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# The Continued Nexus between School and Residential Segregation<sup>\*</sup>

Paul M. Ong and Jordan Rickles<sup>†</sup>

## I. INTRODUCTION

One of the goals of the symposium, “Rekindling the Spirit of *Brown*,” is “to develop innovative and creative strategies for insuring equal educational opportunity for students of color in K-12 grades.” As the other articles point out, the cry to recommit to the struggle for educational equity is a response to the failure to achieve this goal over the last half century. Effective strategies must be rooted in a concrete understanding of the forces and dynamics that block progress. This article tackles one aspect of this problem: how the residential location of children reinforces school segregation. Overcoming the barriers created by this spatial pattern is, in our opinion, necessary to achieving the symposium’s goals, and the first step is to understand the nature and magnitude of the problem.

Two of the most visible and pernicious manifestations of a racially divided society are school and residential segregation. Both are the results of and contributing factors to racial inequality. Perhaps less understood is how school and residential segregation are inherently linked to each other. De jure residential and school segregation has long disappeared. In 1948, the Supreme Court ended the legal use of restrictive covenants to restrict the sales of homes in white neighborhoods to minorities in its *Shelley v. Kraemer* decision.<sup>1</sup> By 1954, the Court’s *Brown v. Board of Education* decision also ended the practice of “separate but equal” schools for African Americans.<sup>2</sup> Moreover, civil rights laws enacted in the 1960s further prohibited racial discrimination in housing and education.<sup>3</sup> Yet, despite these judicial and statutory prohibitions against discrimination, and even with considerable efforts to desegregate neighborhoods and schools, we still remain a spatially divided society. De facto segregation remains prevalent in both housing and education.<sup>4</sup>

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1. 334 U.S. 1 (1948).

2. 347 U.S. 483 (1954).

3. See, e.g., The Civil Rights Act of 1964, 42 U.S.C. § 2000c (2000) (education); The Civil Rights Act of 1968, 42 U.S.C. § 3601 (2000) (housing).

4. See, e.g., EDWARD L. GLAESER & JACOB L. VIGDOR, THE BROOKINGS INST., RACIAL SEGREGATION IN THE 2000 CENSUS: PROMISING NEWS (2001) (showing the continuation of school and housing segregation despite a general decline); GARY ORFIELD, HARVARD UNIV. CIVIL RIGHTS PROJECT,

School segregation is tethered to residential segregation because of the prevalence of neighborhood schools in the public education system. This linkage is especially strong at the lower grades. Because of relatively localized enrollment and the simple fact that most young children attend a nearby campus, a typical elementary school mirrors the demographic composition of its immediate neighborhood. Despite this connection, the nexus between school and residential segregation is not perfect because the simple one-to-one relationship is mediated by a number of factors.

Addressing school and residential segregation is critical because integration can produce positive educational and social outcomes. Previous research indicates that test scores, college attendance rates, and employment outcomes improve for students in integrated schools, although the findings are not conclusive.<sup>5</sup> A meta-analysis of thirty-one studies on school desegregation and African-American achievement found a positive effect equivalent to about two months of educational gain.<sup>6</sup> In addition, students in integrated schools are more adept at studying and working in diverse settings as students, and are more confident about working in such settings as adults.<sup>7</sup> Finally, evaluations of housing programs designed to relocate poor inner-city residents to the suburbs find positive impacts on increasing the children's access to better schools and increasing their educational performance.<sup>8</sup> Given the strong connection between integration and positive outcomes, it is critical to understand the extent of school segregation and its tie to residential segregation.

The data presented in this paper update and enhance the literature on school

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SCHOOLS MORE SEPARATE: CONSEQUENCES OF A DECADE OF RESEGREGATION (2001) (discussing continued educational segregation).

5. See, e.g., NANCY H. ST. JOHN, SCHOOL DESEGREGATION: OUTCOMES FOR CHILDREN (1975); Jomills Henry Braddock, II, *The Perpetuation of Segregation Across Levels of Education: A Behavioral Assessment of the Contact-Hypothesis*, 53 SOC. EDUC. 178 (1980); Jomills Henry Braddock, II & James M. McPartland, *Social-Psychological Processes that Perpetuate Racial Segregation: The Relationship Between School and Employment Desegregation*, 19 J. BLACK STUD. 267 (1989); Thomas D. Cook, *What Have Black Children Gained Academically from School Desegregation? A Review of the Metaanalytic Evidence*, in SCHOOL DESEGREGATION (1984); Robert L. Crain & Rita E. Mahard, *The Effect of Research Methodology on Desegregation-Achievement Studies: A Meta-Analysis*, 88 AM. J. SOC. 839 (1983); Steven G. Rivkin, *School Desegregation, Academic Attainment, and Earnings*, 35 J. HUM. RESOURCES 333 (2000); Janet Ward Schofield, *Review of Research on School Desegregation's Impact on Elementary and Secondary School Students*, in HANDBOOK OF MULTICULTURAL EDUCATION (James A. Banks & Cherry A. McGee Banks eds., 1995); Amy Stuart Wells & Robert L. Crain, *Perpetuation Theory and the Long-Term Effects of School Desegregation*, 64 REV. OF EDUC. RES. 531 (1994); ERIC A. HANUSHEK ET AL., NEW EVIDENCE ABOUT *BROWN V. BOARD OF EDUCATION*: THE COMPLEX EFFECTS OF SCHOOL RACIAL COMPOSITION ON ACHIEVEMENT (Feb. 2004), available at <http://edpro.stanford.edu/eah/down.htm>.

6. Paul M. Wortman & Fred B. Bryant, *School Desegregation and Black Achievement: An Integrative Review*, 13 SOC. METHODS & RES. 289 (1985).

7. Michal Kurlaender & John T. Yun, *Is Diversity a Compelling Educational Interest? Evidence from Metropolitan Louisville*, in DIVERSITY CHALLENGED: EVIDENCE ON THE IMPACT OF AFFIRMATIVE ACTION 111 (Gary Orfield & Michal Kurlaender eds., 2001).

8. See, e.g., LEONARD S. RUBINOWITZ & JAMES E. ROSENBAUM, CROSSING THE CLASS AND COLOR LINES: FROM PUBLIC HOUSING TO WHITE SUBURBIA (2000); John Goering, *The Impacts of New Neighborhoods on Poor Families: Evaluating the Policy Implications of the Moving to Opportunity Demonstration*, 9 FRBNY ECON. POL'Y REV. 113 (2003), available at <http://www.newyorkfed.org/research/epr/03v09n2/0306goer.pdf>; Helen Ladd & Jens Ludwig, *Federal Housing Assistance, Residential Relocation, and Educational Opportunities: Evidence from Baltimore*, 82 AM. ECON. REV. 272 (1997); David P. Varady & Carole C. Walker, *Using Housing Vouchers to Move to the Suburbs: How Do Families Fare?*, 14 HOUSING POL'Y DEBATE 347 (2003), available at [http://www.fanniemaefoundation.org/programs/hpd/pdf/hpd\\_1403\\_varady.pdf](http://www.fanniemaefoundation.org/programs/hpd/pdf/hpd_1403_varady.pdf).

and residential segregation. Although there is extensive research on racial segregation in the United States, most of this work focuses exclusively on either schools or housing. The more limited literature on the nexus between the two phenomena has examined the impact of housing patterns by census tract or attendance areas on the racial composition of schools in the 1970s<sup>9</sup> and on the contribution of housing segregation at the district level to school segregation in the 1990s.<sup>10</sup>

This paper describes the current relationship between metropolitan-level school and residential segregation for African-American, Asians/Pacific Islander, and Hispanic children.<sup>11</sup> We utilize recent data from the National Center for Education Statistics and the U.S. Census Bureau 2000 Census to examine these segregation relationships for primary grade school students. We focus on the extent of minority segregation from non-Hispanic whites because a key policy issue, and historical benchmark, is integration into the mainstream as defined by non-Hispanic whites.

Our analysis addresses two important questions regarding the relationship between school and residential segregation. First, what is the magnitude of the association between school and residential segregation across metropolitan areas? Second, how did levels of segregation change during the 1990s? Our findings indicate a strong connection between school and residential segregation, a finding which warrants greater recognition among decision makers to link school and housing desegregation efforts.

## II.

### OVERVIEW OF METROPOLITAN-LEVEL SEGREGATION

We examine the association between residential segregation and school segregation by analyzing the enormous variations across metropolitan areas.<sup>12</sup> For

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9. See Reynolds Farley, *Racial Integration in the Public Schools, 1967 to 1972: Assessing the Effect of Governmental Policies*, 8 SOC. FOCUS 3 (1975); Reynolds Farley, *Residential Segregation and Its Implications for School Integration*, in THE COURTS, SOCIAL SCIENCE, AND SCHOOL DESEGREGATION 164 (Betsy Levine & Willis D. Hawley eds., 1977); David R. James, *City Limits on Racial Equality: The Effects of City-Suburb Boundaries on Public-School Desegregation, 1968-1976*, 54 AM. SOC. REV. 963 (1989); John R. Logan & Mark Schneider, *Racial Segregation and Racial Change in American Suburbs, 1970-1980*, 89 AM. J. SOC. 874 (1984); Christine H. Rossell, *Assessing the Unintended Impacts of Public Policy: School Desegregation and Resegregation*, in REPORT TO THE NAT'L INST. OF EDUC., EDRS ED 16, 688 (1978); Franklin D. Wilson & Karl E. Taeuber, *Residential and School Segregation: Some Tests of Their Association*, in THE DEMOGRAPHY OF RACIAL AND ETHNIC GROUPS 51 (Frank D. Bean & W. Parker Frisbie eds., 1978).

10. See Sean F. Reardon & John T. Yun, *Suburban Racial Change and Suburban School Segregation, 1987-95*, 74 SOC. EDUC. 79 (2001); Sean F. Reardon et al., *The Changing Structure of School Segregation: Measurement and Evidence of Multiracial Metropolitan Area School Segregation, 1989-1995*, 37 DEMOGRAPHY 351 (2000); Steven G. Rivkin, *Residential Segregation and School Integration*, 67 SOC. EDUC. 279 (1994); CHARLES T. CLOTFELTER, PUBLIC SCHOOL SEGREGATION IN METROPOLITAN AREAS, (Nat'l Bureau of Econ. Res. Working Paper 6779, 1998), at <http://www.nber.org/papers/w6779.pdf>.

11. We selected these racial/ethnic categories to best conform with the racial/ethnic school enrollment categories available from the U.S. Department of Education and residential racial/ethnic categories available from the 2000 U.S. Census. See the appendix *infra* for a more detailed description of the data sources and racial/ethnic categories.

12. While much of the literature on school segregation uses school districts as the unit of analysis, we conduct this analysis at the Metropolitan Statistical Area (MSA) level to incorporate

both schooling and housing, the most segregated metropolitan area is several times more segregated than the least segregated metropolitan area. For example, African-American children in Detroit, Michigan face segregation levels roughly four times higher than African-American children in Missoula, Montana. At the same time, two metropolitan areas with comparable levels of residential segregation may have disparate levels of school segregation. Consequently, considerable inter-metropolitan variation in the divergence between levels of residential and school segregation exists. For example, Hispanic children in Baton Rouge, Louisiana, and Tacoma, Washington, face similar levels of residential segregation, but Hispanic children in Baton Rouge experience almost twice as much segregation in schools than in housing, while Hispanic children in Tacoma experience almost identical levels of school and residential segregation.

When we discuss segregation levels in this paper, we are using a dissimilarity index, which indicates the percentage of one racial/ethnic group that would have to relocate in order to be evenly distributed with another racial/ethnic group (in this case non-Hispanic Whites) in the metropolitan area.<sup>13</sup> The index ranges from 0 to 100, with 0 indicating perfect integration and 100 indicating complete segregation.<sup>14</sup> We calculated this dissimilarity index for African Americans, Asians/Pacific Islanders (API), and Hispanics in each metropolitan statistical area (MSA) with available data in 1990 and 2000.

Table 1 summarizes the overall level of racial segregation faced by African-American, API, and Hispanic children, and the variation in segregation levels across metropolitan areas. African-American children face higher segregation, on average, compared to API and Hispanic children. The average levels of school and residential segregation for African Americans are in the mid-60s and low-70s (based on the weighted mean), with minor changes between the two decades. Hispanics and APIs face moderately high levels of segregation on average, with scores in the 50s and 40s, respectively. While the level is lower for these two groups, the index reveals a noticeable increase in school and residential segregation from 1990 to 2000.

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residential (and school) choice dynamics that are not restricted to district boundaries. In fact, the MSA is the standard unit of analysis in the residential segregation literature and is used by a number of recent studies on school segregation. See, e.g., Charles T. Clotfelter, *Public School Segregation in Metropolitan Areas*, 75 *LAND ECON.* 487 (1999); William H. Frey & Reynolds Farley, *Latino, Asian, and Black Segregation in U.S. Metropolitan Areas: Are Multi-ethnic Metros Different?*, 33 *DEMOGRAPHY* 35 (1996); Douglas S. Massey & Nancy A. Denton, *Trends in the Residential Segregation of Blacks, Hispanics, and Asians: 1970-1980*, 52 *AM. SOC. REV.* 802 (1987); Reardon & Yun, *supra* note 10; Reardon et al., *supra* note 10.

13. Otis Dudley Duncan & Beverly Duncan, *A Methodological Analysis of Segregation Indexes*, 20 *AM. SOC. REV.* 210 (1955).

14. See appendix *infra* for a more detailed description of our methodology.

*Table 1: Summary of Racial Segregation Levels for Children across Metropolitan Areas*

	Weighted Mean	Unweighted Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<i>African Americans</i>						
School Segregation						
1990	65.8	53.6	14.8	42.3	53.5	65.0
2000	67.1	53.7	14.7	41.8	53.6	64.9
Residential Segregation						
1990	71.1	58.3	13.7	47.2	58.8	68.3
2000	71.2	58.0	13.4	48.2	57.9	68.3
<i>Asians/Pacific Islanders</i>						
School Segregation						
1990	46.3	45.1	11.2	37.1	44.5	52.1
2000	47.9	44.6	10.9	36.1	44.7	52.0
Residential Segregation						
1990	45.2	43.9	10.4	36.4	43.3	50.2
2000	50.8	46.3	9.2	38.7	46.4	52.5
<i>Hispanics</i>						
School Segregation						
1990	57.7	50.8	13.9	41.0	50.7	58.3
2000	59.3	48.7	12.6	40.3	48.3	55.8
Residential Segregation						
1990	52.8	41.0	12.4	32.2	38.4	48.4
2000	55.3	42.6	12.5	33.8	41.3	50.6

Note: Weighted mean based on the overall size of the relevant racial/ethnic group population in each metropolitan area.

The existing literature on segregation provides insights on the factors likely to influence segregation levels in schooling and housing, and in turn, the nexus between the two. From this earlier research, regional differences in school segregation, primarily stemming from variations in regional history and politics surrounding the enforcement of civil rights, are well documented.<sup>15</sup> Historically, the courts and the federal government concentrated desegregation pressure in the South. As a result, the South went from the most segregated region in the 1960s to the least segregated region in the 1980s, with some regression during the 1990s.<sup>16</sup> The Northeast and Midwest are known to have higher levels of segregation because of

15. See, e.g., Finis Welch & Audrey Light, *New Evidence on School Desegregation*, U.S. COMM'N ON CIVIL RIGHTS (1987); ORFIELD, *supra* note 4; GARY ORFIELD ET AL., HARVARD PROJECT ON SCH. DESEGREGATION, *DEEPENING SEGREGATION IN AMERICAN PUBLIC SCHOOLS* (1997) [hereinafter *DEEPENING SEGREGATION*]; GARY ORFIELD & FRANK MONFORT, HARVARD UNIV. METRO. OPPORTUNITY PROJECT, *STATUS OF SCHOOL DESEGREGATION: THE NEXT GENERATION* (1992); GARY ORFIELD & JOHN T. YUN, HARVARD UNIV. CIVIL RIGHTS PROJECT, *RESEGREGATION IN AMERICAN SCHOOLS* (1999).

16. ORFIELD, *supra* note 4; *DEEPENING SEGREGATION*, *supra* note 15.

less direct desegregation efforts and high levels of de facto segregation. In the West, where neighborhoods and cities are generally less entrenched in racial/ethnic history and demographic change is more pronounced, segregation levels have been lower than those found in the Northeast and Midwest.<sup>17</sup> Our research makes clear that these regional segregation patterns have persisted into 2000.<sup>18</sup>

*Table 2: Regional Variation in Racial Segregation Levels across Metropolitan Areas in 2000*

Breakdown (N)	African American			Asian/Pacific Islander			Hispanic		
	25th		75th	25th		75th	25th		75th
	Mean	Percentile	Percentile	Mean	Percentile	Percentile	Mean	Percentile	Percentile
Overall (296)									
School	53.7	41.8	64.9	44.6	36.1	52.0	48.7	40.3	55.8
Residential	58.0	48.2	68.3	46.3	38.7	52.5	42.6	33.8	50.6
Region									
Midwest (69)									
School	59.7	47.6	70.1	48.6	44.0	53.2	48.5	41.8	54.4
Residential	63.5	53.5	73.3	49.8	46.3	53.8	40.8	33.8	46.4
Northeast (57)									
School	62.2	55.2	71.7	44.9	39.9	51.5	59.4	51.1	70.1
Residential	65.7	58.0	76.1	46.6	43.0	52.8	53.6	41.9	65.6
South (112)									
School	50.9	41.2	59.9	45.4	36.3	53.2	45.0	38.2	51.1
Residential	56.1	48.6	65.1	46.3	38.7	52.5	38.8	31.6	45.3
West (58)									
School	43.5	36.2	49.6	38.0	31.3	44.1	45.3	36.0	54.6
Residential	47.5	39.9	53.1	41.7	35.3	49.2	41.5	31.2	52.3

In general, African-American children face less school segregation than residential segregation. This finding is consistent with the historical enforcement of school integration policies, which traditionally focused on areas with high concentrations of African Americans. Despite these targeted efforts to alleviate school segregation for African-American children, these children still confront significantly higher school segregation levels than either Hispanic or API children. The positive average difference in segregation for Hispanics suggests that these children are even more segregated by the public education system than by housing—a disconcerting thought for the future given the expected growth of the Hispanic population in the United States.

The school and residential segregation levels presented above describe the overall magnitude of racial segregation across metropolitan areas. They also suggest a close connection between the two types of segregation since the residential and

17. *Id.*

18. See tbl.2 *infra*. We defined each region with the following state-by-state definition: *Midwest*—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *Northeast*—Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *South*—Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; *West*—Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

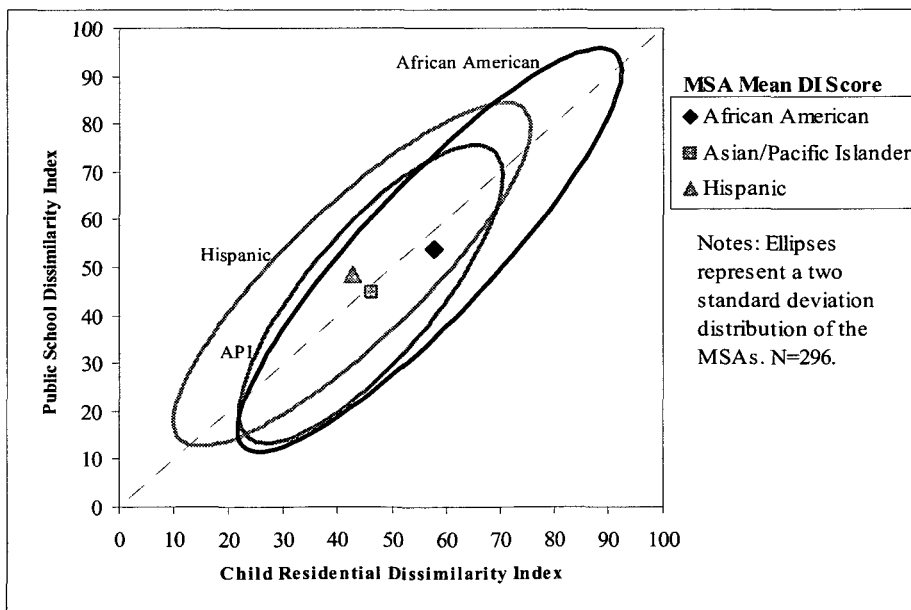
school segregation levels are very similar within most regions and for most racial/ethnic groups. In the next section, we describe the extent of the association between school and residential segregation to better understand the degree to which residential segregation relates to school segregation.

### III.

#### CONNECTION BETWEEN SCHOOL AND RESIDENTIAL SEGREGATION

School and residential segregation are highly related to one another, but the relationship is not a uniform phenomenon across metropolitan areas. Figure 1 summarizes the distribution of metropolitan-level school and residential segregation in 2000. The ellipse around each racial/ethnic group mean point depicts the two standard deviation boundary around the mean.<sup>19</sup> The forty-five-degree line represents a one-to-one relationship between residential and school segregation; the area above the line indicates greater school segregation than residential segregation while the area below the line represents lesser school segregation.

*Figure 1: Distribution of Metropolitan Segregation Levels in 2000*



For all three racial/ethnic groups, higher residential segregation translates into higher school segregation (i.e., the ellipses slope upward from left to right). There are, however, differences across racial/ethnic groups. For Hispanic children, school segregation is typically higher than residential segregation, with most of the MSAs above the 45-degree line. School segregation appears to mirror residential segregation most closely for African-American children, which have a somewhat

19. The two standard deviation range represents the distribution of approximately 95% of the observations.



“tighter” ellipse around the 45-degree line. The relationship between school and residential segregation is weakest (although still strong) for APIs.

Table 3 reports the bivariate statistical relationship between school and residential segregation in 1990 and 2000. Both the correlation coefficient and the R-squared based on a simple linear regression model are reported.<sup>20</sup> The results indicate that the relationship differs across racial/ethnic groups. The correlation is 0.79 for APIs, while the correlation is 0.89 and 0.85 for African Americans and Hispanics respectively. In 1990, however, APIs experienced the highest correlation between school and residential segregation.

*Table 3: Relationship between School and Residential Segregation*

	Corr. Coeff.	R-Squared
<i>African Americans</i>		
1990	0.79	0.62
2000	0.89	0.80
<i>Asians/Pacific Islanders</i>		
1990	0.84	0.70
2000	0.79	0.63
<i>Hispanics</i>		
1990	0.68	0.47
2000	0.85	0.73

Notes: R-Squared and Coefficient Estimate statistics based on ordinary least squares regression with school segregation as the dependent variable and residential segregation as the independent variable. N=296.

Based on the R-squared results generated by regressing residential segregation on school segregation (reported in Table 3), variation in residential segregation across MSAs explains about one-half to four-fifths of the variation in school segregation. This reinforces the notion that school and residential segregation is tethered together, but it also suggests that other factors can mediate the linkage between the two types of segregation.

Despite the strong relationship between school and residential segregation documented above, various metropolitan and educational system characteristics influence the divergence between the two types of segregation.<sup>21</sup> While not consistent across racial/ethnic groups, the relative size of the youth population and

20. The correlation coefficient indicates the strength of the association between school and residential segregation, ranging from zero to one, with zero indicating no association and one indicating a perfect association (i.e., as residential segregation increases, school segregation increases by an equal amount). The R-Squared indicates how much of the variation in school segregation can be explained by the variation in residential segregation.

21. PAUL ONG & JORDAN RICKLES, UCLA SCH. OF PUB. POLICY & SOC. RESEARCH, INTER-METROPOLITAN VARIATION IN SCHOOL AND RESIDENTIAL SEGREGATION (2003) (unpublished manuscript, on file with the authors).

the immigrant population tend to influence the relationship between school and residential segregation. The influence of population characteristics such as these on segregation could be an indication of the vested interest (both political and social) a community has in integration (for example, a community with a high percentage of children will be more interested in school segregation levels), or it could merely represent the administrative difficulties related to housing and educating different population groups (for example, immigrant children are more likely to require special English-language instruction).

A more intriguing finding is the significant impact the structure of the educational system has on segregation levels. Other studies indicate that administrative geographies play a role.<sup>22</sup> Metropolitan areas highly fragmented by numerous districts enable people to “vote with their feet” by choosing communities that offer the amenities and services they want.<sup>23</sup> This type of behavior can also have racial implications by restricting access to nearby schools on the other side of district lines. Without district lines, a school can more easily draw from neighborhoods with different racial/ethnic populations. Moreover, fragmentation in the metropolitan area’s educational system limits the effectiveness of district-specific integration policies.

In an earlier study, we showed that the concentration of school districts and average school size influences segregation levels, with everything else equal.<sup>24</sup> Metropolitan areas where the primary school students are concentrated in a few districts, as opposed to being Balkanized across many districts, are more likely to have school segregation levels below the area’s residential segregation levels (except for APIs). This finding is consistent with the notion that larger school districts are better suited to integrate schools due to the restrictions on inter-district desegregation policies stemming from the Supreme Court’s 1974 decision in *Milliken v. Bradley* that eliminated busing programs across city boundaries.<sup>25</sup> Similarly, educational systems with larger average school populations, per grade level, have school segregation levels below the area’s residential segregation levels. A likely explanation for this effect is that larger schools are more capable of enrolling students from wider geographic areas, thus generating more diverse student bodies in the aggregate while masking the residentially segregated neighborhoods.

#### IV.

#### CHANGE IN SEGREGATION LEVELS FROM 1990 TO 2000

One of the most troubling developments in the civil rights arena is the “re-segregation” of schools that Gary Orfield and his colleagues have documented in recent years.<sup>26</sup> This phenomenon marks a distinct reversal of declining school segregation found in the 1970s and 1980s. This re-segregation in schools has continued: when segregation levels in 1990 are compared to the levels in 2000, we see that, on average, children were more segregated in 2000 than in 1990.

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22. *E.g.*, Clotfelter, *supra* note 12.

23. Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416 (1956).

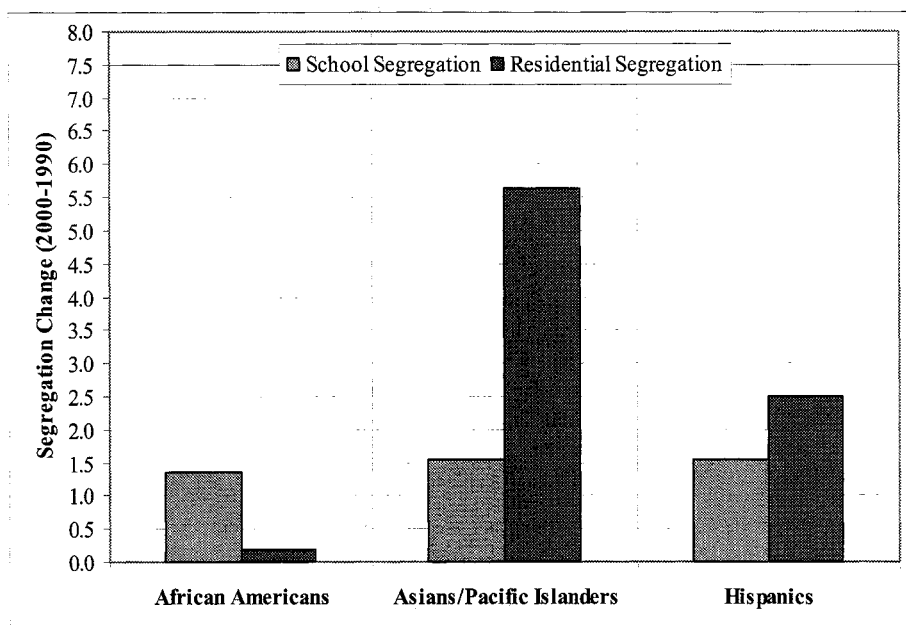
24. Ong & Rickles, *supra* note 21.

25. 418 U.S. 717 (1974).

26. ORFIELD, *supra* note 4; *see also* ORFIELD & YUN, *supra* note 15.

While the level of school segregation increased by about 1.5 points (or an additional 1.5% of children of color were segregated from non-Hispanic white children), the change in residential segregation was not uniform for African-American, API, and Hispanic children.<sup>27</sup> This is a strong indication that factors other than residential segregation influence school segregation levels. If a one-to-one relationship existed between school and residential segregation, we would expect any change in the two over time to be identical. However, we observe that school segregation increased at a greater rate than residential segregation for African-American children, while for API and Hispanic children the opposite was true: The increase in school segregation was small relative to the increase in residential segregation.

Figure 2: Change in Average (Weighted Mean) Segregation Levels from 1990 to 2000



Note: Weighted mean based on the overall size of the relevant racial/ethnic group population in each metropolitan area.

As with overall segregation levels, various regions of the United States experienced different changes in segregation during the 1990s.<sup>28</sup> For African-American children, the increase in school segregation was concentrated in the South and Midwest, while in the West school segregation actually decreased. The increase in the Midwest is particularly disconcerting because residential segregation decreased during the decade; indicating that other factors, such as changes in metropolitan and educational characteristics mentioned earlier, drove the increase in

27. See fig.2.

28. See tbl.4.

school segregation. For APIs, residential segregation increased in all four regions of the United States, but the increase in school segregation was concentrated in the Midwest and Northeast. For Hispanic children, the increase in both school and residential segregation was concentrated in the West, where almost half of all Hispanic children in the United States reside.<sup>29</sup>

Table 4: Change in Segregation Levels by Region (Weighted Mean)

Breakdown (N)	African American			Asian/Pacific Islander			Hispanic		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
Overall (296)									
School	65.8	67.1	1.4	46.3	47.9	1.5	57.7	59.3	1.5
Residential	71.1	71.2	0.2	45.2	50.8	5.6	52.8	55.3	2.5
Region									
Midwest (69)									
School	76.8	78.3	1.5	49.5	53.2	3.8	66.7	66.1	-0.6
Residential	81.5	80.3	-1.2	48.6	52.5	3.9	58.3	58.9	0.6
Northeast (57)									
School	75.4	75.5	0.1	48.1	51.3	3.2	70.2	69.0	-1.2
Residential	79.4	80.0	0.6	45.8	52.0	6.2	66.1	66.6	0.5
South (112)									
School	55.9	58.5	2.6	46.8	46.1	-0.7	53.8	53.8	0.1
Residential	63.5	63.9	0.4	44.2	47.1	2.9	46.8	47.6	0.8
West (58)									
School	60.3	57.8	-2.5	45.2	45.9	0.7	54.7	58.2	3.5
Residential	61.9	62.0	0.1	44.5	50.8	6.4	50.7	55.3	4.7

Note: Weighted mean based on the overall size of the relevant racial/ethnic group population in each metropolitan area.

The abandonment of school desegregation plans in the 1990s is one explanation for the distinct increase in school segregation relative to residential segregation for African Americans. While, arguably, not the best long-term policy option, school busing has been the most direct mechanism to sever the connection between residential and school segregation. Children can be bused from one school to another to promote integration, although the policy shift from mandated desegregation plans to voluntary plans limits the use of busing programs.<sup>30</sup> The legal and political struggles associated with school desegregation have been well documented,<sup>31</sup> and mandatory and voluntary desegregation policies have been associated with reductions in levels of segregation.<sup>32</sup> However, the Supreme Court's

29. BETSY GUZMAN, U.S. DEP'T OF COMMERCE, THE HISPANIC POPULATION: CENSUS 2000 BRIEF (2001).

30. Christine H. Rossell, *The Progeny of Brown: From the Old Freedom of Choice to the New Freedom of Choice in Four Decades*, 15 URB. GEOGRAPHY 435 (1994).

31. See, e.g., GARY ORFIELD, SUSAN E. EATON, & THE HARVARD PROJECT ON SCHOOL DESEGREGATION, DISMANTLING DESEGREGATION: THE QUIET REVERSAL OF BROWN V. BOARD OF EDUCATION (1996) [hereinafter DISMANTLING DESEGREGATION].

32. See, e.g., Gary Orfield et al., *The Growth of Segregation, in DISMANTLING*

1974 decision in *Milliken v. Bradley*<sup>33</sup> greatly restricts the ability of inter-city transfers and three court decisions in the 1990s<sup>34</sup> laid the legal groundwork for school districts to end mandated integration programs.<sup>35</sup>

The Civil Rights Project at Harvard University identified fourteen school districts that had mandatory desegregation orders lifted in the 1990s.<sup>36</sup> These districts were declared “unitary,” the legal term indicating that a district has eliminated the effects of racial discrimination and no longer requires judicial oversight. To get a sense of whether the dismissal of mandatory desegregation orders in the 1990s influenced the change in school segregation from 1990 to 2000, we compared the segregation levels in metropolitan areas where a school district was declared unitary to all other metropolitan areas. The average (weighted mean) segregation levels for these metropolitan areas are reported in Table 5.

Segregation levels for African-American children in metropolitan areas with a unitary school district are not significantly different from segregation levels in non-unitary metropolitan areas. In MSAs with a unitary district, however, school segregation increased by 2.8 points from 1990 to 2000 while residential segregation decreased by almost one point. In non-unitary MSAs, residential segregation increased slightly and school segregation only increased by 1.2 points. As a result, unitary metropolitan areas experienced a greater increase in school segregation, relative to the change in residential segregation, than non-unitary metropolitan areas.

Table 5: Change in Segregation Levels by Unitary Status (Weighted Mean)

Breakdown (N)	African American			Asian/Pacific Islander			Hispanic		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
Overall (296)									
School	65.8	67.1	1.4	46.3	47.9	1.5	57.7	59.3	1.5
Residential	71.1	71.2	0.2	45.2	50.8	5.6	52.8	55.3	2.5
MSA Unitary Status									
Declared Unitary (14)									
School	63.9	66.6	2.8	48.1	47.2	-0.9	54.6	56.8	2.1
Residential	71.5	70.7	-0.8	46.4	49.4	3.0	50.1	55.3	5.2
Not Unitary (282)									
School	66.0	67.2	1.2	46.2	47.9	1.7	58.0	59.5	1.5
Residential	71.0	71.3	0.3	45.1	50.9	5.8	53.0	55.3	2.3

Note: Weighted mean based on the overall size of the relevant racial/ethnic group population in each metropolitan area.

Court-ordered desegregation plans, which have traditionally been targeted in areas with large African-American populations, likely kept school segregation in

DESEGREGATION, *supra* note 31 at 53; ORFIELD & YUN, *supra* note 15; Wilson & Taeuber, *supra* note 9.

33. 418 U.S. 717 (1974).

34. *Missouri v. Jenkins*, 515 U.S. 1139 (1995); *Freeman v. Pitts*, 503 U.S. 467 (1992); *Bd. of Educ. v. Dowell*, 498 U.S. 237 (1991).

35. See Gary Orfield, *Turning Back to Segregation, in DISMANTLING DESEGREGATION*, *supra* note 31.

36. JACINTA MA, HARVARD UNIV. CIVIL RIGHTS PROJECT, LIST OF SCHOOL DISTRICTS PREVIOUSLY UNDER DESEGREGATION ORDERS DISMISSED BETWEEN 1990-2002 (Aug. 27, 2002) (unpublished list, on file with authors).

check. This is exemplified by the fact that school segregation is generally lower than residential segregation for African Americans—particularly in the South. As mandatory orders were dismissed in the 1990s, we observe an increase in school segregation relative to residential segregation. Without additional interventions, further removal of school desegregation plans will likely result in a continual increase in segregation.

## V. CONCLUSION

Because school segregation is strongly linked to residential segregation, promoting school integration is difficult without addressing residential segregation. This indicates a need for broad and comprehensive urban and educational policies to tackle the problem of school segregation. Furthermore, school and residential segregation patterns differ across racial/ethnic populations, so specific policies aimed at reducing segregation may improve matters for one racial/ethnic group but may prove ineffective, or counterproductive, for another group.

Traditionally, school busing has been the most direct mechanism to sever the connection between school and residential segregation. The elimination of many mandatory school desegregation plans in the 1990s suggests that advocates of racial/ethnic integration will need to advance alternative policy options to reverse the trend toward increasing segregation. Our past findings suggest that metropolitan and educational system characteristics do mediate the connection between the two types of segregation. While underlying economic and demographic factors are not easily alterable through policy channels, results regarding the way the public education system is structured offer some options.

For example, efforts to create large, unified school districts are likely to increase the effectiveness of school integration policies; whereas the movement toward smaller, localized districts is likely to hinder integration efforts. Additionally, larger schools may act as a mechanism to integrate racially segregated neighborhoods. This type of school-level fragmentation can directly be affected by district policy. In racially diverse districts, school attendance zones can be drawn to cut across racially divided neighborhoods. When creating new schools, districts can opt to build fewer, larger schools to draw a more diverse student body or to build many, smaller schools that serve very distinct and localized neighborhoods. Unfortunately, policies directed at concentrating the educational system, which may reduce segregation, directly conflict with the growing movement for decentralized, “local control” and more manageable schools. Therefore, this avenue for change is not likely to come to fruition on any significant level. Given the strong link between school and residential segregation and the policy shift away from mechanisms that seek to sever the relationship, the remaining options are limited. To confront school segregation, it is equally important to confront its underlying source—residential segregation. This is clearly not an easy task, but at least three approaches to residential integration exist. The first is to use housing assistance programs to increase opportunities for low-income families to move from the inner city to the suburbs.<sup>37</sup> The second is to promote inclusionary zoning so that suburbs provide their

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37. The Housing and Urban Development (HUD) Department is currently experimenting with

fair share of affordable housing.<sup>38</sup> Finally, we need stronger enforcement of anti-discrimination housing laws, because recent studies by The Housing Discrimination Project (sponsored by the U.S. Department of Housing and Urban Development) indicate that housing discrimination is still persistent in the rental and sales markets for African Americans, APIs, and Hispanics.<sup>39</sup>

Nearly fifty years after the historic ruling in *Brown v. Board of Education*, we continue to find ourselves searching for ways to confront school segregation. The most compelling course of action for the twenty-first century may be to revisit the broad thrust for change that initiated sweeping reforms in the 1950s and 1960s civil rights period. A part of that historic effort was to recognize that racial inequality is produced by multiple forces and institutions that are intertwined in complex and profound ways. Likewise, redressing the resegregation of schools may well require a more comprehensive approach that extends beyond the education arena. Incorporating housing policies into the school segregation debate is a step in the right direction.

#### APPENDIX: MEASURING SCHOOL AND RESIDENTIAL SEGREGATION

The key data for this analysis come from two sources: (1) the Common Core of Data (CCD) Public Elementary/Secondary School Universe Survey and Public Education Agency Survey collected by the National Center for Education Statistics for the 1989-1990 and 1999-2000 school years and (2) the 1990 and 2000 U.S. decennial census Summary Files. School enrollment information is based on reported enrollment from regular, public primary grade schools as defined by the U.S. Department of Education.<sup>40</sup> Primary grade schools were selected because we believe they best represent "local neighborhood schools," whereas secondary grade schools draw students from broader and less defined geographies. Residential patterns are based on the primary school-aged (five to ten years old) population by census tracts within the metropolitan areas.

We have reclassified the racial/ethnic data from the CCD and the Census to make them as comparable as possible. Since the racial/ethnic definitions in the

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the use of Section 8 rental housing vouchers to do this as a part of its "Moving to Opportunity" program. See Mark Shroder, *Moving to Opportunity: An Experiment in Social and Geographic Mobility*, 5 CITYSCAPE: J. POL'Y DEV. & RES. 57 (2001), available at <http://www.huduser.org/Periodicals/CITYSCAPE/VOL5NUM2/shroder.pdf> (describing program). However, the demonstration program is small and limited to only a few sites: in Baltimore, Boston, Chicago, Los Angeles, and New York City. *Id.*

38. Inclusionary zoning includes requirements for low- and moderate-income housing as a part of local land-use and development regulations. See Deborah Collins & Michael Rawson, *Avoiding Constitutional Challenges to Inclusionary Zoning*, 3 NHC AFFORDABLE HOUSING POL'Y REV. 32 (2004).

39. MARGERY AUSTIN TURNER ET AL., THE URBAN INST., DISCRIMINATION IN METROPOLITAN HOUSING MARKETS: NATIONAL RESULTS FROM PHASE 1 HDS 2000 (2002); MARGERY AUSTIN TURNER ET AL., THE URBAN INST., EXECUTIVE SUMMARY: DISCRIMINATION IN METROPOLITAN HOUSING MARKETS: PHASE 2—ASIANS AND PACIFIC ISLANDERS (2003).

40. The U.S. Department of Education defines primary grade schools as those schools where the lowest instructional grade is pre-kindergarten to third grade and the highest instructional grade is pre-kindergarten to eighth grade. See LEE MCGRAW HOFFMAN, U.S. DEP'T OF EDUC., OVERVIEW OF PUBLIC ELEMENTARY AND SECONDARY SCHOOLS AND DISTRICTS: SCHOOL YEAR 2001-02 (2003), available at <http://nces.ed.gov/pubs2003/2003411.pdf>.

Census 2000 data are more detailed than the CCD definitions and the 1990 census definitions, we collapse the census definitions to best match the CCD definitions.<sup>41</sup> Consequently, we created five mutually exclusive racial/ethnic categories from the data. For the Census 2000 data, the categories are defined by the following; (1) The Asian/Pacific Islander category includes single-race Asians and Native Hawaiians and Other Pacific Islanders, not of Hispanic origin. Multi-race individuals who indicated any combination of Asian, Native Hawaiian, or Other Pacific Islander and White, not of Hispanic origin are classified as Asian/Pacific Islanders. (2) The African-American category includes people who identified themselves as black/African American, or black/African American and White, and not of Hispanic origin. (3) The Hispanic category includes all individuals who indicated they are of Hispanic origin. (4) The white category includes single-race whites, not of Hispanic origin. (5) All other racial/ethnic groups (including American Indians/Alaskan Natives and various multi-racial combinations) are included in an “other” category.

The unit of analysis is the Metropolitan Statistical Area (MSA) as defined by the Census 2000 data.<sup>42</sup> There are 331 MSAs in the United States (excluding Puerto Rico), but only 296 existed in 1990 and had complete enrollment data from the CCD. To ensure that the CCD and the Census 2000 MSA definitions are compatible we used two techniques to determine which MSA, if any, a school is located in. For MSAs that directly correspond to county boundaries, we simply assigned schools and districts to the proper MSA based on their county location. For MSAs that do not correspond to county boundaries—specifically MSAs in the New England area—we assigned schools based on their postal zip code. If the school’s location address zip code is missing from the CCD, we either used the mailing address zip code or the school district location address zip code. Since zip codes are not necessarily confined to MSA boundaries, there is some margin of error in our aggregation of school- and district-level information to the MSA-level. For African Americans, APIs, and Hispanics we compare two different measures of racial/ethnic segregation: school segregation and child residential segregation. We use the index of dissimilarity (D) to measure school and residential segregation. School segregation is based on the public primary grade school population reported in the CCD. Child residential segregation is based on the five to ten year-old population reported in the census Summary Files. For each of the three racial/ethnic groups, the segregation indices are in relation to non-Hispanic whites. The index of dissimilarity is calculated using the following equation:

$$D = \frac{1}{2} \sum_{i=1}^n \left[ \frac{N_{1i}}{N_1} - \frac{N_{2i}}{N_2} \right] \times 100$$

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41. The CCD race definitions are: (1) American Indian/Alaskan Native, (2) Asian/Pacific Islander, (3) black, not Hispanic, (4) Hispanic, and (5) white, not Hispanic.

42. We use the term MSA throughout this paper to include both Metropolitan Statistical Areas (MSAs) and Primary Metropolitan Statistical Areas (PMSAs).



Where  $N_{1i}$  is the population/enrollment of a racial/ethnic group in  $i$ th tract/school,  $N_{2i}$  is the population/enrollment of non-Hispanic whites in  $i$ th tract/school,  $N_1$  is the total child population (or school enrollment) of the racial/ethnic group in the MSA, and  $N_2$  is the total child population (or school enrollment) of non-Hispanic whites in the MSA. Segregation between any two racial/ethnic groups can be measured using  $D$ ; in this paper non-Hispanic whites are always used as the common comparison group.