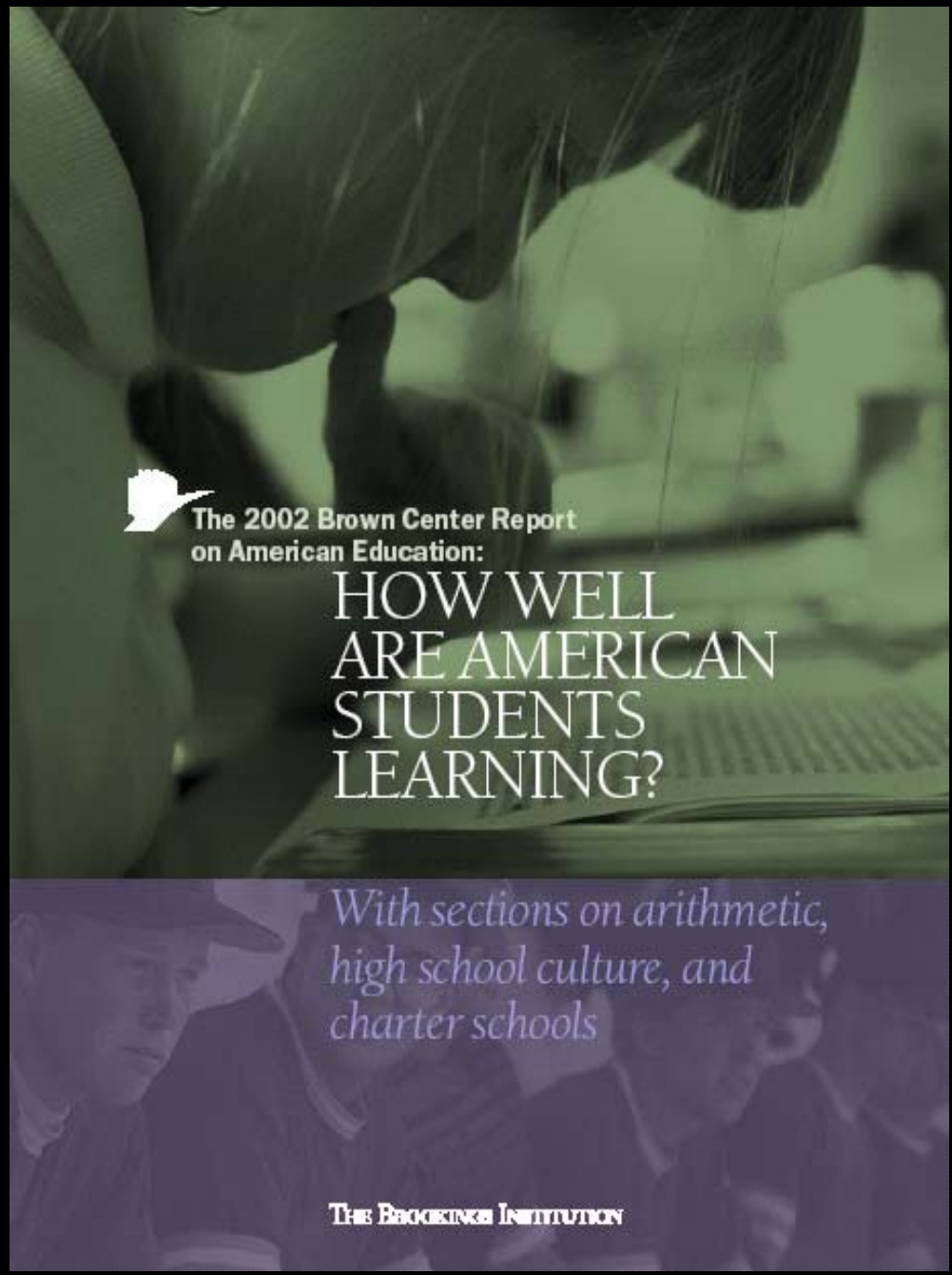
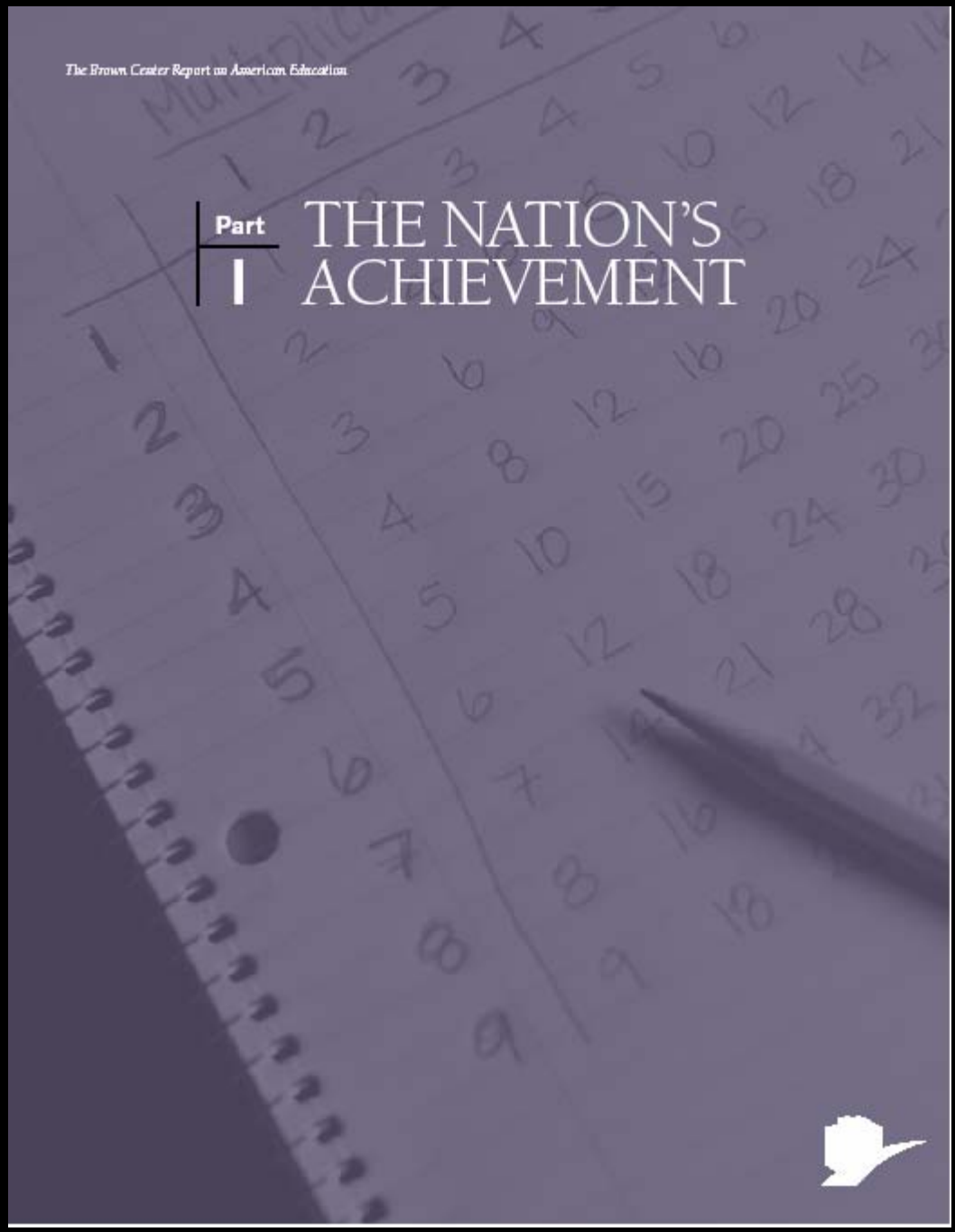

The 2002 Brown Center Report
on American Education:
HOW WELL
ARE AMERICAN
STUDENTS
LEARNING?
With sections on arithmetic,
high school culture, and
charter schools
The Brookings Institution

2002 BROWN CENTER REPORT OVERVIEW

- Achievement in Reading and Math
- Arithmetic Curriculum
- Perceptions of U.S. Students who Study Abroad
- Team Sports and Academic Achievement
- Charter Schools

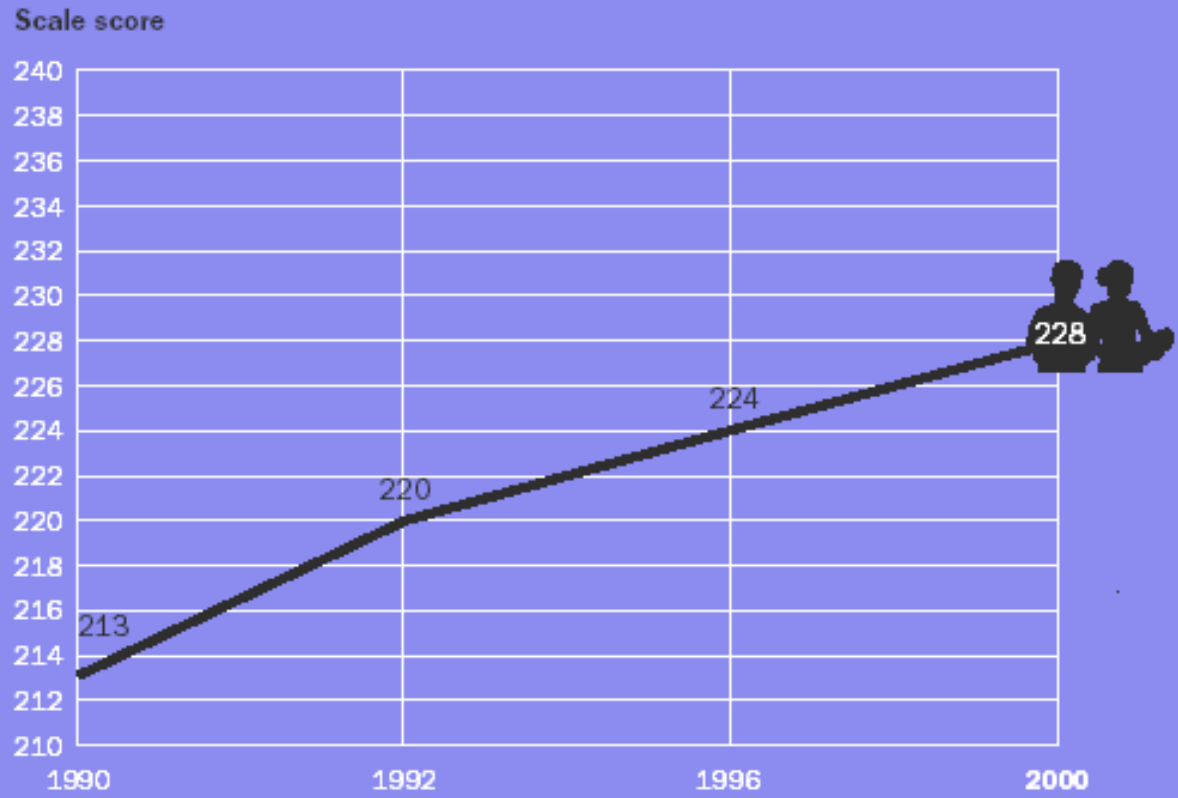
Part I THE NATION'S ACHIEVEMENT



The main NAEP shows dramatic gains in math.

Fig 3

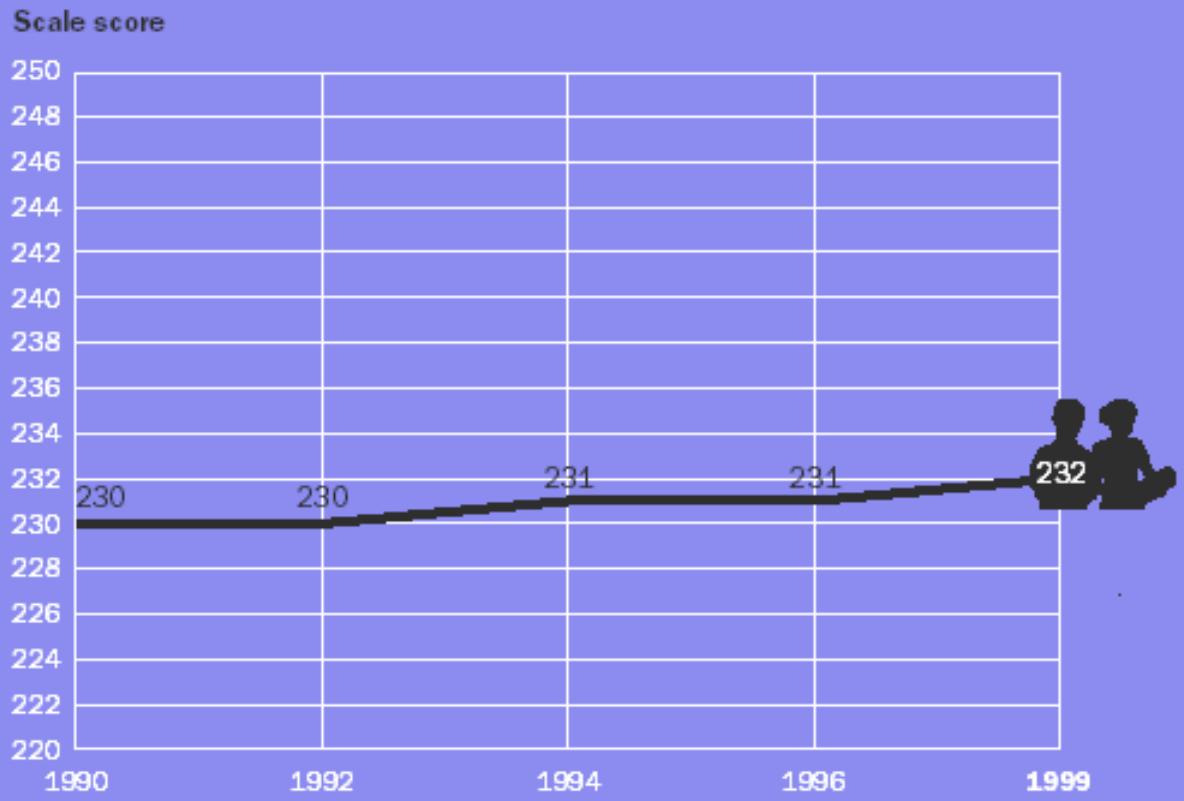
From 1990 to 2000, fourth grade math scores increased fifteen points—equivalent to about 1.2 years of learning.



The trend NAEP is essentially flat.

Fig 4

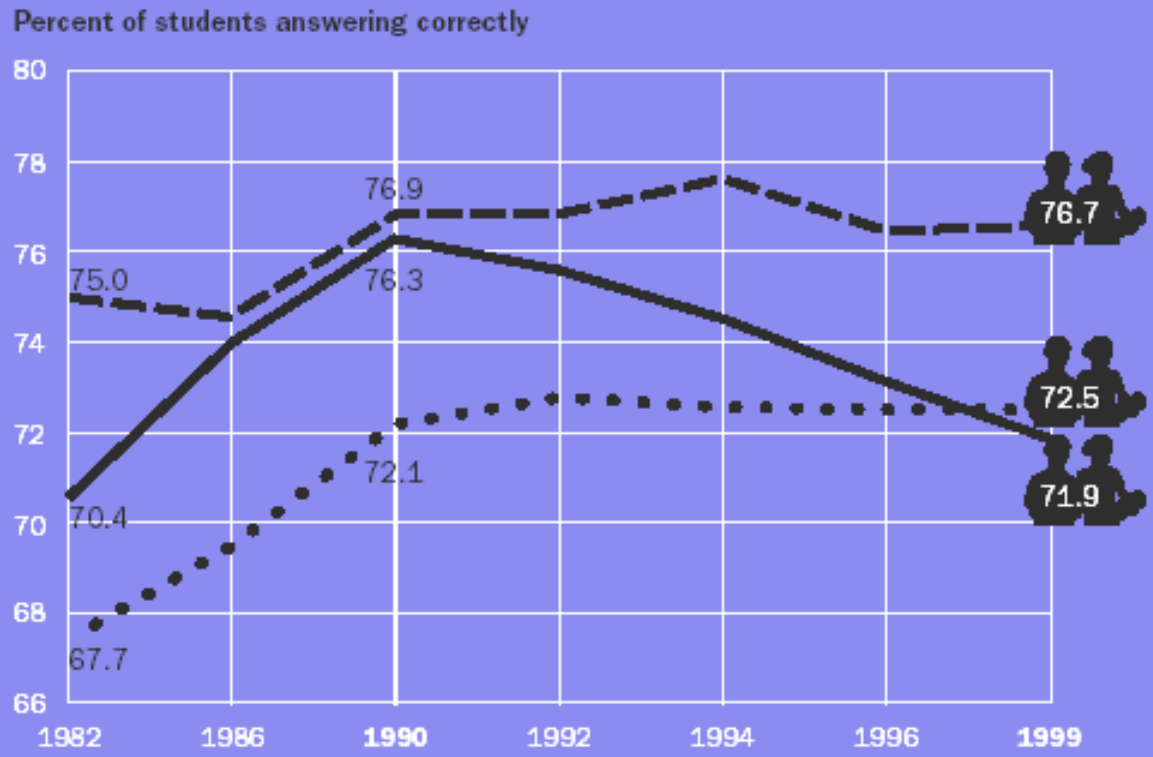
From 1990 to 1999, nine year olds gained two points—equal to about one-fifth of a year of learning.



Progress in arithmetic stopped in 1990.

Fig 5

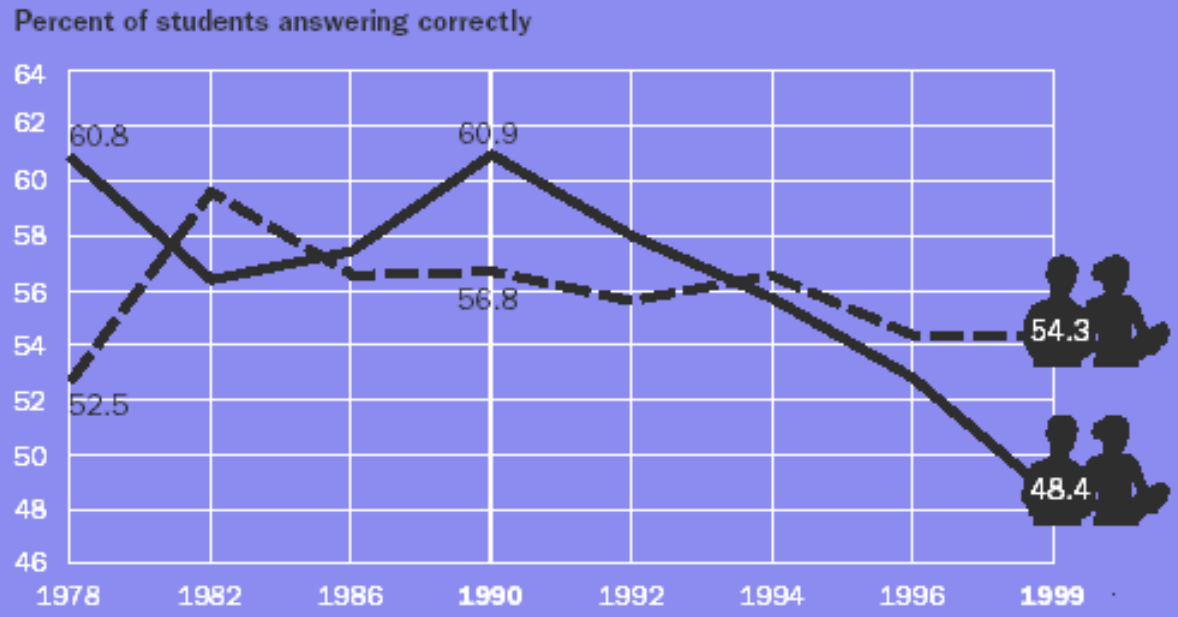
Seventeen year olds' arithmetic skills declined precipitously during the 1990s.



Proficiency in fractions fell.

Fig 6

Seventeen year olds' ability to work with fractions plummeted in the 1990s.

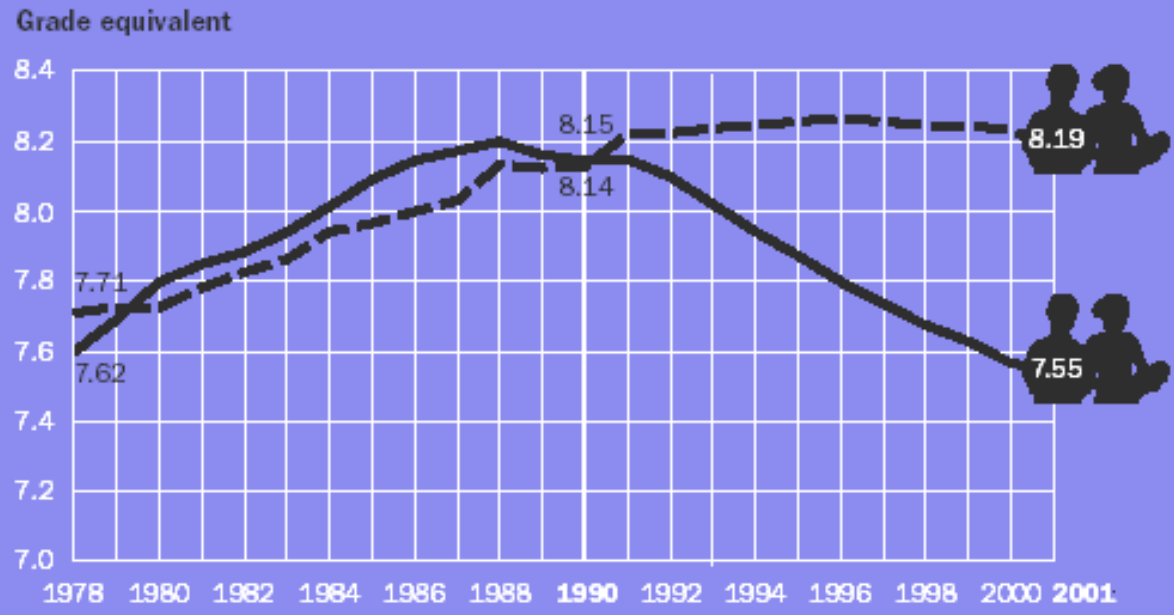


Iowa's eighth grade math scores pose a national warning.

Math scores taken from the Iowa Test for Basic Skills (ITBS). 1978-2001.

Fig 7

In 2001, computation scores hit a twenty-three year low.



Part II HIGH SCHOOL CULTURE

—Perceptions of U.S. Students Who Study Abroad

—The Impact of Team Sports

Top Ten States in Three Sports

(States ordered by percent of over-representation of "standouts")

Table 1

Football (N=442)

State	No. of Standouts	% of Standouts	% of U.S. Population	% Over
Texas	48	10.9	7.5	3.4
Florida	37	8.4	5.7	2.6
Mississippi	13	2.9	1.0	1.9
Alabama	15	3.4	1.6	1.8
South Carolina	14	3.2	1.4	1.7
Georgia	19	4.3	2.9	1.4
Louisiana	11	2.5	1.6	0.9
Virginia	14	3.2	2.5	0.6
Montana	4	0.9	0.3	0.6
Oklahoma	7	1.6	1.2	0.3

Top Ten States in Three Sports

(States ordered by percent of over-representation of "standouts")

Table 1

Basketball (N=291)

State	No. of Standouts	% of Standouts	% of U.S. Population	% Over
Illinois	19	6.5	4.5	2.1
Michigan	16	5.5	3.6	1.9
Maryland	11	3.8	1.9	1.9
Indiana	11	3.8	2.2	1.6
North Carolina	13	4.5	2.9	1.6
Tennessee	9	3.1	2.0	1.0
Oklahoma	6	2.1	1.2	0.8
Louisiana	7	2.4	1.6	0.8
Iowa	5	1.7	1.1	0.7
Washington	8	2.7	2.1	0.6

Top Ten States in Three Sports

(States ordered by percent of over-representation of "standouts")

Table 1

Baseball (N=171)

State	No. of Standouts	% of Standouts	% of U.S. Population	% Over
Florida	19	11.0	5.7	5.2
California	28	16.2	12.2	4.0
Arizona	7	4.0	1.8	2.2
New Jersey	9	5.2	3.0	2.2
Washington	6	3.5	2.1	1.3
Indiana	6	3.5	2.2	1.3
Georgia	7	4.0	2.9	1.1
Connecticut	4	2.3	1.2	1.1
Louisiana	4	2.3	1.6	0.7
West Virginia	2	1.2	0.7	0.5

"Standouts" were named in the top 25 national rankings or top 10 regional rankings in *USA Today* or had a player named to the *Parade* All-American team.

How Big Are Powerhouse High Schools?

(N=141)

Table 2

	< 1000 Students	1000–1499 Students	1500–1999 Students	> 2000 Students	Median
U.S. High Schools	60%	19%	12%	10%	791
Powerhouse High Schools	10%	19%	25%	46%	1,920
Football	10%	20%	20%	50%	2,012
Basketball	15%	23%	26%	36%	1,744
Baseball	2%	14%	26%	57%	2,134

Enrollment data from U.S. Department of Education, National Center for Education Statistics, *Common Core of Data*, "Public Elementary/Secondary School Universe Survey," 1999–2000.

"Powerhouses" were named in the top 25 national rankings of *USA Today*.

In What Regions of the Country Are Powerhouse High Schools Located?

(N=141)

Table 4

	Northeast	South	Midwest	West
U.S. High Schools	17%	21%	31%	31%
Powerhouse High Schools	11%	43%	21%	26%
Football	10%	52%	18%	20%
Basketball	11%	32%	30%	26%
Baseball	10%	45%	12%	33%

NAEP categories used to sort states into regions. Data from U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "Public Elementary/Secondary School Universe Survey," 1999-2000.

Achievement of Powerhouse High Schools

Table 6

(Means and standard errors of z-scores, N=141)

	Z-score (SE)
Powerhouse High Schools	**+0.05 (.06)**
Football	**+0.06 (.10)**
Basketball	**+0.07 (.12)**
Baseball	**+0.02 (.09)**

NOTE: Adjustments made for poverty and racial composition.

Achievement of Powerhouse High Schools by Demographic Characteristics

(Means and standard errors of z-scores, by quartile, N=141)

Table 7

	Q1 (Low)	Q2	Q3	Q4 (High)
% Poverty	+0.46* (.10)	+0.06 (.09)	−0.11 (.12)	−0.24 (.16)
% Non-white	+0.34* (.11)	+0.10 (.11)	-0.02 (.12)	−0.24 (.16)

* $\rho < .05$, two-tailed test of z-score = 0

NOTE: Data report national means of z-scores adjusted for poverty and racial composition at the state level.

Achievement of Powerhouse High Schools by Community

(Means and standard errors of z-scores, N=141)

Table 8

Urban	Suburban	Rural
−0.01 (.13)	+0.14* (.07)	−0.25 (.15)

* $\rho < .05$, two-tailed test of z-score = 0

NOTE: Data report national means of z-scores adjusted for poverty and racial composition at the state level.

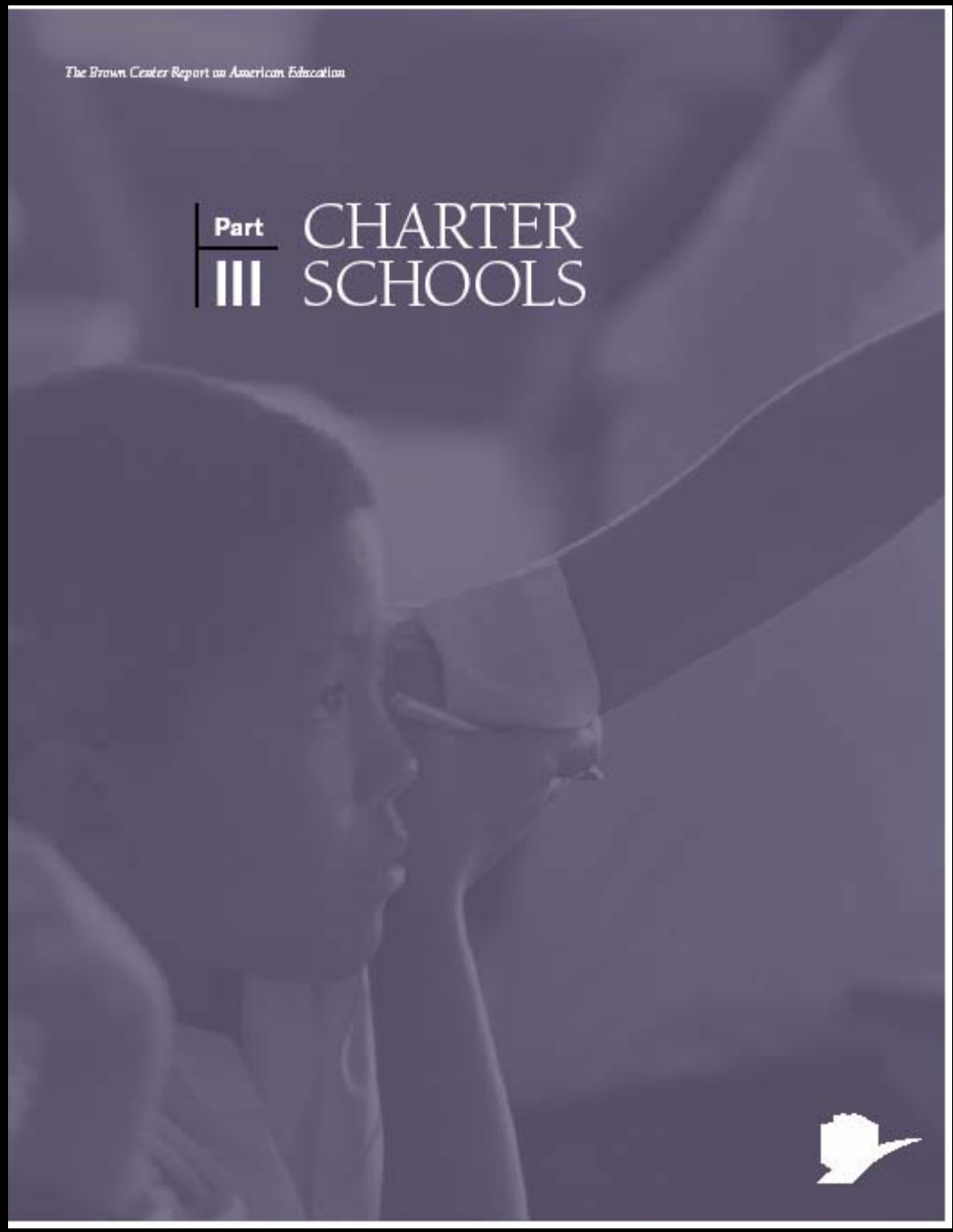
Comparing the Academic Performance of Powerhouses and Non-Powerhouses in 24 states

Table 9

Who scores better?	Urban	Suburban	Rural
Powerhouses	12 (60%)	15 (75%)	4 (44%)
Non-Powerhouses	8 (40%)	5 (25%)	5 (56%)
NA	4	4	15

NOTE: NA (not applicable) refers to states that do not have powerhouses in the category.

Part III CHARTER SCHOOLS



Charter School Achievement in Ten States

Table 11

(Means and standard errors of z-scores)

State	Z-score
Arizona (N=51)	**–0.03 (.11)**
California (N=97)	**–0.02 (.07)**
Colorado (N=31)	**+0.18 (.12)**
Florida (N=29)	**–0.37 (.22)**
Massachusetts (N=21)	**–0.53* (.16)**

Michigan (N=84)	**−0.63*** **(.08)**
Minnesota (N=16)	**−0.44*** **(.16)**
Pennsylvania (N=11)	**+0.05** **(.27)**
Texas (N=25)	**−1.09*** **(.33)**
Wisconsin (N=11)	**−0.18** **(.41)**
Average (N=376)	**−0.24*** **(.04)**

* $\rho < .05$, two-tailed test of z-score = 0

NOTE: Adjustments made for poverty and racial composition, weighted by enrollment.

Achievement of Charter Schools by Community

Table 12

(Means and standard errors of z-scores, N=376)

Urban	Suburban	Rural
–0.13 (.07)	–0.34* (.06)	–0.36* (.11)

* $\rho < .05$, two-tailed test of z-score = 0

NOTE: Adjustments made for poverty and racial composition, weighted by enrollment.

New charter schools take two years to catch up with existing charters.

Fig 13

Charters that opened in 1999 scored below existing charters until 2001.