833462	0.155	0.156	-0.064	0.949
IL	154048	-0.294	-0.294	-0.14	0.888
IN	92534	-0.385	-0.385	0.034	0.972
LA	218056	-0.197	-0.196	-0.053	0.958
MA	118970	-0.073	-0.073	-0.081	0.936
MI	362634	-0.395	-0.394	-0.167	0.867
MN	138182	-0.268	-0.268	0.026	0.979
MO	57508	-0.487	-0.487	-0.052	0.959
NC	244860	0.184	0.184	-0.01	0.992
NJ	142478	-0.224	-0.223	-0.247	0.805
NM	65934	0.064	0.064	-0.028	0.978
NV	108376	0.182	0.182	0.02	0.984
NY	59396	-0.277	-0.276	-0.165	0.869

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
NYC	287952	0.131	0.132	-0.585	0.559
OR	60870	0.059	0.059	0.059	0.953
PA	342860	-0.555	-0.554	-0.148	0.882
RI	17272	-0.044	-0.043	-0.06	0.952
SC	82478	-0.003	-0.003	0.074	0.941
TN	107798	-0.411	-0.41	-0.085	0.932
TX	752198	-0.032	-0.032	-0.024	0.981
UT	197456	-0.021	-0.021	0.113	0.910
WA	7700	-0.173	-0.174	0.049	0.961
WI	125162	-0.188	-0.188	-0.051	0.959

**Table. Reading Scores By Year**

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Year2014	1741132	0.005	0.005	-0.196	0.844
Year2015	1865516	0.009	0.009	-0.098	0.922
Year2016	1918108	0.021	0.021	-0.206	0.837
Year2017	1989860	0.022	0.023	-0.173	0.862

**Table. Math Scores By Year**

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Year2014	1627118	-0.043	-0.043	-0.122	0.903
Year2015	1748110	-0.048	-0.048	-0.102	0.919
Year2016	1804876	-0.036	-0.036	-0.158	0.874
Year2017	1896808	-0.027	-0.027	-0.216	0.829

**Table. Reading Scores By Grade Span**

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Elementary	2823108	-0.034	-0.033	-0.238	0.812
Middle	1201276	-0.053	-0.052	-0.298	0.766
High	382496	-0.045	-0.044	-0.074	0.941
Multilevel	2465160	-0.029	-0.029	-0.038	0.970



Table. Math Scores By Grade Span

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Elementary	2823108	-0.034	-0.033	-0.238	0.812
Middle	1201276	-0.053	-0.052	-0.298	0.766
High	382496	-0.045	-0.044	-0.074	0.941
Multilevel	2465160	-0.029	-0.029	-0.038	0.970

Table. Reading Scores By Locale

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
locale: urban	2823108	-0.034	-0.033	-0.238	0.812
locale: town	1201276	-0.053	-0.052	-0.298	0.766
locale: rural	382496	-0.045	-0.044	-0.074	0.941
locale: suburban	2465160	-0.029	-0.029	-0.038	0.970

Table. Math Scores By Locale

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
locale: urban	3879242	-0.12	-0.12	-0.464	0.643
locale: town	257084	-0.029	-0.029	0.05	0.960
locale: rural	593166	0.117	0.117	0.158	0.875
locale: suburban	2177414	0.07	0.07	-0.029	0.977

Table. Reading Scores By Race/Ethnicity &amp; Poverty-ELL

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Black	1818810	-0.341	-0.34	-0.463	0.643
Hispanic	2803276	-0.094	-0.094	-0.335	0.738
Asian/PI	287064	0.577	0.577	0.051	0.959
Native American	24798	-0.189	-0.189	0.002	0.998
Multirace	172886	0.248	0.248	-0.035	0.972
White	2407782	0.328	0.328	0.128	0.898
Poverty	4282116	-0.238	-0.188	-49.536	0.000
ELL	517538	-0.842	-0.843	0.105	0.917
SPED	559000	-0.931	-0.931	0.125	0.901
Black-Poverty	1431950	-0.41	-0.409	-0.427	0.670
Hispanic-Poverty	2026812	-0.19	-0.189	-0.283	0.777
Hispanic-ELL	457868	-0.836	-0.836	0.075	0.940

Table. Reading Scores By Race/Ethnicity & Poverty-ELL

	Total_N	Mean(TPS)	Mean(Charter)	T_stat	P_value
Black	1754926	-0.42	-0.419	-0.567	0.571
Hispanic	2618066	-0.122	-0.122	-0.345	0.730
Asian/Pacific Islander	259358	0.669	0.669	0.028	0.978
Native American	22690	-0.249	-0.249	0.003	0.997
Multirace	160358	0.143	0.143	0.03	0.976
White	2261514	0.263	0.263	0.275	0.783
Poverty	4083770	-0.278	-0.21	-65.392	0.000
ELL	514610	-0.697	-0.697	-0.014	0.989
SPED	573816	-0.895	-0.895	0.111	0.912
Black-Poverty	1393662	-0.474	-0.473	-0.518	0.604
Hispanic-Poverty	1906874	-0.198	-0.197	-0.356	0.722
Hispanic-ELL	453474	-0.694	-0.694	-0.055	0.957

## State-level Regressions

### Marginal Charter Group Effects by Race/Ethnicity by State

Table. Reading Performance by Race.Ethnicity/ By State

	White		Black		Hispanic		Multiracial		Native American		Asian/Pacific Islander	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	0.003	-0.017	.063**	0.021	.04*	-0.013	0.058	0.005	0.101	-0.013	0.064	-0.028
AZ	.032**	.029**	.058**	0.027	.06**	.042**	0.029	-0.006	0.002	0.041	0.036	-0.023
CA	-.061**	-.016*	.049**	.048**	.081**	.037**	-.053**	-.026**	-.094**	-.075**	0.02	-0.005
CO	0.025	0.008	.079**	.073**	.06**	.052**	0.03	0.023	0.006	0.028	0.024	0.037
DC	-.2**	-.091**	.053**	0.002	-.07**	-.044*	-.184**	0.079	0.115	-0.175	-0.126	0.012
FL	.016**	0.011	.044**	.019*	.043**	-0.005	0.015	0.003	-0.084	-0.04	-0.016	-0.003
IL	-0.003	0.036	.097**	.063**	.083**	.062**	-0.019	-0.07	.289*	-0.038	-0.046	0.055
IN	-.144**	-.037*	.07**	0.073	0.029	0.008	-0.037	0.022	-.898**	-0.142	-.152**	-.102*
LA	-.136**	0.015	0.006	0.011	0.018	.066**	-0.05	0.013	-0.044	-0.004	-0.111	0.007
MA	0.033	.041*	0.079	.09**	.131**	.124**	0.144	0.044	.92**	0.031	0.056	0.034
MI	0.045	0.016	.13**	.054**	.078**	.075**	.062**	0.04	-0.001	0.037	.125**	-0.015
MN	0.06	0.017	.09**	.102**	.066**	.038*	0.042	0	0.07	-0.004	0.018	.047*
MO	-0.024	0.034	.06*	.097**	0.073	.129**	0.023	0.121	0.081	0.153	0.113	0.085
NC	.025*	0	.055**	.068**	.053**	.058**	0.025	.038*	0.077	0.075	-0.017	-0.014
NJ	-0.015	.057*	.133**	0.029	0.05	.04*	0.102	0.048	.245*	0.08	0.014	0.053

	White		Black		Hispanic		Multiracial		Native American		Asian/Pacific Islander	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
NM	#	0.016	#	0.033	#	0.039	#	-0.005	#	0.002	#	0.027
NV	0.012	-0.02	.074**	0.019	.055*	0.028	.046*	-0.033	0.024	-0.115	-0.004	-0.013
NY	0.026	-.08**	.111**	.057**	.122**	.054**	0.016	-0.057	.165**	0.023	-0.02	-.073*
NYC	0.196**	0.116*	0.185**	0.111**	0.222**	0.126**	0.209*	0.049	0.418*	0.248*	0.059	0.13**
OR	-0.051	-0.029	-.208**	-0.008	-0.076	0.004	-0.075	-.053*	-.188**	-0.017	.183**	0.03
PA	-.11*	-.082**	.085**	.044**	0.029	.041*	0	-.051*	0.104	-0.044	0.03	-0.046
RI	.206**	0.068	.253**	.163**	.241**	.153**	.203**	.123*	#	0.158	.401**	0.006
SC	-.102**	-0.013	0.004	0.025	-0.072	0.018	-0.008	-0.032	-0.017	-0.039	0.098	0.049
TN	.061*	.145**	0.028	.054**	.133**	.131**	#	#	-0.052	0.363	0.042	.114*
TX	0.009	-0.037	.048**	-0.004	.083**	.027*	0.013	-0.029	-0.012	-0.092	-.016*	-0.029
UT	-0.017	0	0.039	-0.003	.054**	0.011	-0.017	0.007	-0.044	-0.05	.075**	0.031
WA	-0.078	0.051	-.143**	.185*	-0.1	.168**	-.166*	0.117	-0.066	-0.061	-.156*	.273*
WI	-.15**	-0.019	.152**	.14**	0.016	.076*	-0.063	-0.013	-0.167	-0.094	.105*	.082**
N + &Stat. Sig	6	5	20	16	17	19	4	2	5	1	5	5
N - &Stat. Sig	8	5	3	0	2	1	4	3	4	1	3	2

Note: # indicates redacted cells due to small number of schools.

Table. Math Performance by Race.Ethnicity/ By State

	White		Black		Hispanic		Multiracial		Native American		Asian/PI	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	-0.048	-0.017	.049*	0.044	0.014	-0.043	0.034	-0.055	-0.08	-0.06	0.048	-0.025
AZ	-0.01	-0.021	0.031	-0.012	.032*	0.018	-0.006	-0.047	-0.058	0.044	-0.008	-.058*
CA	-.095**	-.029**	0.025	.03**	.068**	.023**	-.09**	-.043**	-.111**	-.111**	0.001	-0.015
CO	.052*	-0.01	.11**	0.045	.085**	0.027	.081*	0.018	0.038	0.024	0.059	-0.018
DC	-.098**	-.107*	.116**	0.023	-0.073	-0.059	-0.11	-0.089	-0.071	-0.06	-.14*	-0.033
FL	-0.01	-0.012	.036*	0.004	.03*	-.035**	-0.006	-0.018	0.037	-0.074	-.048**	-0.017
IL	-0.011	0.009	.12**	.036*	.121**	.052**	0.009	-0.001	0.419	.258*	-0.036	-0.009
IN	-.275**	-.131**	.052*	0.024	0.01	-0.044	-0.042	-0.058	#	-0.071	-.188**	-0.122
LA	-.169**	-0.022	.04**	-0.003	-0.023	0.039	-0.092	-0.016	-0.069	-0.063	-0.049	0.003
MA	.126**	0.017	0.111	.102**	.167**	.123**	0.077	0.015	1.441**	0.038	0.031	0.004
MI	0.021	-0.029	.11**	.031**	.056*	0.052	0.031	-0.021	-0.045	0.018	.115**	-0.097
MN	0.009	-.051*	.07**	.078**	0.052	0.015	0.074	-0.025	0.04	-0.011	-0.035	.09**
MO	-.079*	0.005	.075*	.144*	0.076	0.13	0.041	0.095	-0.461	-0.044	0.168	.274**
NC	0.028	-.057**	0.034	0.004	0.049	-0.011	0.006	-.086**	-0.113	0.035	0.03	-.09**
NJ	0.008	0.031	.139**	0.021	0.061	0.021	.141**	0.083	.368**	0.029	0.059	0.006

	White		Black		Hispanic		Multiracial		Native American		Asian/PI	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
NM	#	0.003	#	0.082	#	0.027	#	-0.016	#	0.01	#	0.037
NV	0.015	-0.051	.073**	0.008	0.048	0.011	0.021	-0.031	-0.135	-0.034	0.005	-0.059
NY	.165**	0	.196**	.089**	.204**	.084**	0.079	-0.027	.205**	-0.008	0.039	-0.004
NYC	0.219**	0.065*	0.212**	0.106**	0.217**	0.114**	0.14	0.032	0.227	0.044	0.18	0.111*
OR	-.126*	-.045*	-0.121	-0.048	-.106*	-.045*	-.131**	-0.05	-.404**	-.123*	-.115**	-0.075
PA	-.174**	-.115**	.052**	-0.004	0.001	-0.006	-0.044	-.102**	-.194**	-0.112	-0.042	-0.078
RI	.253**	0.026	.272**	.129**	.303**	.125**	.296**	0.004	#	0.046	.324*	0.08
SC	-.183**	-.095*	-.082**	-0.03	-.092**	-0.023	-0.124	0.017	#	-.125*	-0.147	0.012
TN	.095**	0.172	0.025	.037*	.189**	.171**	#	#	-0.03	0.054	.128**	.335**
TX	-.059**	-.198**	0.009	-.087**	.047**	-.048*	-0.024	-.238**	-0.055	-.172*	-.041**	-.111**
UT	-0.035	-0.026	0.057	-0.042	.068*	-0.009	-0.068	-0.052	-0.065	-0.07	.076*	0.003
WA	0.078	-0.047	-0.055	.25**	-0.115	.205**	-0.002	0.172	-0.199	0.005	0.052	.246*
WI	-.158**	-.035*	.174**	.172**	.069*	.074**	-0.114	-0.034	-0.181	-0.058	0.07	0.019
N + &Stat. Sig	6	1	17	12	14	9	3	0	4	1	4	5
N - &Stat. Sig	11	10	2	1	3	3	3	4	6	4	5	3

## Marginal Charter Group Effects by Poverty Status by State

Table. Results by Poverty Status, By State, Reading

	Poverty		Non Poverty			Poverty		Non Poverty	
	CMO	SCS	CMO	SCS		CMO	SCS	CMO	SCS
AR	0.007	-0.012	0.042	0.004	NV	0.05	0.006	0.03	0.001
AZ	.041**	.027**	.042**	.028*	NY	.111**	.04**	.12**	.045**
CA	.063**	.023**	-.027*	-0.004	NYC	0.185**	0.11**	0.128**	0.027
CO	.05*	.038*	-0.011	-0.004	OR	-0.077	-.043**	-0.055	-.042*
DC	.036*	-0.011	.044*	.086**	PA	.058**	0.015	-.151**	-.117**
FL	.043**	-0.008	.061**	.039**	RI	.239**	.147**	.163**	0.025
IL	.083**	.057**	-.072**	-.06**	SC	-.066*	-0.006	-.063*	0.023
IN	0.03	-0.001	-.077*	-0.023	TN	.035*	.065**	-0.021	0.023
LA	-0.009	-0.001	-0.028	0.057	TX	.068**	0.005	.034**	-0.003
MA	.097**	.086**	0.056	0.03	UT	0.009	-0.011	-.061*	-.045**
MI	.09**	.04**	.063**	-0.013	WA	-.135**	0.137	-0.076	0.091
MN	.082**	.046**	0.01	-0.005	WI	0.046	.06**	-.139**	-.04*
MO	.052*	.084**	-0.019	.079*	<b>Positive &amp; Stat.Sig</b>	18	14	9	6
NC	.054**	.042**	.042**	.032**	<b>Negative &amp; Stat.Sig</b>	3	1	8	5
NJ	.104**	0.028	0.02	0.013					
NM	#	0.009	#	0.042					

Note: # indicates redacted cells due to small number of schools.

Table. Results by Poverty Status, By State, Math

	Poverty		Non Poverty	
	CMO	SCS	CMO	SCS
AR	-0.019	0.004	.119**	.118**
AZ	0.023	0.016	.088**	.069**
CA	.054**	0.012	0.012	.052**
CO	.089**	0.026	.085**	.041**
DC	.094**	0.006	.182**	.155**
FL	.035**	-.026*	.152**	.13**
IL	.118**	.052**	.056*	0.006
IN	0.006	0.061-	-0.085	-0.065
LA	0.023	0.012-	.079*	.105**
MA	.13*	.094**	.151**	.067**
MI	.07**	.02*	.108**	-0.002
MN	.066*	.042*	0.019	-0.011
MO	.07*	.13*	-0.005	0.13
NC	.042*	0.027-	.105**	.04*
NJ	.118**	0.018	.079*	.048*
NM	#	0.02	#	.123**

	Poverty		Non Poverty	
	CMO	SCS	CMO	SCS
NV	0.051	0.001-	.087**	0.034
NY	.203**	.081**	.224**	.109**
NYC	0.201**	0.109**	0.188**	-0.013
OR	-.129**	-.059**	-0.097	-0.022
PA	0.033	0.025-	-.172**	-.116**
RI	.29**	.12**	.313**	0.076
SC	-.15**	-.063*	-0.043	0.043
TN	.047*	.071**	.068**	.095*
TX	.039**	-.064*	.089**	-0.027
UT	0.002	0.03-	0.006	0.004
WA	0.061-	0.129	0.084	0.068
WI	.077*	.07**	-0.059	0.016
<b>Positive &amp; Stat.Sig</b>	17	10	17	13
<b>Negative &amp; Stat.Sig</b>	3	4	2	1

Note: # indicates redacted cells due to small number of schools.

## Marginal Charter Group Effects by ELL by State

Table. Results by ELL Status, By State, Reading

	ELL		Non ELL			ELL		Non ELL	
	CMO	SCS	CMO	SCS		CMO	SCS	CMO	SCS
AR	-0.036	-.071*	0.026	-0.003	NV	0.047	0.011	.049**	0.016
AZ	-0.004	0.001	.047**	.03**	NY	.088**	-0.001	.159**	.088**
CA	0.017	-0.003	.031**	0.01	NYC	0.261**	0.165**	0.127**	0.047*
CO	-0.019	-0.012	0.011	0.003	OR	-0.077	-.095**	-0.072	-.042**
DC	-.152**	-.1**	.089**	.055**	PA	0.019	0.022	-0.034	-.074**
FL	0.011	-.058**	.092**	.054**	RI	.192**	.089*	.163**	.059*
IL	0.022	.036*	-0.002	-.027*	SC	#	-0.008	-.056*	0.016
IN	-0.002	-0.044	-0.002	-0.017	TN	.099**	.075**	-0.015	0.024
LA	-.076*	-0.027	-0.016	0.01	TX	.047**	-0.005	.069**	0.012
MA	0.028	0.036	.075*	.05**	UT	-0.028	-.066**	-0.044	-.039**
MI	.051**	-0.033	0.03	-.027**	WA	-0.062	0.126	-.105*	0.13
MN	0.04	-0.003	0.036	0.009	WI	0.065	0.048	-.083*	-.038*
MO	0.012	0.007	0.001	0.043	<b>Positive &amp; Stat.Sig</b>	6	4	12	9
NC	0.045	0.035	.054**	.043**	<b>Negative &amp; Stat.Sig</b>	3	5	4	6
NJ	0.008	0.017	.096**	.031*					
NM	#	0.013	#	0.031					

Note: # indicates redacted cells due to small number of schools.

Table. Results by ELL Status, By State, Math

	ELL		Non ELL	
	CMO	SCS	CMO	SCS
AR	-0.031	-.084*	.068*	.082**
AZ	0.004	0.01	.069**	.053**
CA	.056**	0.011	.047**	.035**
CO	0.024	-0.002	.089**	0.022
DC	-.136**	-.129**	.179**	.099**
FL	0.008	-.081**	.157**	.116**
IL	.073**	0.03	.088**	0.02
IN	0.055	-0.027	-0.023	-0.078
LA	-0.047	0.023	.062**	.039*
MA	.122*	0.08	.124*	.062**
MI	0.041	-0.031	0.032	-.035**
MN	0.051	0.036	0.009	-0.021
MO	0.044	0.095	0.045	0.114
NC	0.039	0.043	.082**	0.017
NJ	0.046	-0.032	.122**	.035*
NM	#	0.036	#	.085**

	ELL		Non ELL	
	CMO	SCS	CMO	SCS
NV	0.06	0.026	.076**	0.024
NY	.188**	0.051	.248**	.128**
NYC	0.346**	0.123*	0.134**	0.22
OR	0.008	-.064*	-.13*	-.051*
PA	-0.017	-0.021	-0.04	-.093**
RI	.347**	.098*	.258**	.072**
SC	-.121**	-0.035	-.075*	0.01
TN	.165**	.13**	.049*	.077**
TX	0.019	-.048*	.106**	-0.013
UT	0.002	-.078**	-0.009	-0.018
WA	0.032	.256**	-0.012	0.089
WI	.111**	0.024	-0.024	-0.003
<b>Positive &amp; Stat.Sig</b>	9	4	17	12
<b>Negative &amp; Stat.Sig</b>	2	6	3	3

Note: # indicates redacted cells due to small number of schools.



## Marginal Charter Group Effects by SPED by State

Table. Results by Special Education Status, By State, Reading

	Sped		Non Sped			Sped		Non Sped	
	CMO	SCS	CMO	SCS		CMO	SCS	CMO	SCS
AR	-0.017	-.089**	0.027	0	NV	0.003	-0.039	.044*	0.013
AZ	-.031**	-.027**	.043**	.026*	NY	.1**	.034**	.153**	.08**
CA	-.037**	-.065**	0.02	0	NYC	0.109*	0.067*	0.126**	0.044*
CO	-0.028	-.073**	-0.006	-0.003	OR	-.197**	-.083**	-0.069	-.049**
DC	-0.008	-0.019	.089**	.052**	PA	-0.007	-.039*	-0.035	-.077**
FL	0.011	-.039**	.088**	.051**	RI	.121**	.095**	.166**	.057*
IL	0.021	-0.01	-0.013	-.034*	SC	-.092**	-.059**	-.064*	0.014
IN	-0.061	-0.042	0.001	-0.02	TN	.049*	.065**	-0.016	0.022
LA	-.052**	-0.029	-0.017	0.007	TX	-.091**	-.118**	.067**	0.01
MA	0.012	0.022	.077*	.048**	UT	-0.04	-.07**	-.051*	-.042**
MI	0.006	0.003	0.028	-.035**	WA	-.211**	0.051	-.087*	0.137
MN	-0.005	-.044*	0.023	-0.003	WI	-0.015	0.015	-.081*	-.042**
MO	0.018	0.036	-0.001	0.039	<b>Positive &amp; Stat.Sig</b>	4	4	11	9
NC	-0.027	-.042**	.049**	.038**	<b>Negative &amp; Stat.Sig</b>	8	12	5	6
NJ	0.029	-0.031	.092**	.028*					
NM	#	-0.038	#	0.028					

Note: # indicates redacted cells due to small number of schools.

Table. Results by Special Education Status, By State, Math

	Sped		Non Sped			Sped		Non Sped	
	CMO	SCS	CMO	SCS		CMO	SCS	CMO	SCS
AR	-0.069	-.056*	.078**	.088**	IN	-0.071	-.105**	-0.005	-0.062
AZ	-.045**	-.053**	.077**	.062**	LA	-.027*	-.063**	.073**	.051*
CA	-0.002	-.027**	.053**	.039**	MA	0.047	0.026	.145**	.076**
CO	0.002	-.045**	.077**	.026*	MI	-0.012	-.024*	.043*	-.029**
DC	0.031	-0.019	.19**	.107**	MN	-0.001	-.065**	0.017	-0.008
FL	-0.007	-.072**	.165**	.124**	MO	-0.039	0.011	.059*	.127*
IL	0.026	-0.008	.094**	0.023	NC	-.08*	-.104**	.088**	0.023

	Sped		Non Sped			Sped		Non Sped	
	CMO	SCS	CMO	SCS		CMO	SCS	CMO	SCS
NJ	-0.011	-0.026	.133**	.04*	TN	0.035	0.015	.057*	.086**
NM	#	-0.014	#	.088**	TX	-.143**	-.207**	.119**	0.007
NV	0.037	-0.034	.083**	0.034	UT	-0.053	-.093**	0	-0.008
NY	.194**	.083**	.256**	.135**	WA	-0.052	0.023	0.01	0.126
NYC	0.225**	0.12**	0.139**	0.027	WI	-0.002	0.011	-0.015	0
OR	-.207**	-.084**	-.117*	-.045*	<b>Positive &amp; Stat.Sig</b>	3	3	19	14
PA	-0.03	-.072**	-0.037	-.09**	<b>Negative &amp; Stat.Sig</b>	6	15	2	3
RI	.111**	.099**	.28**	.078**					
SC	-.133**	-.096**	-0.076	0.017					

Note: # indicates redacted cells due to small number of schools.

## Marginal Charter Group Effects by Grade Span by State

Table. Results by Grade span, By State, Reading

	Elementary		Middle		High		Multilevel	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	0.013	0.049	0.045	-0.013	0.044	-0.002	0.014	-0.002
AZ	0.042**	0.04**	0.061**	-0.016	0.08**	0.046	0.034*	0
CA	0.056**	0.046**	0.07**	0.033*	0.193**	0.046	-0.039**	-0.03**
CO	-0.047*	0.018	0.059*	0.129**	0.1**	0.04	0.014	0.003
DC	0.037	-0.006	0.039*	-0.012	-0.104**	0.064	-0.032	-0.107
FL	0.029**	-0.005	0.052**	0	0.043*	0.005	0.018	0.006
IL	0.095**	0.061**	0.048	-0.024	0.026	0.005	0.07**	0.076**
IN	0.064**	0.06	0.143**	0.123**	-0.116	0.039	-0.037	-0.039
LA	0.003	0.015	0.103**	-0.027	-0.017	0.101*	-0.107**	-0.008
MA	0.117*	0.07**	#	0.062	#	0.074	0.114**	0.069**
MI	0.13**	0.068**	0.05	0.029	-0.114**	-0.022	-0.042	0.008
MN	0.087**	0.041	0.05	0.044*	0.163**	0.078*	-0.135*	0.015
MO	0.042	0.054**	0.074**	0.15*	0.14**	-0.009	#	#
NC	0.027*	0.025**	0.073**	0.106	#	0.061	0.026	0.02
NJ	0.005	0.062**	#	0.086*	#	-0.06	0.113**	0.018
NM	#	0.088**	#	0.104	#	-0.006	#	0.001

	Elementary		Middle		High		Multilevel	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
NV	0.061**	0.026	0.124*	-0.021	#	-0.082	-0.017	-0.044
NY	0.217**	0.133**	#	0.013	#	-0.116	#	0.116**
NYC	0.124**	0.048**	0.073*	0.016	-0.069	-0.066	0.104**	0.041**
OR	0.169**	0.002	#	0.091**	#	-0.004	-0.14**	-0.062**
PA	0.092**	0.044*	-0.004	0	-0.119*	0.191	-0.004	-0.051*
RI	0.194**	0.213**	0.228**	0.143	#	0.085	#	0.108**
SC	#	0.025	#	0.045	#	-0.004	#	-0.029
TN	-0.017	0.018	0.063**	0.131**	0.036	0.058*	0.026	0.073**
TX	0.034**	0.014	0.103**	0.011	0.035	0.114**	0.059**	-0.028
UT	-0.021	-0.008	#	#	#	0.11	0	-0.009
WA	#	#	#	0.191**	#	#	#	#
WI	0.061	0.075**	#	-0.016	-0.078*	0.044	-0.06	-0.015
<b>Positive &amp; Stat.Sig</b>	16	15	15	10	7	4	7	6
<b>Negative &amp; Stat.Sig</b>	2	0	1	0	5	0	8	4

Note: # indicates redacted cells due to small number of schools.

Table. Results by Grade span, By State, Math

	Elementary		Middle		High		Multilevel	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	-0.031	-0.014	0.016	-0.005	0.018	0.019	0.029	-0.056
AZ	0.042**	0.03**	0.067*	-0.084*	0.073*	0.051*	-0.037	-0.076**
CA	0.061**	0.038**	0.063**	0.035**	0.171**	0.068*	-0.07**	-0.058**
CO	0.004	0.016	0.096**	0.141**	0.121**	-0.047	0.012	-0.034
DC	0.078	-0.004	0.103**	0.004	0.109*	0.127*	0.011	-0.018
FL	0.007	-0.031**	0.067**	-0.008	0.088	0.043	-0.063	0.001
IL	0.108**	0.038*	0.098*	-0.017	-0.036	0.017	0.125**	0.059**
IN	0.018	0.05	0.174**	0.124**	-0.133	0.078	-0.063	-0.149**
LA	0.026	0.012	0.109**	-0.029	0.11**	0.04	-0.147**	-0.039
MA	0.109	0.048*	#	0.095**	#	0.041	0.178**	0.06*
MI	0.124**	0.037**	0.005	0.036	-0.063	-0.012	-0.096*	-0.015

	Elementary		Middle		High		Multilevel	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
MN	0.056	0.043*	0.049	0.006	0.066	0.002	-0.173*	-0.069
MO	0.049	0.055*	0.093*	0.262*	0.247**	0.094	#	#
NC	0.037	-0.023	0.013	-0.012	#	-0.139*	-0.02	-0.033
NJ	-0.025	0.033	#	0.126**	#	-0.027	0.14**	0.001
NM	#	0.028	#	0.087	#	-0.022	#	0.012
NV	0.073**	0	0.084*	-0.106**	#	0.019	-0.01	-0.078
NY	0.201**	0.063**	#	0.084**	#	-0.035	#	0.103**
NYC	0.245**	0.131**	0.145**	0.028	0	-0.134	0.134**	0.117**
OR	0.06	0.007	#	0.043	#	-0.08	-0.195**	-0.09**
PA	0.073**	0.016	0.001	-0.059*	-0.05	0.19	-0.049	-0.094**
RI	0.203*	0.215**	0.356**	0.073	#	0.036	#	0.074**
SC	#	-0.031	#	0.045	#	-0.015	#	-0.121**
TN	0.014	0.043	0.094**	0.174**	-0.045	-0.035	0.103	0.065**
TX	0.022	-0.047	0.054**	-0.018	-0.046	0.054	0.021	-0.157**
UT	-0.001	-0.032*	#	#	#	0.123	-0.029	-0.037*
WA	#	#	#	0.289**	#	#	#	#
WI	0.047	0.083**	#	-0.036	-0.027	0.034	-0.042	-0.014
<b>Positive &amp; Stat.Sig</b>	9	11	16	10	8	3	5	5
<b>Negative &amp; Stat.Sig</b>	1	3	1	3	3	1	7	8

Note: # indicates redacted cells due to small number of schools.

## Marginal Charter Group Effects by Locale by State

Table. Results by Locale, By State, Reading

	Urban		Suburban		Rural		Town		Virtual	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	0.085**	0.031	0.062	0.016	-0.054**	-0.014	0.007	-0.029	-0.213**	-0.12**
AZ	0.053**	0.034**	0.049**	0.018	0.021	0.046**	0.038	0.049*	-0.132**	-0.098**
CA	0.075**	0.023**	0.033**	0.03**	-0.076**	-0.021	-0.029	-0.01	-0.185**	-0.147**
CO	0.066**	0.031	-0.081**	0.033*	0.066	-0.003	#	0.007	0.014	-0.211**
DC	0.021	-0.013	#	#	#	#	#	#	#	#
FL	0.028**	0.016	0.043**	-0.014	0.006	0.018	#	0.051*	-0.141**	-0.107
IL	0.076**	0.054**	0.257**	0.068**	#	#	#	#	#	#
IN	0.061**	0.064	0.012	0.01	#	-0.053	#	#	#	-0.157**
LA	0.007	0.029	-0.079	0.008	#	0.039	#	-0.013	#	#
MA	0.068	0.099**	0.15**	0.041*	#	0.097**	#	#	#	#
MI	0.133**	0.043**	0.101**	0.043**	0.101**	0.006	#	0.026	-0.204**	0.005
MN	0.088**	0.054*	0.05	0.034	0.009	0.014	#	0.022	#	-0.124**
MO	0.042	0.093**	#	#	#	#	#	#	#	#
NC	0.034*	0.041**	-0.004	-0.003	0.055**	0.012	0.08**	0.076**	#	#
NJ	0.123**	0.018	-0.011	0.063**	#	0.037	#	#	#	#
NM	#	0.064**	#	0.028	#	0.046	#	0.061	#	#
NV	0.057**	0.022	-0.01	-0.05*	#	#	#	0.115**	#	-0.138**
NY	0.2**	-0.003	#	-0.037	#	#	#	#	#	#
NYC	0.108**	0.035**	#	#	#	#	#	#	#	#
OR	#	-0.003	0.108	-0.037	#	0.001	0.173**	-0.001	#	-0.105**
PA	0.077**	0.055**	0.061*	-0.006	#	-0.066	#	-0.023	-0.194**	-0.15**
RI	0.272*	0.12**	0.223**	0.142*	#	0.078	#	#	#	#
SC	-0.03	0.003	#	0.02	#	0.003	#	0.017	#	-0.067
TN	0.037*	0.089**	#	-0.017	#	0.13**	#	#	#	#
TX	0.061**	0.024	0.057**	-0.015	0.056**	-0.032	0.028	0.003	#	-0.083*
UT	-	0.035	0.012	-0.005	#	-0.024	#	-0.01	#	-0.07
WA	-0.072	0.012	#	#	#	#	#	#	#	#
WI	0.062	0.08**	0.189**	0.055	#	-0.051	#	0.014	-0.315**	-0.142**
Positive & Stat.Sig	16	14	10	8	7	4	4	4	1	1
Negative & Stat.Sig	1	0	3	1	3	0	1	1	15	15

Note: # indicates redacted cells due to small number of schools.

**Table. Results by Locale, By State, Math**

	Urban		Suburban		Rural		Town		Virtual	
	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS	CMO	SCS
AR	0.054	0.02	0.086	0.082	-0.083*	0.005	0.006	0.014	-0.27**	-0.253**
AZ	0.026	0.005	0.02	-0.017	-0.023	0.037	0.057	0.069*	-0.268**	-0.233**
CA	0.073**	0.018*	0.018	0.016	-0.132**	-0.028*	-0.061	-0.019	-0.217**	-0.229**
CO	0.104**	0.012	-0.028	0.01	0.059	-0.018	#	-0.038	-0.039	-0.199**
DC	0.088**	0.007	#	#	#	#	#	#	#	#
FL	-0.003	0.002	0.038**	-0.035**	0.008	-0.002	#	0.061	-0.328**	-0.261**
IL	0.114**	0.044**	0.139**	0.049	#	#	#	#	#	#
IN	0.056*	0.081	-0.057	-0.053	#	-0.126*	#	#	#	-0.358**
LA	0.043**	0.005	0.041	0.032	#	0.048	#	-0.057	#	#
MA	0.102	0.116**	0.199**	0.022	#	-0.035	#	#	#	#
MI	0.126**	0.031*	0.094**	0.014	0.08	-0.024	#	0.01	-0.299**	-0.127*
MN	0.091**	0.061**	0.006	-0.005	-0.035	-0.021	#	-0.07	#	-0.274**
MO	0.058	0.142*	#	#	#	#	#	#	#	#
NC	0.04	-0.014	-0.007	-0.047*	0.045*	-0.045*	0.018	0.067*	#	#
NJ	0.138**	0.017	0.003	0.042	#	-0.04	#	#	#	#
NM	#	0.062	#	0.017	#	0.034	#	0.017	#	#
NV	0.056**	-0.006	-0.016	-0.082*	0.085	#	#	0.113**	#	-0.139**
NY	0.241**	0.091**	#	0.104**	#	#	#	#	#	#
NYC	0.199**	0.075**	#	#	#	#	#	#	#	#
OR	#	-0.031	-0.098	-0.032	#	-0.009	0.124**	-0.011	#	-0.147**
PA	0.061**	0.023*	0.012	-0.039*	#	-0.057	#	-0.028	-0.218**	-0.183**
RI	0.31	0.082**	0.302**	0.107	#	0.068	#	#	#	#
SC	-0.134**	-0.045	#	-0.034	#	-0.053	#	-0.016	#	-0.152**
TN	0.025	0.071*	-0.115*	-0.097**	#	#	#	#	#	#
TX	0.038**	-0.022	0.009	-0.093**	0.005	-0.097	-0.008	-0.053	#	-0.395**
UT	#	0.017	0.008	-0.023	#	-0.059	#	-0.037	#	-0.122*
WA	0.018	-0.059	#	#	#	#	#	#	#	#
WI	0.107**	0.094**	-0.069	0.025	#	-0.035	#	-0.008	-0.111**	-0.173**
<b>Positive &amp; Stat.Sig</b>	14	11	5	2	4	2	1	4	0	0
<b>Negative &amp; Stat.Sig</b>	2	0	3	6	2	4	1	1	15	18

Note: # indicates redacted cells due to small number of schools.