MPCP Longitudinal Educational Growth Study

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Vanderbilt University

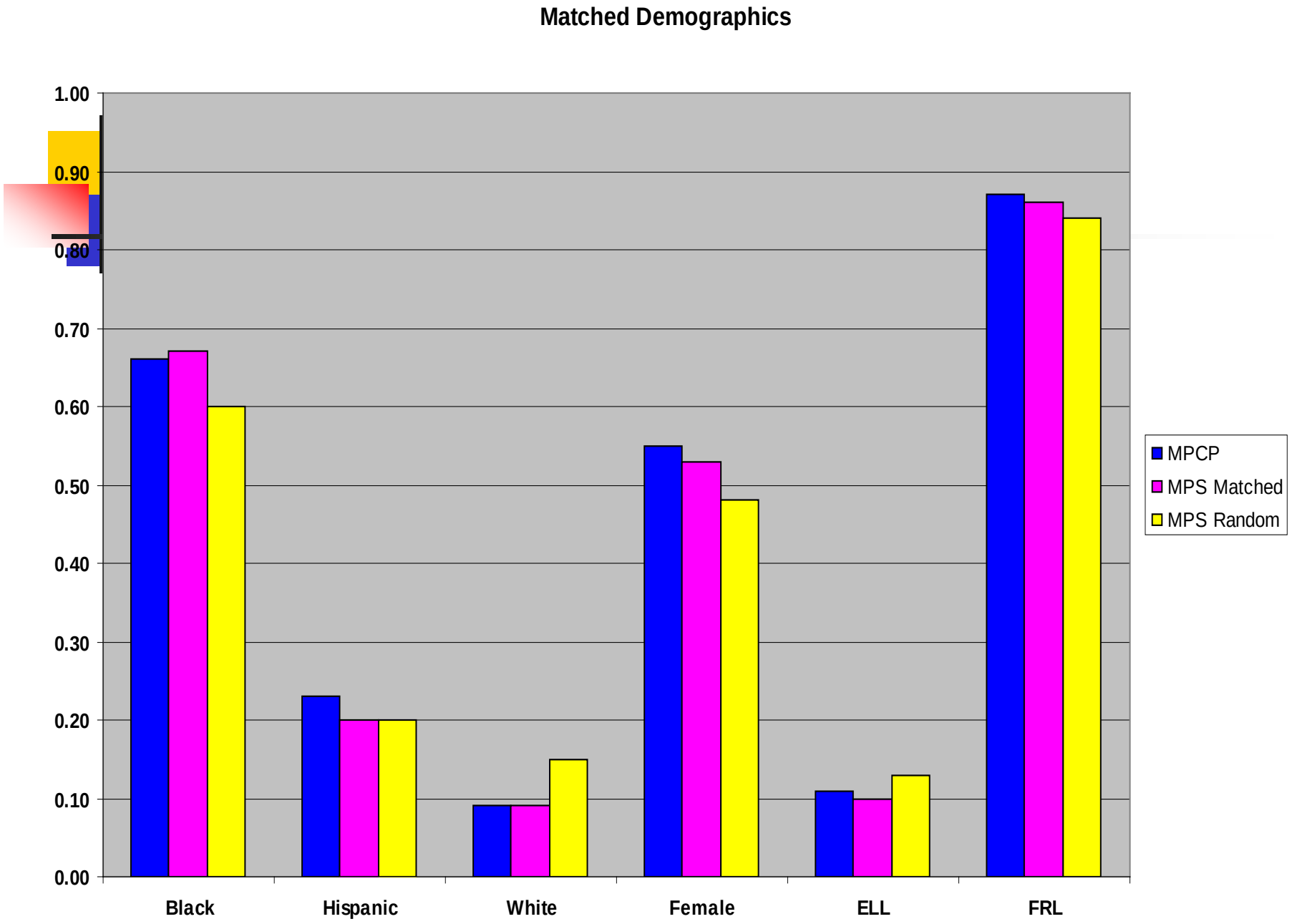
John F. Witte
Joshua M. Cowen
David J. Fleming
Patrick J. Wolf

Overview

- Sample Selection
- Survey Results
- Basic Descriptives
- Modeling Strategies and Estimates
- Current/Future Questions
- Next Steps

Sample Selection

- Random sample of MPCP students
- Matched to sample of MPS students on the basis of
  - 1: neighborhood
  - 2: test scores
  - 3: propensity scores


Matched Demographics
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Black
Hispanic
White
Female
ELL
FRL
MPCP
MPS Matched
MPS Random

Survey Results

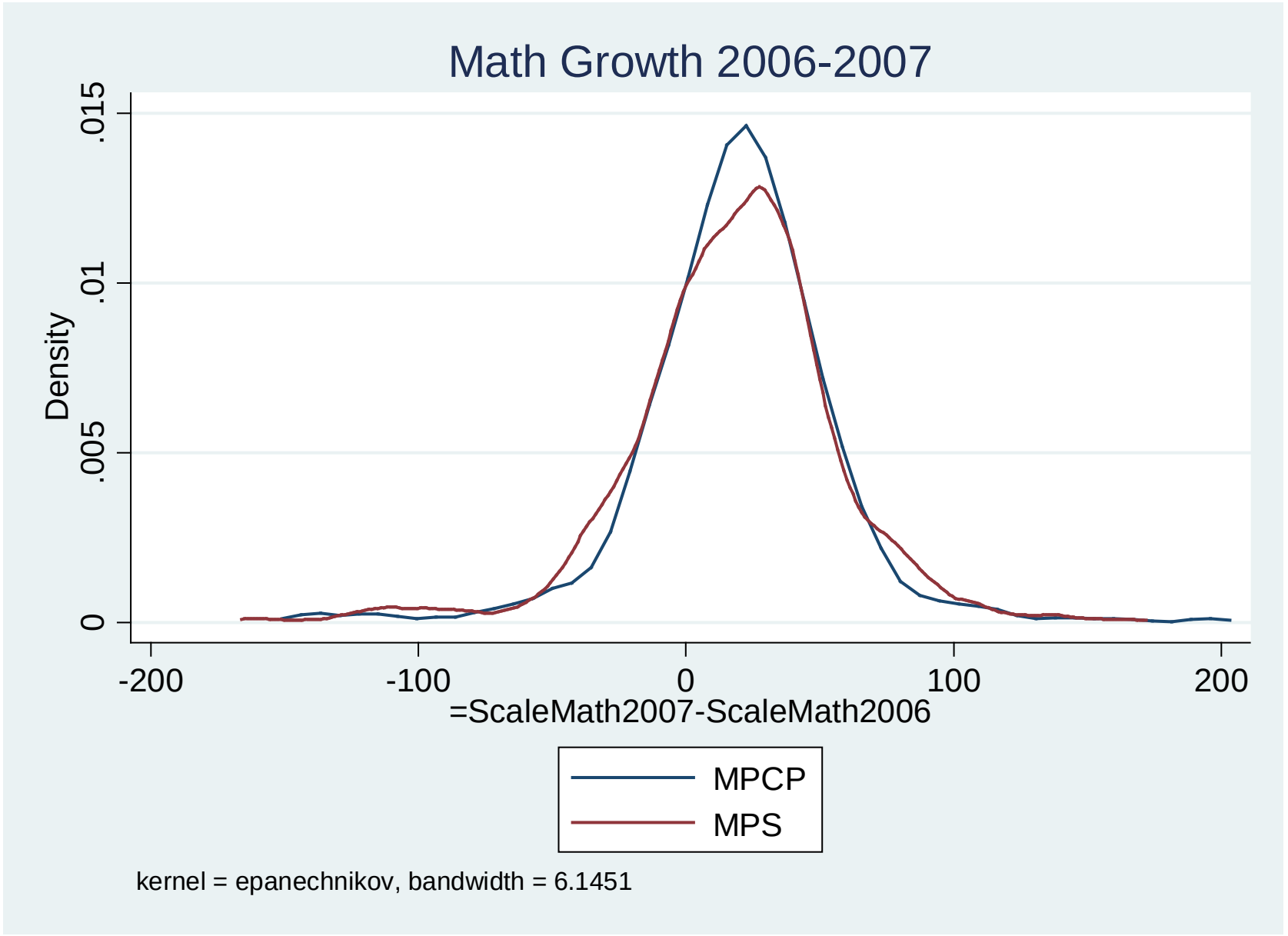
- School Satisfaction
  - Both MPCP and MPS parents are satisfied with educational experience; MPCP are generally more satisfied
- School Problems
  - School problems (racial conflict, fighting, etc.) are more prevalent in MPS
- Parental Involvement
  - MPCP parents are more active in their relationships with the school (volunteering, etc.)
  - MPS parents are more active at home (reading with child, etc.)

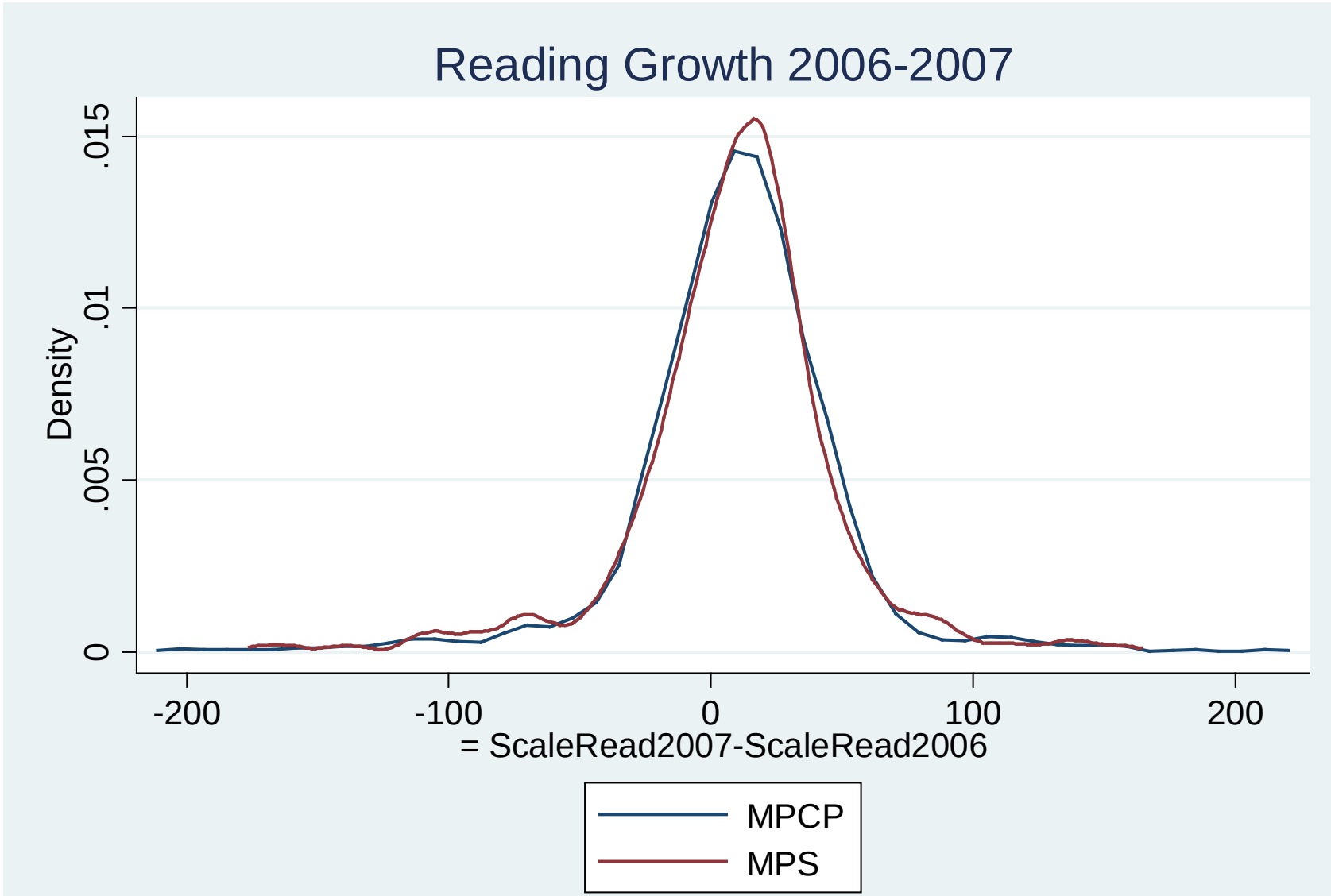
Survey Results

- Religiosity:
  - MPCP parents attend church more regularly
- SES:
  - MPCP parents are slightly better educated
  - MPS parents have slightly higher income levels

Basic Descriptives

- Baseline comparisons showed significant differences between math and reading for grades 3-5
- New comparisons show very similar growth scores (2007-2006), with a slight edge in math for MPCP.


Math Growth 2006-2007
Density
0
.005
.01
.015
-200
-100
0
100
200
=ScaleMath2007-ScaleMath2006
MPCP
MPS
kernel = epanechnikov, bandwidth = 6.1451


Reading Growth 2006-2007
Density
0
.005
.01
.015
-200
-100
0
100
200
= ScaleRead2007-ScaleRead2006
MPCP
MPS
kernel = epanechnikov, bandwidth = 5.9744

Somer's D

- We also estimated the difference between the probability that any given MPCP student gained more than an MPS student, and the probability of the reverse (Somer's D):
  - No differences in Reading, Any Grade.
  - Advantage to Private School's in Math, but Driven By 8th (and slightly 7th) Grade.

Modeling Strategies

- The basic models for first year:

  $Y_{07} = \beta_0 + \beta_1 choice + \beta_2 Y_{06} + e$

- Plus controls for grade
  - Race and gender
  - School switching

	MATH					
Model	**1**		**2**		**3**	
	Est.	**(s.e.)**	**Est.**	**(s.e.)**	**Est.**	**(s.e.)**
MPCP 2006	1.37	(1.36)	1.17	(1.36)	0.04	(1.40)
2006 Score	0.78***	(0.02)	0.75***	(0.02)	0.75***	(0.02)
Native			-3.89	(9.96)	-4.18	(9.94)
Asian			-5.51	(4.73)	-5.63	(4.72)
Black			-13.50***	(2.32)	-13.11***	(2.32)
Hispanic			-7.30***	(2.50)	-7.24***	(2.49)
Female			1.97	(1.35)	1.78	(1.35)
Switch Sch.					-7.48***	(2.34)
Intercept	120.02***	(6.19)	141.07***	(7.09)	143.44***	(7.11)
R-sq	0.62		0.63		0.63	
F	699.22***		386.66***		356.60***	
N	2,526		2,510		2,510	

	READING					
Model	**1**		**2**		**3**	
	Est.	**(s.e.)**	**Est.**	**(s.e.)**	**Est.**	**(s.e.)**
MPCP 2006	1.63	(1.47)	1.54	(1.47)	0.03	(1.52)
2006 Score	0.76***	(0.02)	0.74***	(0.02)	0.74***	(0.02)
Native			-8.95	(10.46)	-8.66	(10.43)
Asian			1.99	(5.23)	1.75	(5.22)
Black			-7.99***	(2.53)	-7.49***	(2.52)
Hispanic			-2.93	(2.74)	-2.90	(2.73)
Female			1.26	(1.49)	1.02	(1.48)
Switch Sch.					-10.22***	(2.55)
Intercept	110.76***	(6.79)	123.46***	(7.75)	127.12***	(7.78)
R-sq	0.55		0.55		0.56	
F	513.81***		280.59***		260.10***	
N	2,516		2,500		2,500	

Table 9: MPS vs. MPCP Attrition Statistics 2006-7 to 2007-8

	MPS Matched (%)	MPCP (%)
Missing Students	290 (10.6)	201 (7.4)
Average of Mean Baseline Math^	447.7	440.9
Average of Mean Baseline Reading^	449.8	449.0
Female (%)	145 (50.0)	89 (56.7)
White (%)	21* (7.2)	20 (12.8)
Black (%)	202 (69.7)	100 (64.1)
Hispanic (%)	52 (17.9)	33 (21.2)
Asian (%)	10 (3.5)	3 (1.9)
Native (%)	3 (1.0)	0 (0.0)

Question: Sector Switching

- There is considerable between-sector switching. How do we categorize baseline members after switching?
  - 17 percent of MPCP went to MPS after baseline
  - Only 3 percent of MPS went to MPCP after baseline
  - Similar rates in 2008
  - Grade Matters

Table 7: Switching, by Sector and Type of Switch, 2006-07 to 2007-08

Switching Category	MPS Matched (%)	MPCP (%)
Non-Switchers	1,510*** (62.0)	1,898 (75.1)
All Within Sector Switchers	856*** (35.1)	198 (7.8)
Structural	393*** (16.1)	108 (4.3)
Non-Structural	463*** (19.0)	90 (3.6)
Between Sector Switchers	71*** (2.9)	430 (17.0)
Total Nonmissing N	2,437	2,526

Question: Modeling Implications of Sector Switching

- How to Treat Sector Switchers over Four Years of Change Scores?
  - Initial Condition Persists?
  - Drop When Sector Switching?
  - Dosage for Treatment: E.G. Years 1 &2 in MPCP; 3,4, & 5 in MPS. Weight = .4 for Treatment.
  - Interactions for panel?

Next Steps

- New set of results will be released early next year
- Two more years of data collected (Fall 2009 and 2010)
- Tracking attainment for older panelists