Appendix NNN-3-3
September 26, 2011

Presentation of MMSD VA 2010

Value-Added Research Center

August 29, 2011

Results from state, MMSD models

- State model
  - Uses all of WI as data set
  - Benchmarks MMSD VA against state average
  - Controls based on statewide data
- MMSD model
  - Uses MMSD only as data set
  - Benchmarks schools against district average
  - Controls based solely on MMSD data

Main findings

- MMSD performs well relative to the state
  - VA for entire district positive on average in 2009-10, with stronger results for reading than for math
  - Variance in VA across schools in MMSD relatively small, especially in math

- Gaps by demographic group persist in MMSD
  - By race, FRL, ELL, parent education, disability
  - Gaps are overall gaps (*not* relative to state gaps)
  - Not much evidence that gaps differ across schools

Overall VA for MMSD, state model

- Math, Nov. 2009-Nov. 2010
  - VA significantly negative in 4th, 5th grade
  - VA significantly positive in 6th, 7th grade
  - Could be timing by grade of teaching tested, untested material
- Reading, Nov. 2009-Nov. 2010
  - Significantly positive in 3rd, 4th, and 6th grades
  - Substantively positive overall

VA of MMSD, relative to WI

2009-10 (WKCE pts)	Math		Reading	
	VA	S.E.	VA	S.E.
Grade 3	+0.89	(0.52)	+1.31	(0.55)
Grade 4	-2.72	(0.62)	+2.59	(0.51)
Grade 5	-3.91	(0.57)	-0.42	(0.52)
Grade 6	+3.60	(0.48)	+4.64	(0.56)
Grade 7	+3.28	(0.58)	-1.07	(0.58)

Variance in VA across schools

- Math
  - Value added of individual schools in MMSD tends to cluster toward district average
  - Variance of VA across schools sometimes substantively smaller in MMSD than rest of WI
- Reading
  - Variance of VA is usually smaller than rest of WI but not by very much

Standard deviation of VA in MMSD

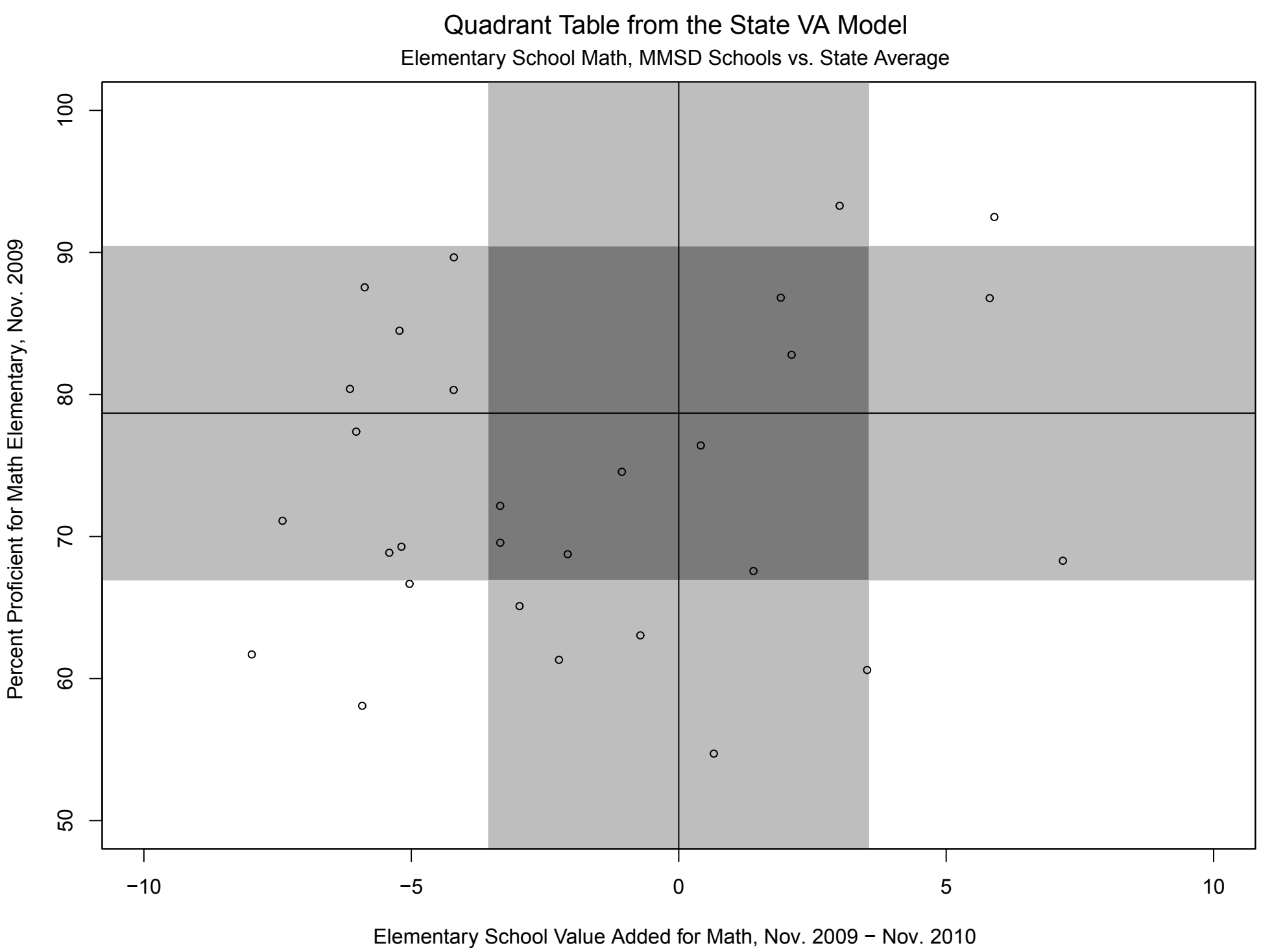
2009-10 (WKCE pts)	Math		Reading	
	MMSD	WI	MMSD	WI
Grade 3	4.75	6.86	5.68	4.93
Grade 4	8.29	8.61	4.74	4.90
Grade 5	6.74	7.61	4.70	4.93
Grade 6	2.25	4.54	3.72	4.04
Grade 7	3.73	5.60	3.38	4.13

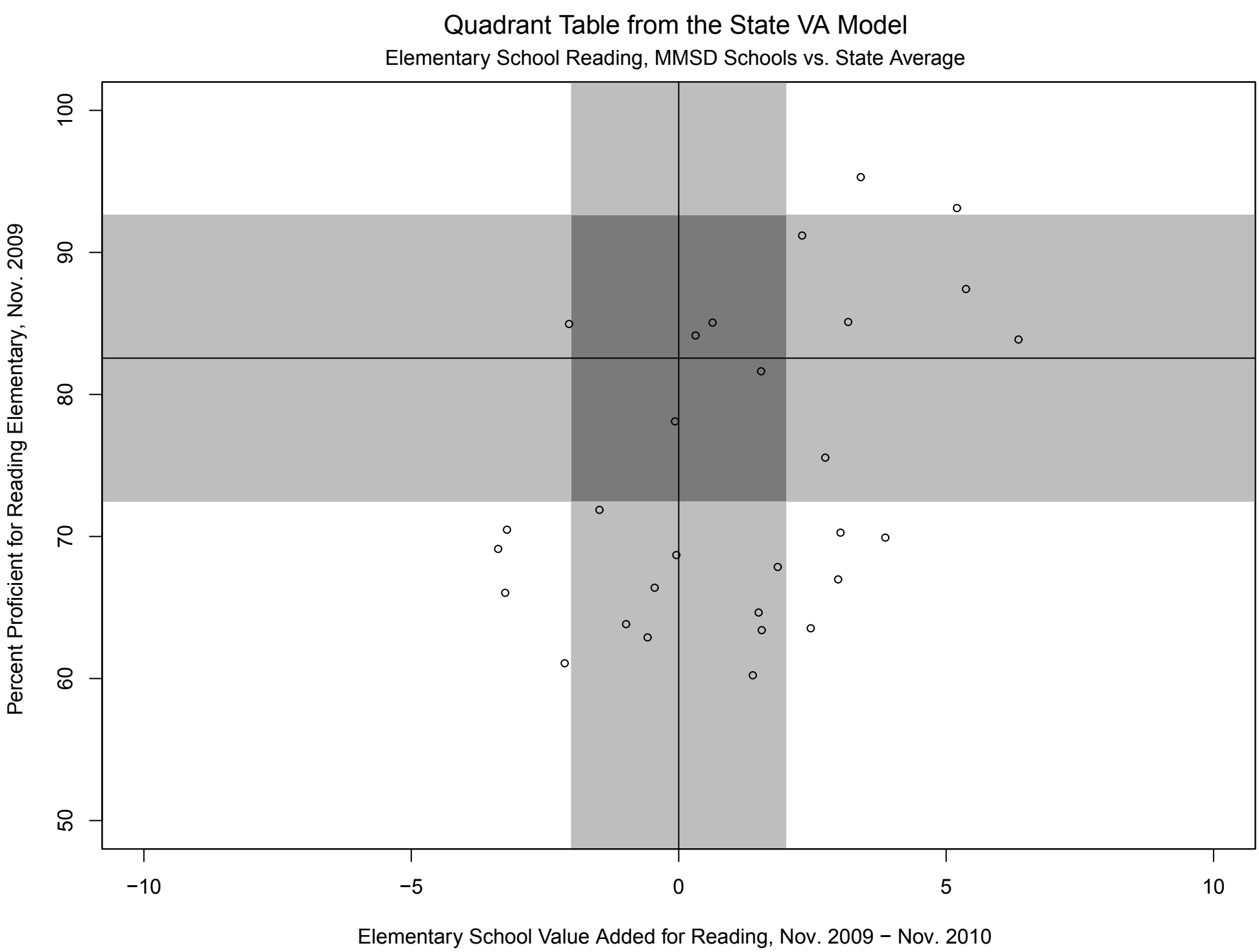
Qualifiers on variance result

- Madison schools tend to be large
  - More across-classroom variance in value added is within-school rather than across-school
- Variance in MMSD is over one district, variance in WI as a whole is over many districts
  - Extra variance in WI from across-district differences
  - Alternative: compare variance in MMSD to within-district variance only in WI

Quadrant tables from state model

- Plot 2009-10 school VA on horizontal axis vs. 2009 school proficiency rate on vertical axis
- Centered at average state VA (zero) and average state proficiency rate (approx. 80%)
- Shaded area covers one standard deviation from mean (middle 2/3) for VA or proficiency
- Illustrates that high attainment and high VA are not necessarily the same thing


Quadrant Table from the State VA Model
Elementary School Math, MMSD Schools vs. State Average
Percent Proficient for Math Elementary, Nov. 2009
100
90
80
70
60
50
−10
−5
0
5
10
Elementary School Value Added for Math, Nov. 2009 − Nov. 2010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Elementary School Reading, MMSD Schools vs. State Average
Percent Proficient for Reading Elementary, Nov. 2009
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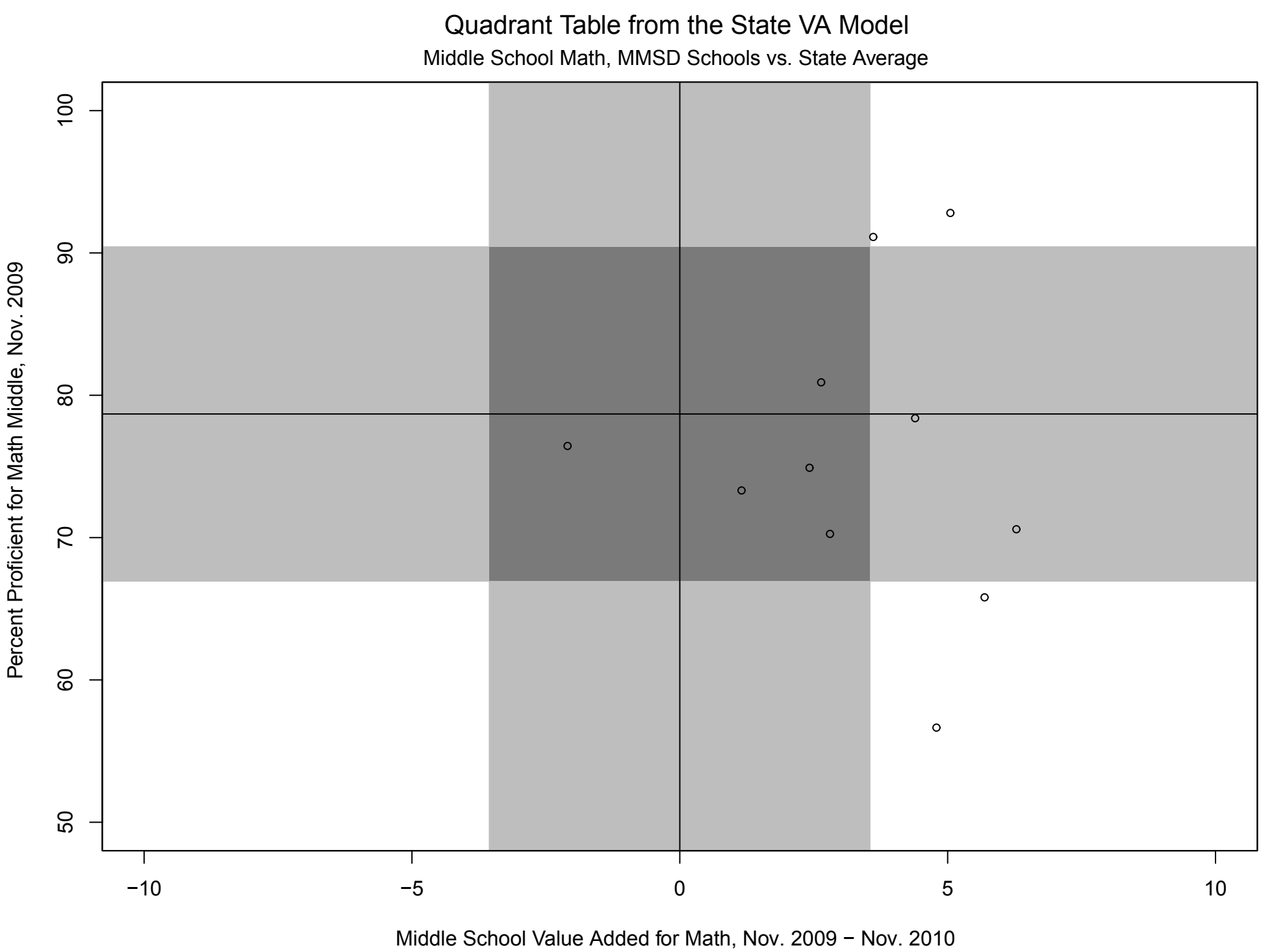
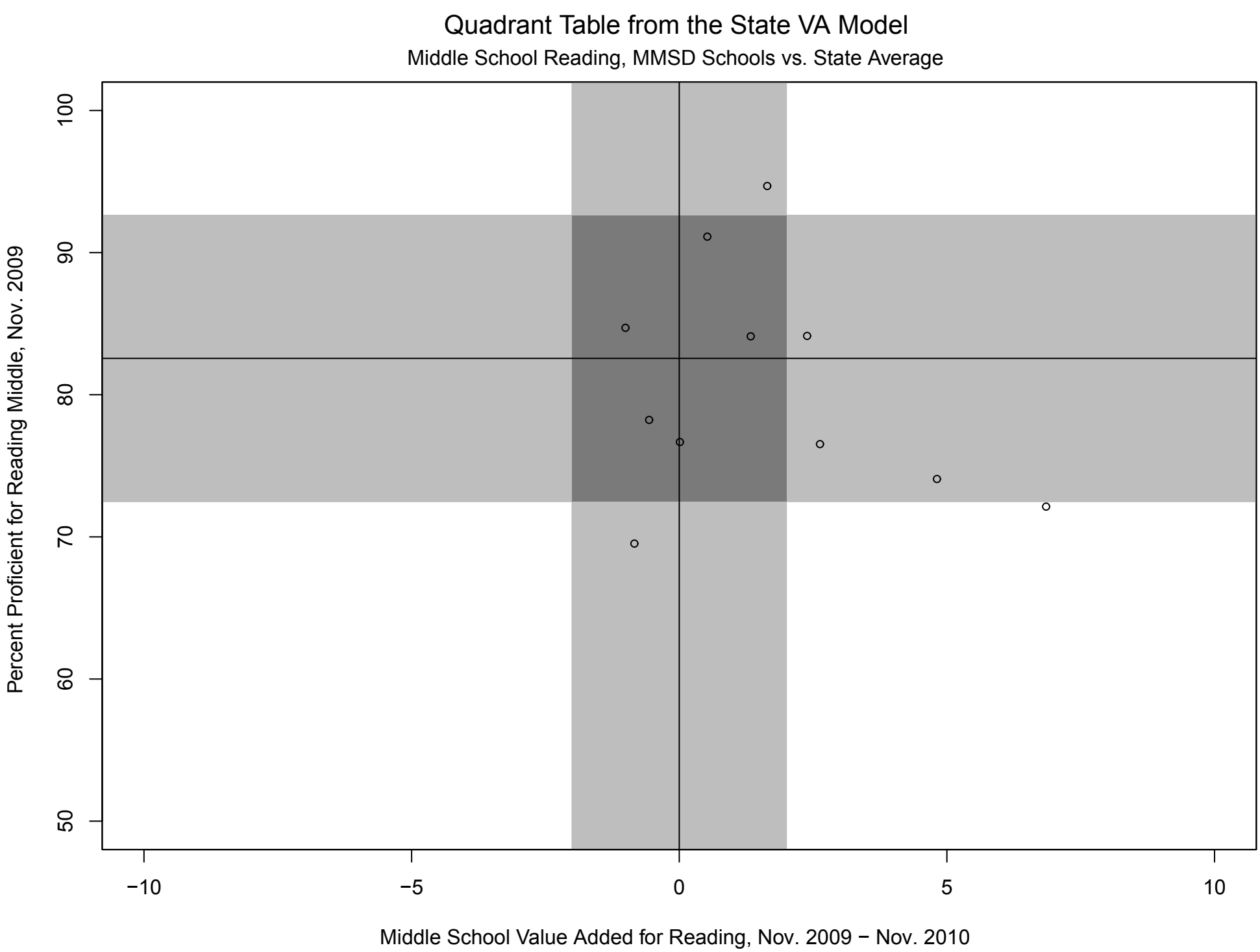
90
80
70
60
50
−10
−5
0
5
10
Elementary School Value Added for Reading, Nov. 2009 − Nov. 2010

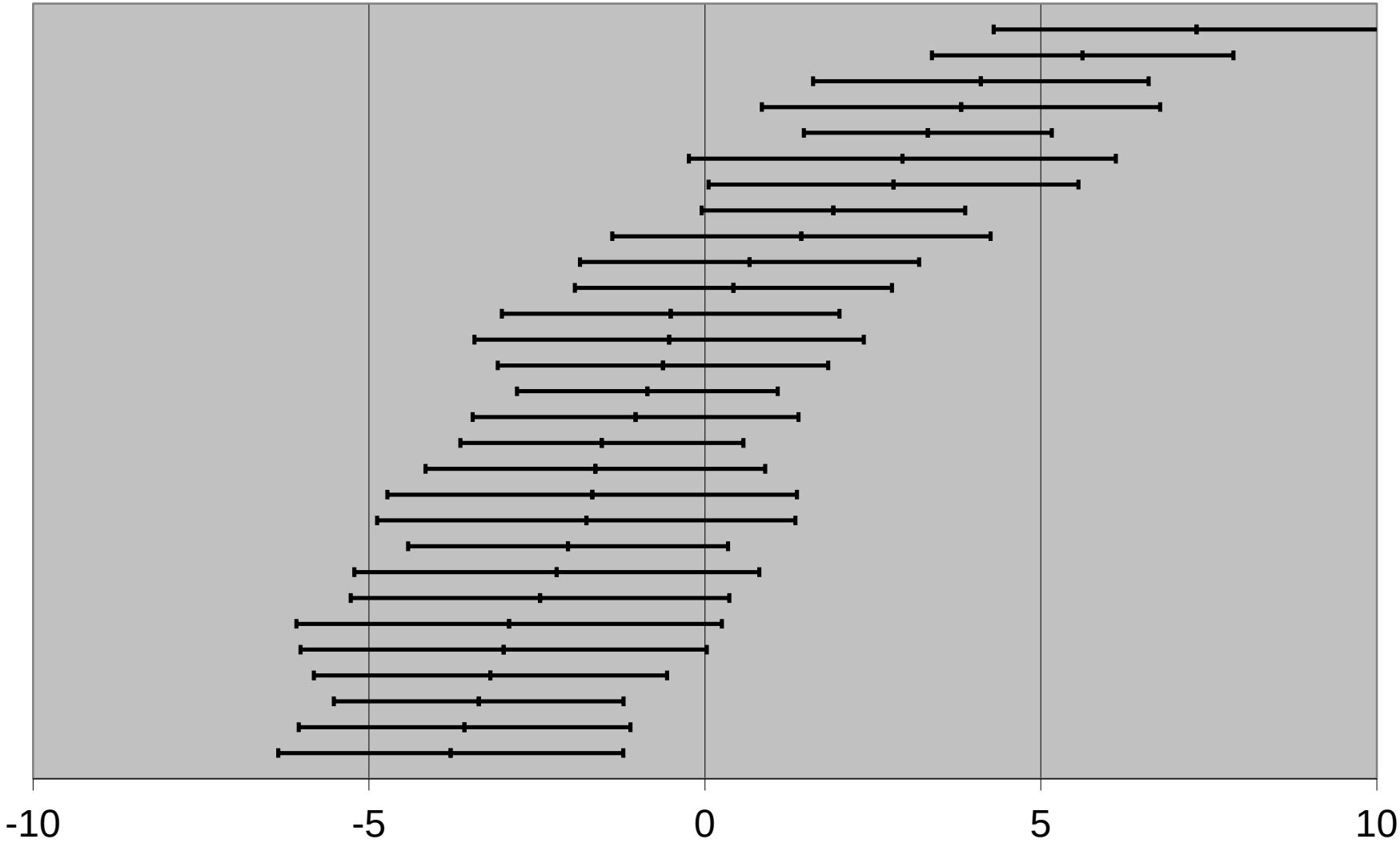

Quadrant Table from the State VA Model
Middle School Math, MMSD Schools vs. State Average
Percent Proficient for Math Middle, Nov. 2009
100
90
80
70
60
50
−10
−5
0
5
10
Middle School Value Added for Math, Nov. 2009 − Nov. 2010


Quadrant Table from the State VA Model
Middle School Reading, MMSD Schools vs. State Average
Percent Proficient for Reading Middle, Nov. 2009
100
90
80
70
60
50
−10
−5
0
5
10
Middle School Value Added for Reading, Nov. 2009 − Nov. 2010

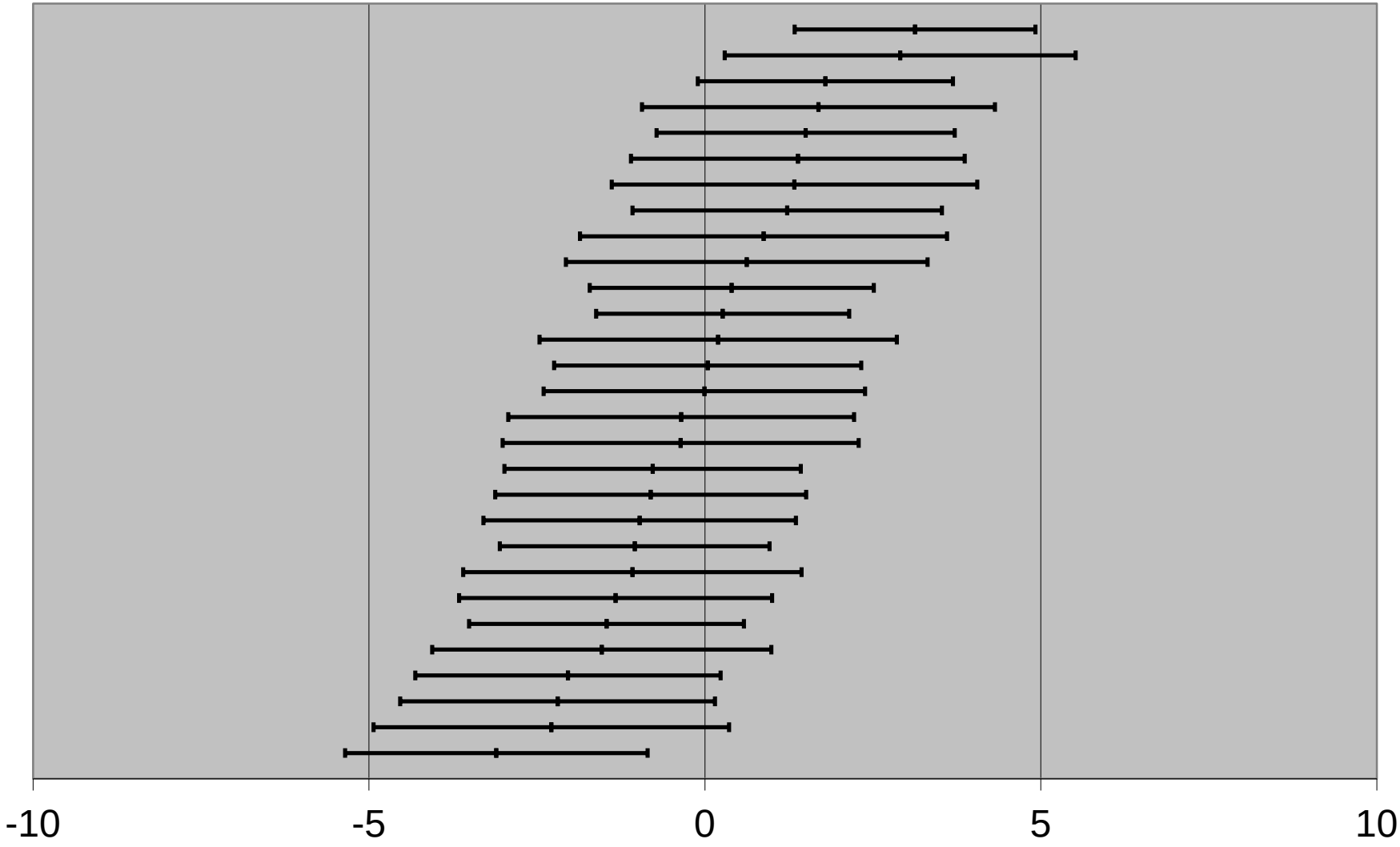
School results from MMSD model

- Familiar bar charts
  - Centered around zero within MMSD
  - Two-year average: combines 2008-09, 2009-10
  - VA presented as a 95% confidence range, with best estimate at center of each school's range
- Illustrate smaller variance of VA in MMSD
  - Most (but not all!) cases not statistically significant
  - Quite a few significant cases in elementary math

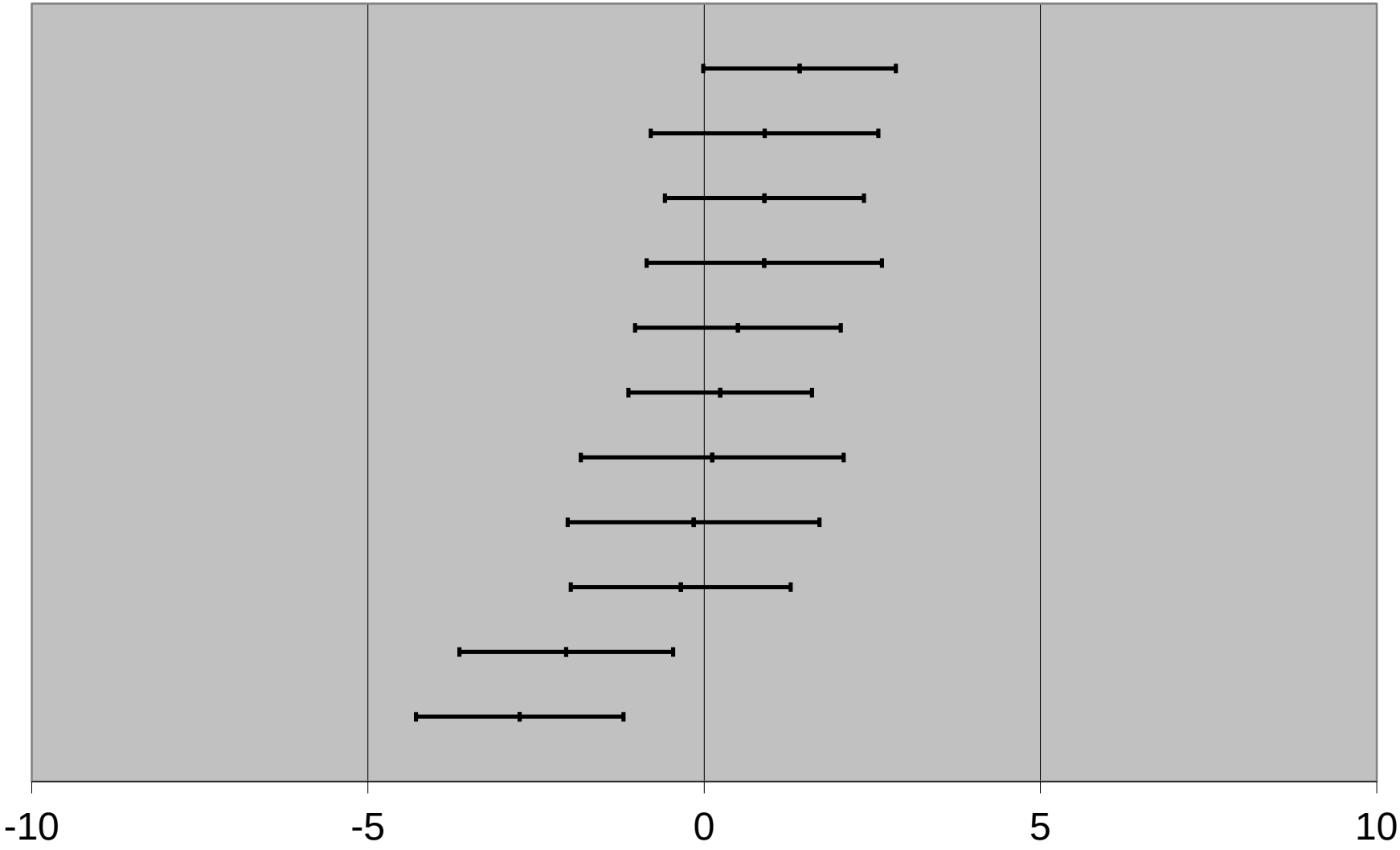
Math Value Added vs. District Average, Elementary Schools, Nov. 2008-Nov. 2010



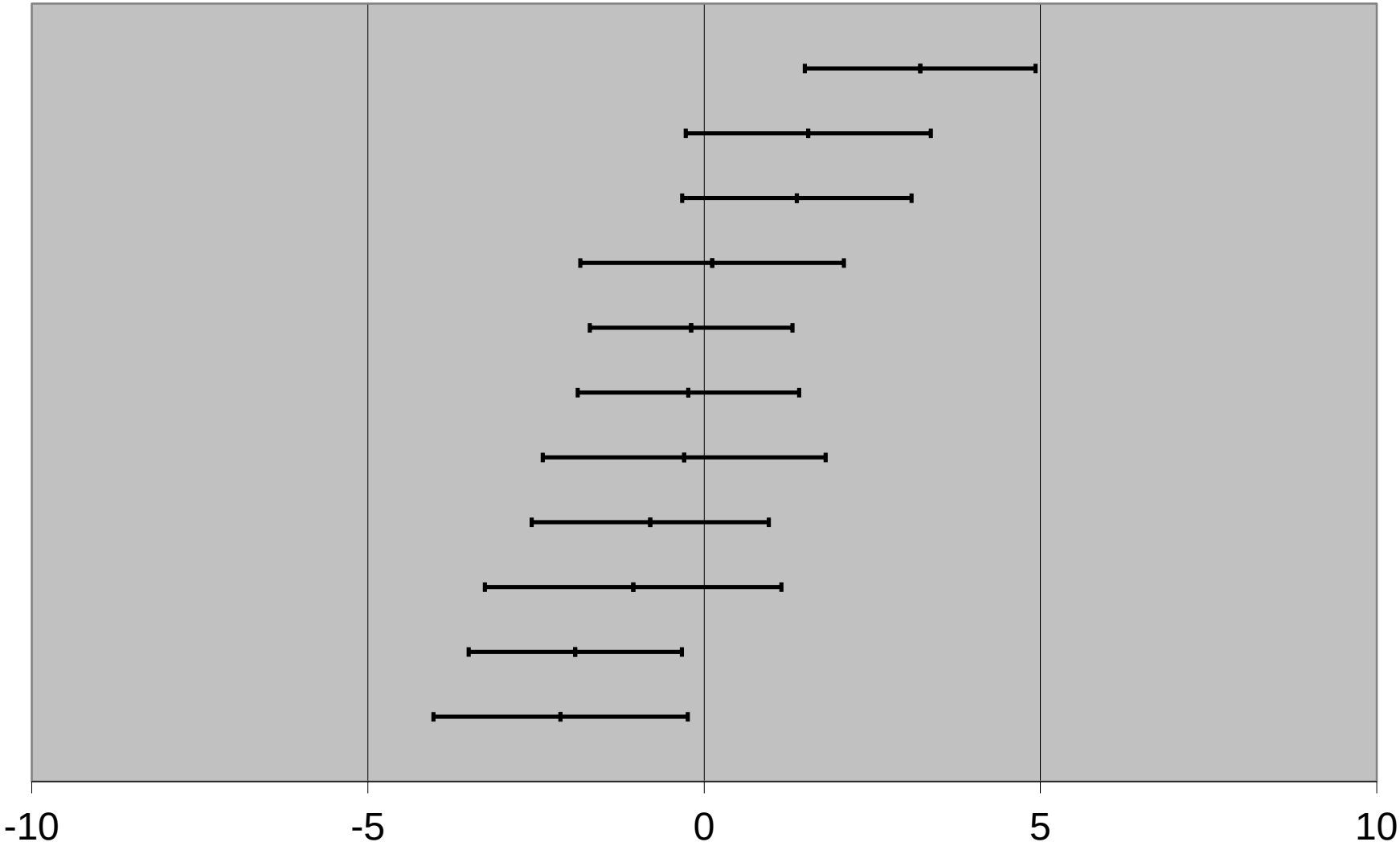
Reading Value Added vs. District Average, Elementary Schools, Nov. 2008-Nov. 2010



Math Value Added vs. District Average, Middle Schools, Nov. 2008-Nov. 2010

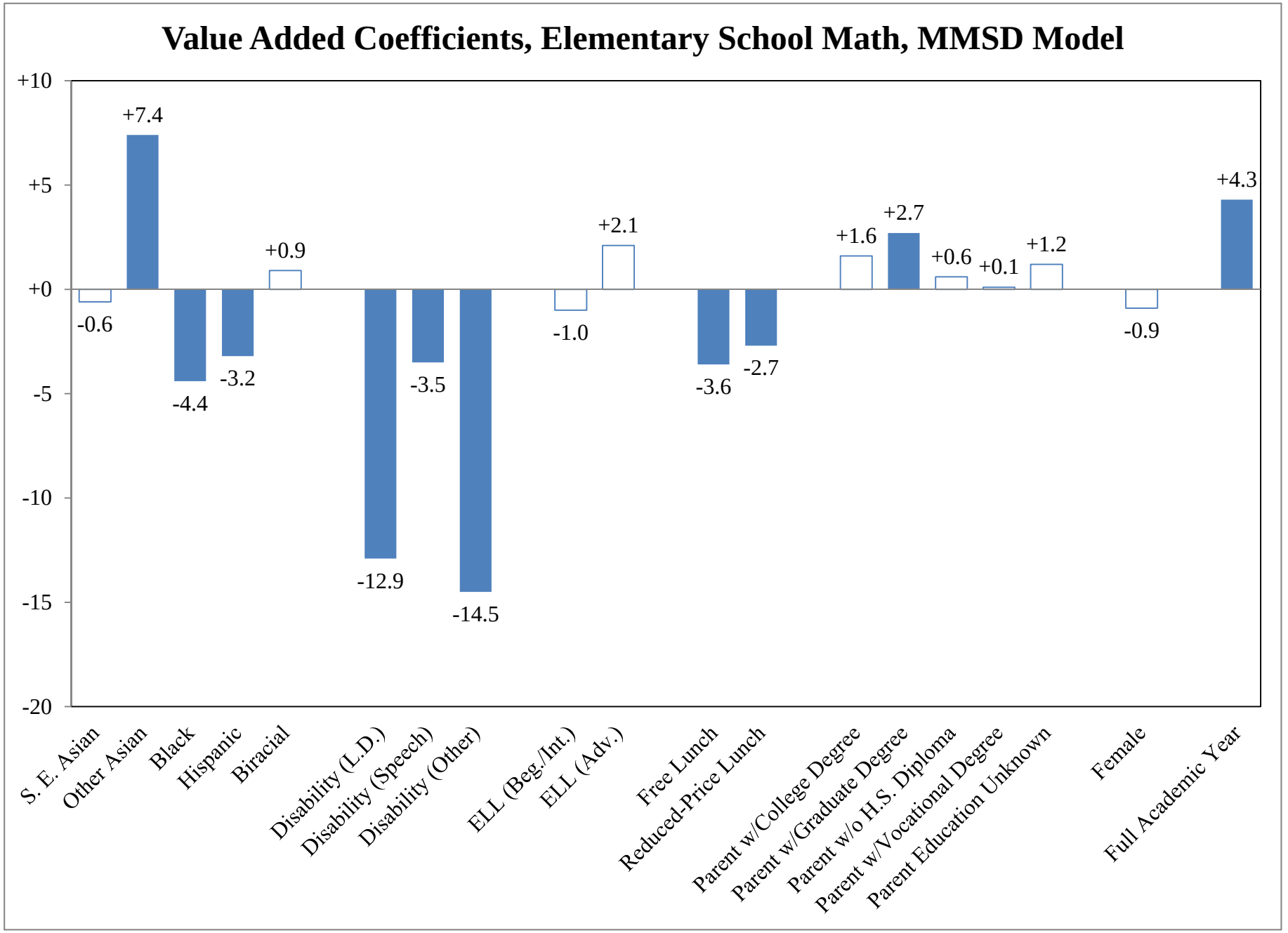


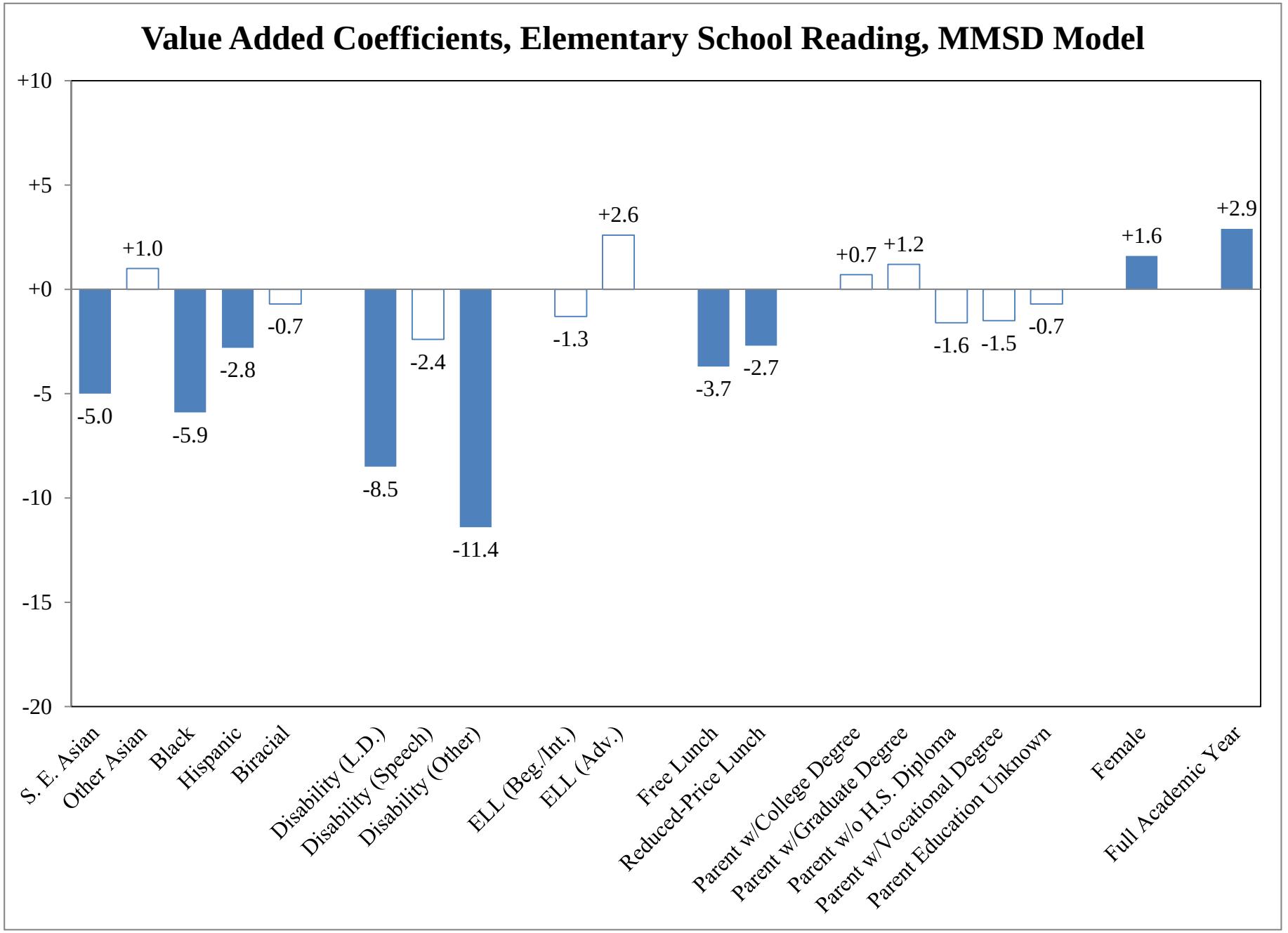
Reading Value Added vs. District Average, Elementary Schools, Nov. 2008-Nov. 2010

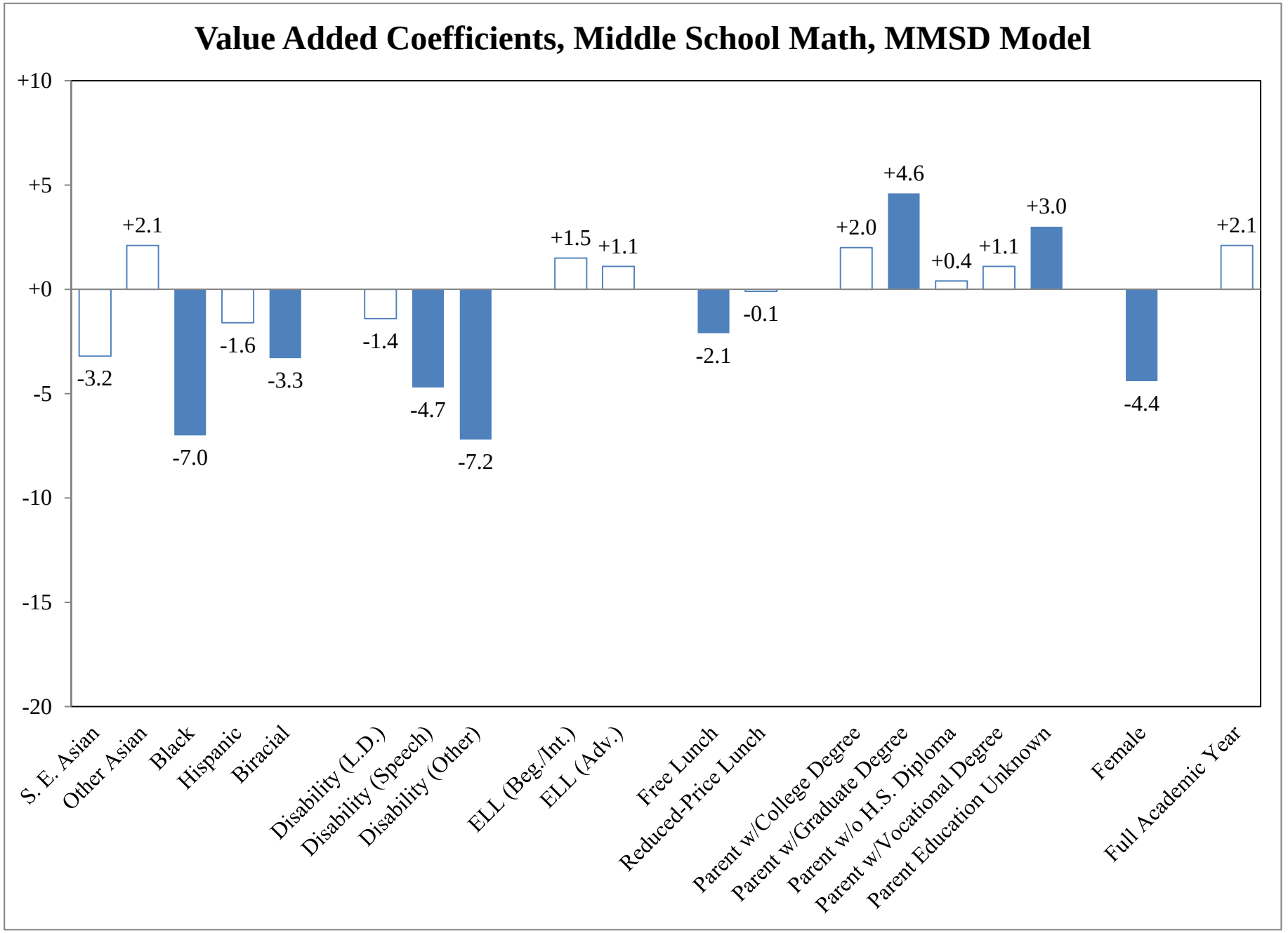


Coefficients from VA model

- District-wide gaps in student improvement
  - Control for other gaps, school assignment
  - Gaps, like VA, measured in WKCE points
  - Relative to 'omitted' group: white, non-SwD, non-ELL, non-FRL, parent w/h.s. education, non-FAY
  - Add effects of multiple characteristics for total effect
- Presented as bars
  - Solid bar means significant at 95% level
- Subgroup results by school do not find many significant differences in gaps across schools


Value Added Coefficients, Elementary School Math, MMSD Model
+10
+5
+0
-5
-10
-15
-20
-0.6
+7.4
-4.4
-3.2
+0.9
-12.9
-3.5
-14.5
-1.0
+2.1
-3.6
-2.7
+1.6
+2.7
+0.6
+0.1
+1.2
-0.9
+4.3
S. E. Asian
Other Asian
Black
Hispanic
Biracial
Disability (L.D.)
Disability (Speech)
Disability (Other)
ELL (Beg./Int.)
ELL (Adv.)
Free Lunch
Reduced-Price Lunch
Parent w/College Degree
Parent w/Graduate Degree
Parent w/o H.S. Diploma
Parent w/Vocational Degree
Parent Education Unknown
Female
Full Academic Year


Value Added Coefficients, Elementary School Reading, MMSD Model
+10
+5
+0
-5
-10
-15
-20
-5.0
+1.0
-5.9
-2.8
-0.7
-8.5
-2.4
-11.4
-1.3
+2.6
-3.7
-2.7
+0.7
+1.2
-1.6
-1.5
-0.7
+1.6
+2.9
S. E. Asian
Other Asian
Black
Hispanic
Biracial
Disability (L.D.)
Disability (Speech)
Disability (Other)
ELL (Beg./Int.)
ELL (Adv.)
Free Lunch
Reduced-Price Lunch
Parent w/College Degree
Parent w/Graduate Degree
Parent w/o H.S. Diploma
Parent w/Vocational Degree
Parent Education Unknown
Female
Full Academic Year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+10
+5
+0
-5
-10
-15
-20
-3.2
+2.1
-7.0
-1.6
-3.3
-1.4
-4.7
-7.2
+1.5
+1.1
-2.1
-0.1
+2.0
+4.6
+0.4
+1.1
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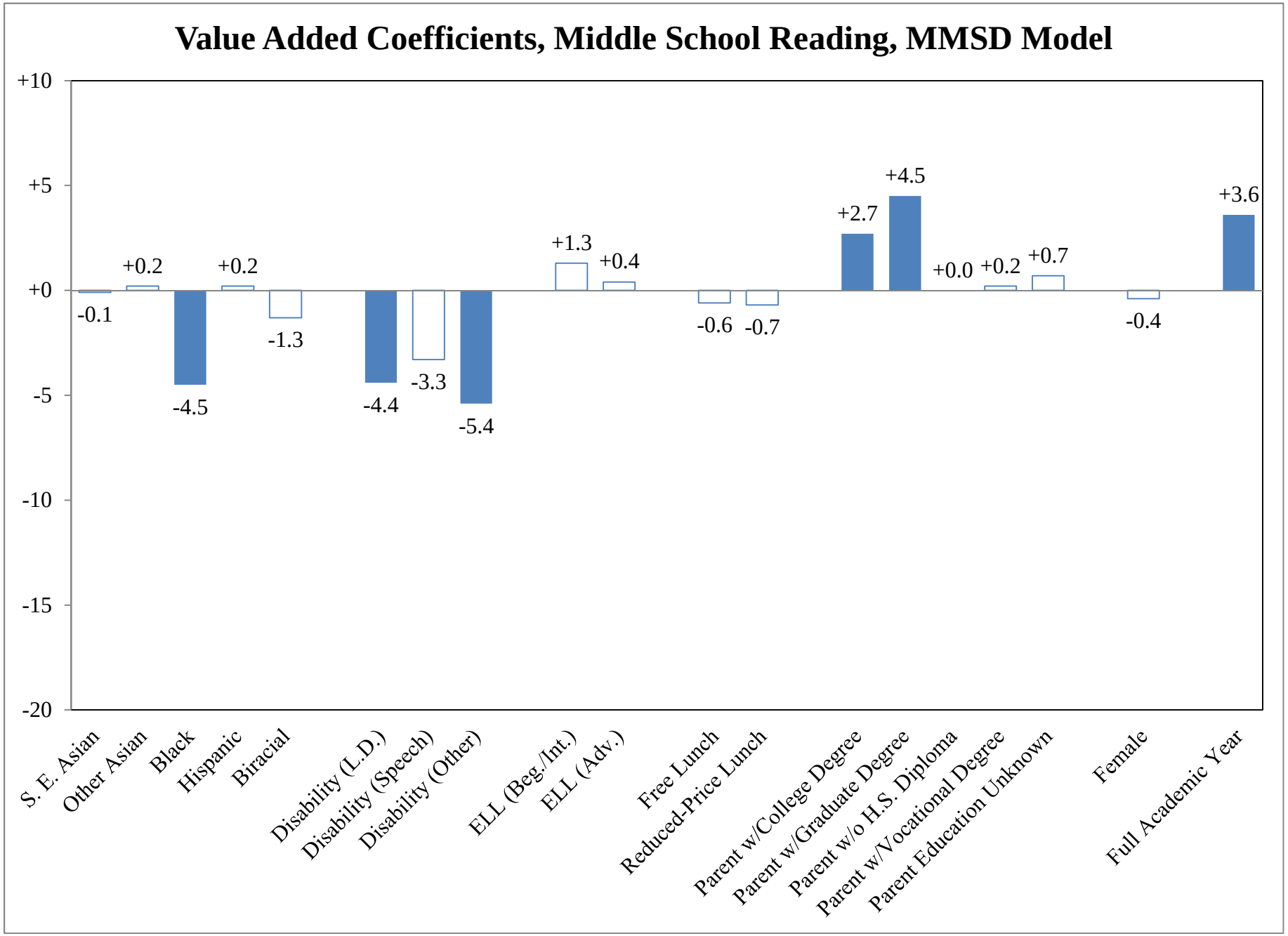
Value Added Coefficients, Middle School Reading, MMSD Model
+10
+5
+0
-5
-10
-15
-20
-0.1
+0.2
-4.5
+0.2
-1.3
-4.4
-3.3
-5.4
+1.3
+0.4
-0.6
-0.7
+2.7
+4.5
+0.0
+0.2
+0.7
-0.4
+3.6
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