The End of *Keyes*—Resegregation Trends and Achievement in Denver Public Schools

By

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Introduction[1]

On June 21, 1973, the Supreme Court delivered an opinion that dramatically shaped the future of both the Denver public schools and the country's legal consideration of school desegregation. In its decision, *Keyes v. Denver School District No. I(413 U.S. 189 (1973*)), the Court found that 1) Hispanic and Black[2] students should not be considered as desegregating each other because the inequities they suffered from were similar, 2) proof of *de jure* segregation in a substantial portion of the school district is enough to assume that the entire district was similarly affected, and 3) the burden of proof should be on the school board to show that other portions of the city were not affected by similar policies (instead of the plaintiffs attempting to prove intentional segregation in each section of the district). In essence, *Keyes* afforded Hispanics in the Southwest the same kinds of rights to desegregation remedies as Black students had previously gained through other court decisions. For Denver, these decisions meant a directive to desegregate the District's schools. For the country, it meant that desegregation was now mandated in the North and that it extended to whole districts, not just single schools (Orfield & Eaton, 1996). More than two decades later, the courts revisited *Keyes,* this time to a different end. In 1995, Judge Richard P. Matsch, who had presided over court supervision of Denver's desegregation plan, declared that "the vestiges of past discrimination by the defendants have been eliminated to the extent practicable" ("Court oversight," 1995), and, with his decree, ended mandated desegregation in the Denver Public Schools.

The legal and demographic shifts that have taken place in the Denver Public School District (DPS) over the last decade provides an opportunity to study the implications of key changes to desegregation policy on academic achievement as measured by test scores. In order to most clearly understand the relationship of the end of court ordered desegregation on academic achievement trends, researchers would ideally have individual-level longitudinal data on a variety of contributing factors, including, for example, the number of years a student had been in a desegregated school, the kinds of educational opportunities provided across schools (both before and after the end of court mandated desegregation), and the socio-economic status within the school by race, to name a few. Unfortunately, such data were not available for this study, but historic school-level data do enable us to look descriptively at the relationship of the end of *Keyes* to aggregate test scores under certain, limited conditions.

As a growing number of districts across the country face similar legal and demographic changes, the implications of Denver's experiences have become increasingly salient. This paper describes the academic achievement trends of students in Denver's elementary schools from 1994 to 2000. It begins with a brief introduction to the original 1973 *Keyes* decision and the path to its conclusion in 1995. It then presents a chronology of the

[1] We are grateful to the Piton Foundation for funding this work. We thank Chungmei Lee and Erika Felts for their assistance with parts of this Report. We also thank Gary Orfield and Alan Gottlieb for their helpful feedback, and Dan Jorgensen and Norman Alerta from the Denver Public Schools for their assistance in helping us obtain the data. Conclusions and mistakes are our own.

[2] Throughout this paper, the terms, "Hispanic" and "Latino" are used interchangeably as are the terms, "Black" and "African American."

standardized measures of academic achievement used by DPS and provides a descriptive longitudinal analysis of school-level Iowa Test of Basic Skills math performance (one of the standardized measures used by the district) for elementary schools[3] in the district. The paper concludes with policy implications of the findings.

Research on School Desegregation

The earliest studies of school desegregation recorded various changes in achievement outcomes for African American students who moved from segregated to desegregated settings with White students. From this work we know that Black students who attend more integrated schools have increased academic achievement, as most frequently measured by test scores (Crain, 1971; Crain & Mahard, 1983; Schofield, 1995, 2001). The magnitude, persistence, and conditions under which these benefits are present have all been widely debated in educational research. In a review of 93 research studies looking at the effect of school desegregation on academic achievement, Crain and Mahard (1983) concluded that desegregation does enhance Black achievement.[4] They also concluded that the methodological approach taken by social scientists may have an impact on the size of the effects.[5] In another review of the same era, Cook (1984) concluded that desegregation had only a modest effect on reading achievement (Cook, 1984). A more recent study analyzing test score data from Texas found that higher achieving Blacks, as measured by test scores, benefit from a more diverse school racial composition, however, this effect did not extend to lower performing Blacks, whose test scores were not influenced by the school racial composition above and beyond other school quality characteristics (Hanushek, Kain & Rivkin, 2002).

Other studies of desegregation impacts on achievement have focused on individual life chances, rather than test score improvement. Overall, these studies suggest that desegregated schooling is associated with higher educational and occupational aspirations, and to a modest degree, attainment for African American students (Braddock and McPartland, 1983; Crain and Weisman, 1972; Schofield, 1995; Trent, 1997). Schools with a substantial White enrollment can offer minority students a higher set of educational and career options due to the more developed social networks that represent White middle-class norms (Dawkins 1983; Hoelter, 1982; Schofield 1995, 2001). This coupled with the fact that minority segregated schools often suffer from a severe lack of

[3] This study focuses on elementary schools in the district because these schools were the first to be shifted back to a neighborhood zoning approach as a result of the end of busing and court-ordered school desegregation. Moreover, given that this is a study of aggregate changes across schools, they also offer more in the way of variability.

[4] Crain and Mahard (1983) employed a meta-analysis approach with 323 samples from the 93 studies of Black students in desegregated settings.

[5] Crain and Mahard (1983) found that studies using an experimental design with random assignment tended to have stronger treatment effects than did studies with a weaker control group, such as White students or achievement test norms. Moreover, they identified several other methodological problems in much of the desegregation research, mainly that experiencing desegregation (the "treatment" social scientists are measuring) means many different things depending on the context of the school, district, individual or family options for schooling, etc. These factors are difficult to control for and to compare across a set of studies, but are nevertheless critical for understanding the conditions necessary for desegregation benefits to occur.

resources such as quality teachers, counselors, and other educational advantages, leads to an inferior opportunity structure (Anyon, 1997; Natriello, McDill, & Pallas, 1990; Schofield, 1995).

There have been several studies on the relationship between desegregation and occupational attainment (many of these studies are reviewed in Dawkins and Braddock (1994)). These studies have largely relied on longitudinal data sets, including high school, family, individual and often workplace characteristics, to explain the social, psychological, academic and systemic obstacles that impact career attainment for African Americans (Dawkins & Braddock, 1994). For example, Cain's 1970 study of Black males revealed that graduates from desegregated high schools held higher status jobs and earned higher incomes than did their counterparts from segregated schools. Dawkins' 1983 study of the high school class of 1972, found that school desegregation positively influenced Black males' occupational aspirations, controlling for family and individual characteristics. However, this effect did not persist for Black females upon control for the same characteristics (Dawkins, 1983).

In addition to educational and occupational outcomes, there are other important attitudinal and civic outcomes that can occur as a result of attending a diverse school. Specifically, students who attend more diverse schools have higher comfort levels with members of racial groups different than their own, an increased sense of civic engagement and a greater desire to live and work in multiracial settings relative to their more segregated peers (Kurlaender & Yun, 2001; 2003). From a review of 21 studies applying perpetuation theory, Wells and Crain (1994) concluded that desegregated experiences for African American students lead to increased interaction with members of other racial groups in later years. Moreover, White students in integrated settings exhibit more racial tolerance and less fear of their Black peers over time than their counterparts in segregated environments (Schofield, 1981). Whites' proximity to Blacks in schools, workplaces, and neighborhoods leads to their likelihood of cross-racial interactions and friendships (Hallinan, 1982; Hallinan & Smith, 1985; Jackman & Crane, 1986).

Although the majority of the achievement studies in the desegregation literature focus on African Americans, some have also looked at Latinos. Schofield (1995) reviewed several studies that looked at the impact of desegregation on Latino students and found that average achievement levels for Latinos are higher in desegregated versus segregated schools (see also Arias, 1986). Moreover, since Latinos are frequently segregated in some of the poorest schools with very little resources (Valencia, 1991), the potential increase in achievement for Latino students—much like African American students—would likely be attributed to access to the better educational resources present in desegregated or predominantly White schools.

Previous research on school desegregation has also focused on the necessary conditions under which we would expect minority outcomes to be realized. These include (among other things): desegregation at the earliest possible grades; heterogeneous instructional strategies; a critical mass of students from each racial group; presence of desegregated staff; interracial extracurricular activities; smaller learning environments; and specialized

training of teachers and school staff (Hawley, 1981). These conditions suggest that school desegregation is about much more than simply raising achievement test scores. In fact, over fifty years after the historic *Brown* decision, the role of school desegregation in improving the educational opportunities of students of color remains in serious question as many school districts across the country face challenges to their school desegregation plans and are witnessing rapid resegregation (Orfield & Lee, 2004).

Remarkably, few studies have focused on changes in student outcomes as a result of more recent changes to school racial composition brought about as more school districts end their court oversight of mandatory plans and are declared unitary, or as some districts abandon race-based voluntary school desegregation plans in favor of race-neutral plans. It is important to note that empirical studies on the benefits of desegregated schooling have been fraught with design limitations and methodological problems. Such problems include: different definitions of desegregation levels as a function of school enrollment or desegregation plans (Schofield, 1995), limiting conclusions based on cross-sectional rather than longitudinal data, design flaws often overlooking a clear control group comparison, and general problems of selection bias. Moreover, these studies primarily focused on short-term gains in test scores, paying little attention to differences in implementation of racial balance or in the types of desegregation experiences taking place in different school settings.

History of Keyes Decision

The story of Denver desegregation began in 1969 when the district court agreed with a group of Denver parents that deliberate racial segregation had been carried out by the School Board through several mechanisms, including the construction of a new elementary school in the middle of the Black community west of Park Hill, the gerrymandering of student attendance zones, the use of so-called "optional zones," and the excessive use of mobile classroom units. Although the district court chose not to generalize the finding across the rest of the city, they did find that many schools were both separate and unequal. As a result, the district court called for the school district to create a desegregation plan for the entire city. Appealing this decision in the 10th Circuit Court of Appeals, DPS succeeded in having the portion of the decision that called for complete desegregation overruled, leaving the Park Hill area the only part of the district requiring desegregation. Ultimately, the Supreme Court overturned the 10th Circuit decision, ruling that both Hispanic and Black students should be considered in the determination of segregation and that de jure segregation in a large sector of the district was proof that the entire district was similarly affected (*Keyes*, 413 U.S. 189 (1973)).

In response to the Supreme Court decision, DPS created a structured system to integrate students by matching schools and then busing students such that a more racially diverse student body was achieved (Lembke, 1974). Reactions to the court-ordered busing were mixed, yet with the exception of a few minor incidents, schools ran smoothly as busing began (Sterba, 1974).

In 1974, Colorado amended the state constitution with the Poundstone Amendment, a law that cut off school growth by prohibiting the annexation of lands surrounding the city. As Lee (2005) notes, "the effect was to limit the reach of the desegregation order into the suburbs. Because *Keyes* only covered the schools within the 1974 boundaries of Denver...the Poundstone Amendment effectively sealed off Denver from the surrounding suburbs and severely curtailed its ability to have any lasting and stable desegregation of its public school students" (p. 3).

Emerging federal policies and a political shift during the early 1980s chipped away much of the civil rights foundation upon which *Keyes* rested. President Reagan's first term in office brought sweeping changes by calling for less federal action in civil rights cases, strongly opposing court-ordered busing, and arguing for decision makers to be color-blind in their approaches to race related issues. In particular, the foundation of the *Keyes* decision was rejected when Assistant Attorney General for civil rights said, "the Justice Department would no longer seek to desegregate an entire school district on the basis of segregation found to exist in just part of it" (Pear, 1981). In 1987, the District Judge in Denver made the desegregation orders less stringent, but refused to completely remove them (Stevens, 1992).

By early 1992, DPS sought a release from the court-mandated busing; the school district filed a motion to end all busing in the district (Stevens, 1992). In September 1995, Judge Matsch, who had presided over the court order, lifted the busing mandate and eliminated racial integration as a decisive factor in determining school boundaries. In response, the School Board voted for a return to neighborhood schools, a policy that would send students to the school nearest their home (Weberrocky, 1996).

Demographic Shifts and Resegregation Patterns

In the years subsequent the 1995 decision, DPS has undergone a demographic shift in its student body that, in many ways, has complicated an understanding of the direct effects of the end of court-mandated desegregation. As Table 1 captures, over the past decade, DPS students overall have become increasingly non-White, with the largest proportional increases over this time period seen among Latinos coupled by slight decreases in representation among White and Black students (Lee, 2005).

Table 1: Changes in the DPS Student Racial/Ethnic Composition, 1994-2003

Year	% White	% Black	% Latino	% Asian
1994	29	21	45	4
1996	26	21	47	4
2000	22	20	53	3
2003	22	19	57	3

Source: Lee, 2005.

Concurrent with this demographic shift, DPS has begun to see a rise in the number of racially isolated schools in the district. By the 2003-2004 academic year, 84 percent of

Latino, 74 percent of Black, 52 percent of Asian but only 27 percent of White students attended schools with more than 70 percent minority students (Table 2). The extent to which such isolation is due to shifts in demographics alone, however, remains somewhat elusive. In fact, as Lee (2005) notes, "while White isolation decreased from 40 percent in 1990 to 35 percent in 1996, [by 2003], the average White student in DPS attended a school that was 42 percent White" (p. 12).

Table 2
Distribution of Students in Denver Public Schools - 2003-04

	% White	% Latino	% Black	% Asian
0-10% White	12	70	55	33
10-20% White	7	10	9	10
20-30% White	8	4	10	9
30-40% White	24	11	10	26
40-50% White	14	2	10	6
50-60% White	13	2	5	7
60-70% White	7	1	1	3
70-80% White	7	0	1	3
80-90% White	7	0	0	3
90-100% White	0	0	0	0

Source: Lee, 2005.

This paper seeks to describe school-level achievement patterns relative to campus racial/ethnic changes due to the end of court-mandated desegregation. In order to do so, we must characterize schools by the extent to which racial/ethnic shifts occurred after the 1995 decision. Figure 1 presents the number of DPS elementary schools with substantial (20 percentage points or greater) and moderate (between 11 and 20 percentage points) shifts in representation of White students[6] from 1994-1998[7] (see Appendix A for full list). The concurrent changes in Latino and Black representation are also represented.

Figure 1 shows that half of DPS elementary schools went through a noticeable change in White representation concurrent with the reversal of *Keyes*. The end of court-mandated busing, coupled with demographic changes, resulted in moderate differences in the presence of Whites at many Denver schools and very dramatic differences in eight schools in particular (see Appendix A). For example, Mitchell Elementary saw White enrollment drop 37 percentage points during this 4-year period. For an additional six, the dramatic shift occurred in the opposite direction; consider Steele Elementary where 1994 to 1998 brought a 32 percentage point increase in Whites. Twenty-one schools saw a

[6] For this study, Whites act as the racial/ethnic group of comparison. Clearly, there are many additional ways that the data could be presented. This simply serves as one indicator. For more discussion about considering integration in a multi-racial society, see Yun and Kurlaender (2004).

[7] This time frame was selected in order to more stably identify the change in racial/ethnic composition around the time when court-ordered desegregation in Denver was being dismantled. We have defined a substantial shift in White presence in a school as one where the change has been more than roughly 300 percent of the of district's overall demographic shifts during the same time period.

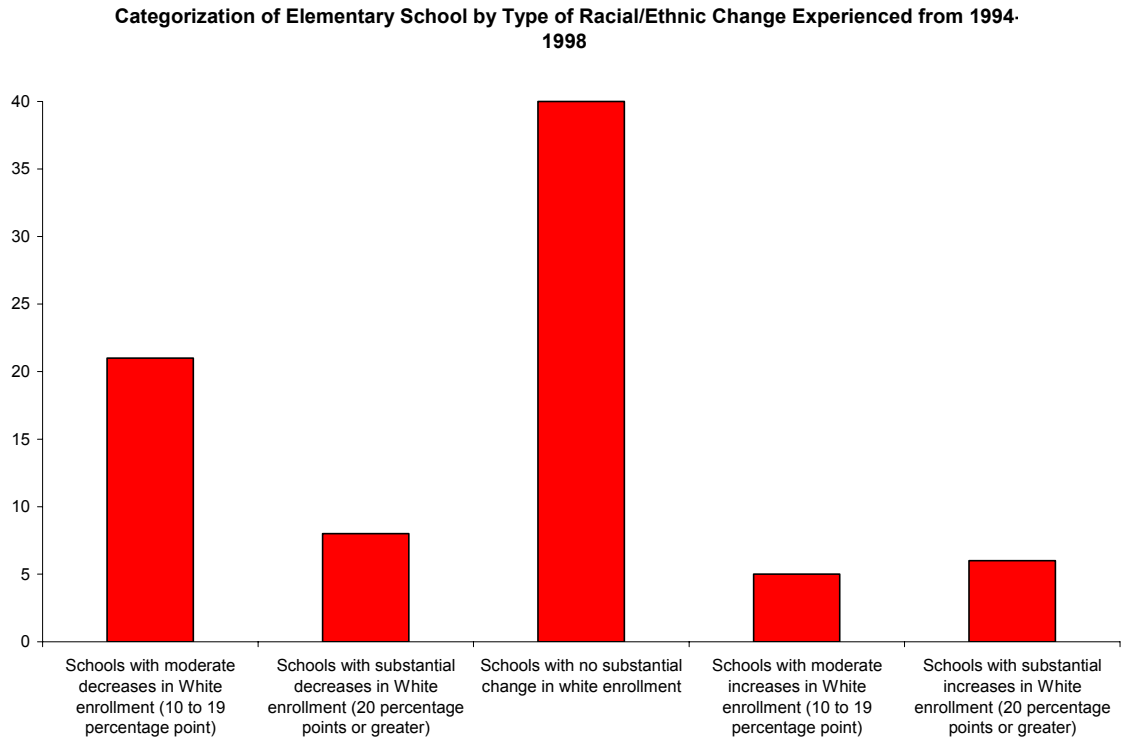
moderate decrease in White representation; five saw moderate increases. It should be noted that most schools witnessed their biggest changes immediately following the 1995 ruling, with the largest shifts in racial composition occurring in 1996 and 1997. We chose to present the 4-year changes of 1994 to 1998 to more adequately represent the racial composition of schools prior to the end of court-ordered desegregation in 1995 and after the District's school assignment plan post-desegregation had somewhat stabilized.

It is complex to understand the full effects of the end of court-mandated desegregation on school racial/ethnic composition. For many of these schools, the relative shift in White representation was accompanied by similar opposite shifts in Latino and Black representation. (See Appendix A.) For example, Smith Elementary saw a 24 percentage point drop in Whites enrollment, coupled with a 10 and 17 percentage point increase in the representation of Latinos and Blacks, respectively. More broadly, it is clear that demographic shifts contributed to the overall decline in White enrollment, although they alone do not explain the increasing segregation trends across schools in the period subsequent to the end of court-ordered busing. Bromwell Elementary, for example, saw a 25 percentage point increase in Whites from 1994 to 1998, while Latino representation shifted down 5 percentage points and Blacks fell 21 percentage points during the same time.

For some schools, the shifts in White proportions were accompanied by differential patterns for Latinos and Blacks. The proportion of White students attending Fallis Elementary School, for example, dropped by 23 percentage points from 1994 to 1998 accompanied by a 37 percentage point increase in Latino representation but a 10 percentage point decrease in Black representation. In similar pattern, Cory Elementary saw a 24 percentage point increase in White representation, a 5 percentage point increase in Latino representation, and a 31 percentage point decrease in Black student presence in the school. Thus, while it is apparent that Whites were becoming more segregated from their peers from other racial groups, many schools were also becoming more segregated for African Americans or Hispanics respectively (rather than for non-Whites collectively).

Figure 1

Categorization of School Racial Ethnic Change, 1994-1998



Source: Common Core of Data, 1994; 1998.

In presenting the general achievement patterns of these four clusters of schools in relationship to schools that experienced no notable change in racial/ethnic composition from 1994 to 1998, this paper first briefly describes DPS testing policy.

Data and Chronology of DPS Testing Policy

For more than 15 years, DPS has administered the Iowa Test of Basic Skills to students across elementary grades 1 through 5.[8] The Iowa Test of Basic Skills (ITBS) is a nationally normed test of student achievement across various grades and subject areas. The assessments are vertically scaled allowing for student growth to be tracked over time (Riverside Publishing Company, 2006). The ITBS scores have been used as a measure of academic progress and as means of diagnostically assessing strengths and areas for growth for students in individual schools. DPS began to phase out use of the ITBS in

[8] For the purpose of this study, an elementary school is one in which inclusive student grades range from K-5.

2002, focusing its reliance on a criterion-referenced test, the Colorado Student Assessment Plan (CSAP), that assessed student achievement against the State Model Content Standards (Colorado Department of Education, 1999).[9] At the elementary school level, CSAP is currently administered at grades 3-5.

In the context of the school-level racial/ethnic changes described above, then, it is important to understand the ways in which ITBS test score patterns may be influenced by racial/ethnic enrollment changes. Unfortunately, because of a lack of clear substantive equivalence between the measured constructs in ITBS and CSAP, and because of a lack of adequate data to prudently equate these two measures, this study utilizes only school-level aggregated ITBS math data from 1994 to 2000[10]. It is to this consideration that the paper now turns.

Race and Socio-Economic Status

There are many ways to categorize the racial/ethnic changes that have manifest as a result of both demographic trends and the end of court ordered bussing. Because the relationship between race and socio-economic status is such a strong one, with predominately minority schools more often disadvantaged relative to predominately White schools (Kahlenberg, 2001; Orfield & Lee, 2005), we chose to categorize schools in relationship to the level of change they experienced in White enrollments during this time period. This relationship is particularly important to underscore in Denver, where a school's percent White enrollment is very highly correlated with the school's percent free or reduced lunch eligible population. Moreover, demographic trends in enrollment over the past two decades reveal a steady increase in the proportion of Denver students eligible for free or reduced lunch (Common Core of Data, 2004). This is of great concern, as previous research on school desegregation, and school quality more broadly, has been consistent in its conclusions that concentrations of poverty have negative educational consequences on all students, but that minority students are more likely to be enrolled in schools with high concentrations of economically disadvantaged students, as measured by free/reduced lunch eligibility.

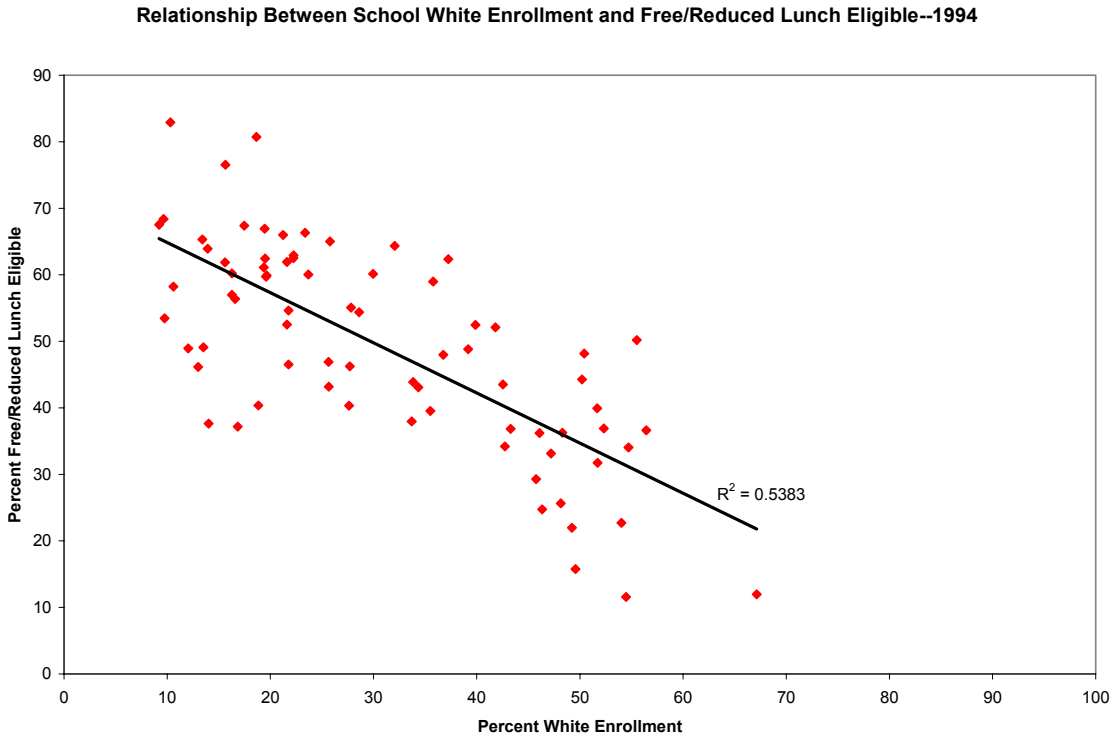
Figures 2 and 3 display scatterplots of the relationship between a school's percent White enrollment and its associated percent free or reduced lunch eligible population in 1994 and 2000, respectively. Together, these figures highlight that in both 1994 and 2000, most schools with a low White enrollment were also schools where the majority of the students were of a low socioeconomic status. Similarly, schools with higher White enrollments were also schools with more affluent students. When we compare the figures to one another, it is particularly noteworthy how much stronger the association between

[9] In 1999, the district piloted a Pay for Performance initiative that linked teacher compensation to student achievement. Teachers would identify objectives (approved by the principal) and, upon appropriate documentation of students having met those objectives by the end of the year, would receive a performance bonus (Gratz, 2005). Discussion of the effects of this program on student achievement is beyond the purview and scope of this paper.

[10] Percentile scores have been transformed into equal-interval normal curve equivalents for all relevant calculations. This paper presents only math scores as they are typically less affected by English Language Learner status.

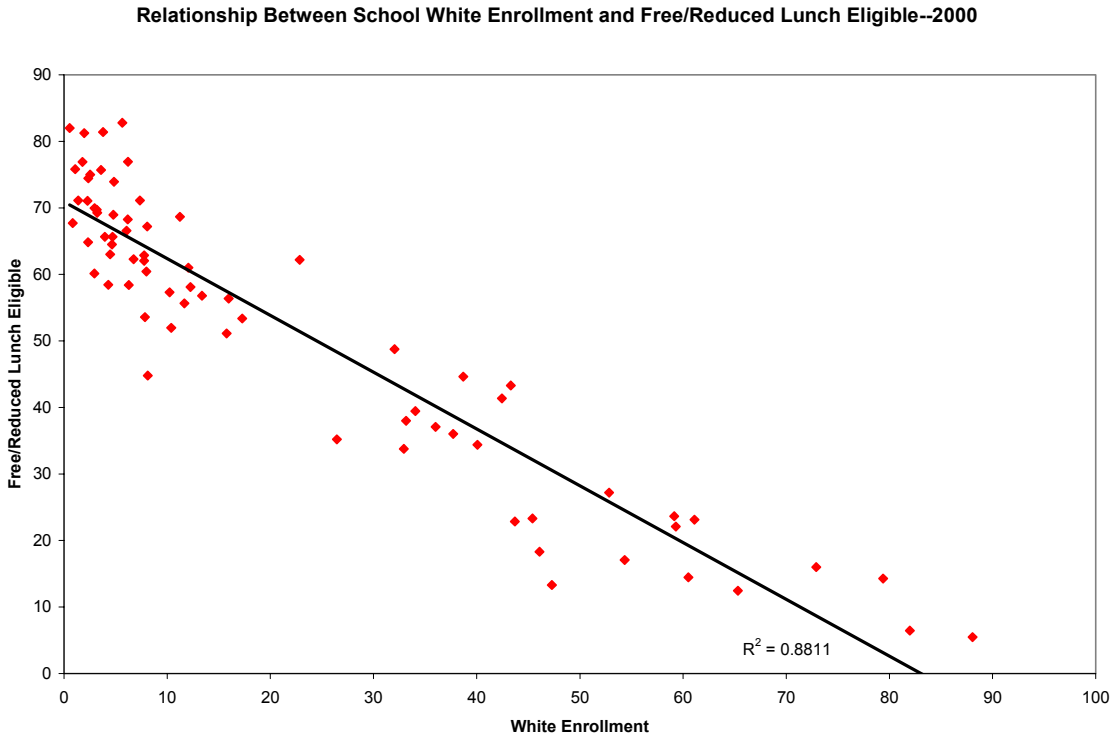
White enrollment and free/reduced lunch eligibility had become in Denver during the period under study. There were many more schools with very low White enrollments and correspondingly high levels of free/reduced lunch eligible students in 2000 than there were in 1994. All of this suggests that when we interpret achievement trends and their association with White enrollment changes, we are also talking about these changes in relationship to changes in the students' socio-economic affluence.

Figure 2



Source: Common Core of Data, 1994.

Figure 3



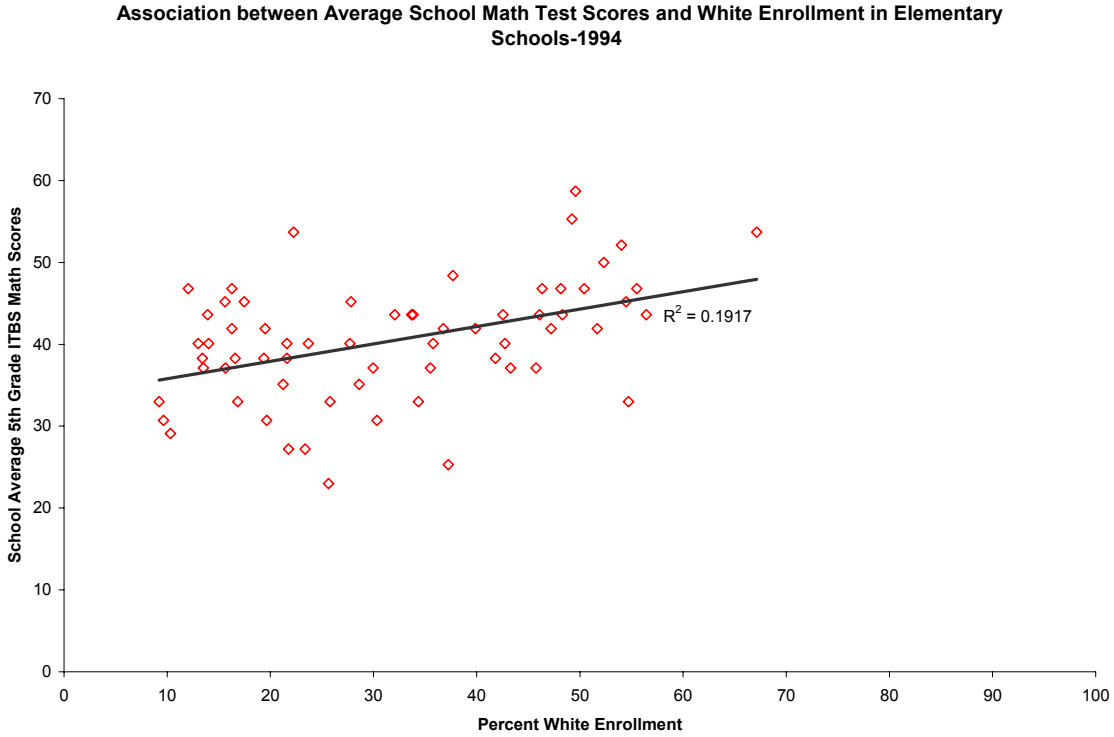
Source: Common Core of Data, 2000.

Achievement Trends by Race

In describing the achievement trends of schools relative to the racial/ethnic shifts around the time of the reversal of *Keyes*, we first present two figures, the association between a school's average ITBS math percentile and its White enrollment in 1994 (Figure 4), shortly preceding the end of court-mandated desegregation, and 1998 (Figure 5), shortly following. In combination, they depict two important points. First, there is evidence of much more segregation (as measured by percent White enrollment) in 1998 than in 1994, as indicated by the "clumping" of schools in Figure 5 in the zero to 20 percent White enrollment band relative to the more dispersed spread of schools across a wider range of White enrollment in Figure 4. In fact, in 1994, there were virtually no elementary schools with fewer than 10 percent Whites enrolled; by 1998, that proportion had jumped to one-third of all elementary schools. Given that the reversal of *Keyes* shifted DPS back to a neighborhood-based school assignment plan and Denver displays significant residential segregation patterns, this is not surprising. Further, there is a substantially stronger association between White enrollment and average math test scores in 1998 than there is in 1994. Thus, just three years after the end of court-ordered school desegregation, we see that the variation in aggregate school test scores is more strongly correlated with the presence of White students in the school than merely four years earlier. These figures also provide important context in which to understand changes in ITBS scores, presented

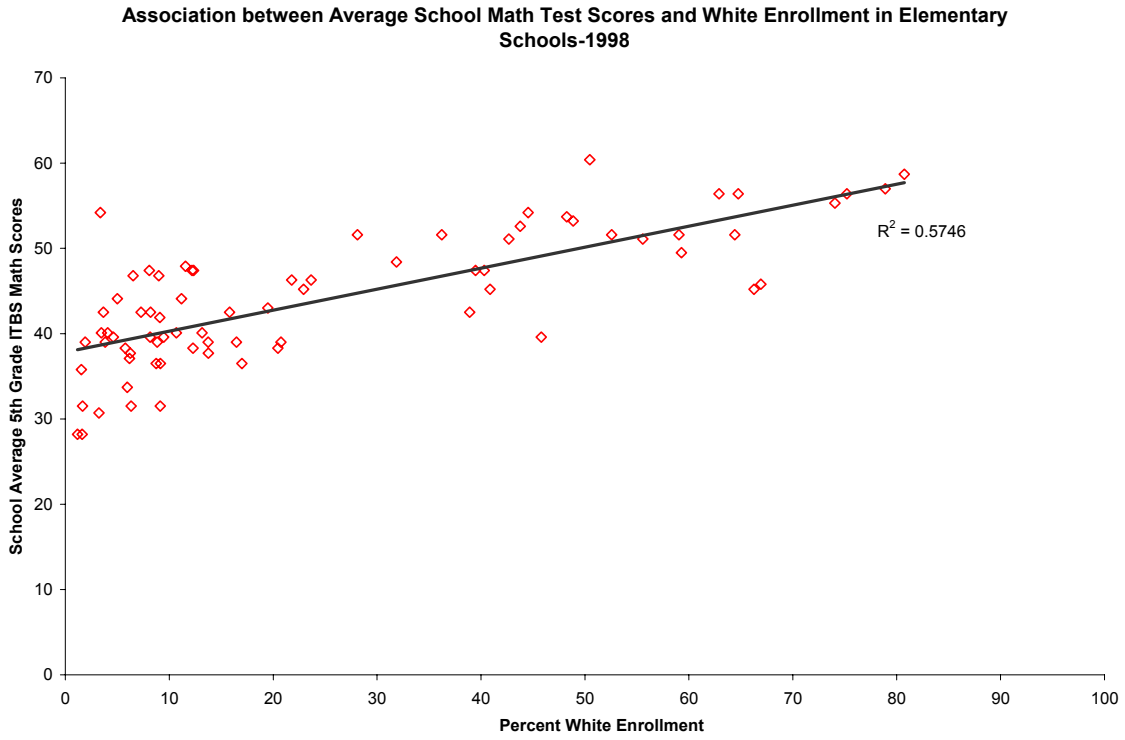
next, as they highlight that achievement, broadly described, had become more strongly associated with percent White in a school.

Figure 4



Source: Common Core of Data, 1994; Denver Public Schools school-level ITBS data, 1994.

Figure 5



Source: Common Core of Data, 1998; Denver Public Schools school-level ITBS data, 1998.

The paper now presents a series of figures representing 3rd and 5th grade ITBS math percentile scores over time relative to the five types of school White enrollment changes evident in Denver elementary schools from 1994 to 1998. These are elementary schools that we classify as having no substantial change (a +/- 0 to 10 percentage-point difference in White enrollment); moderate increases in White enrollment (represented by a 10-20 percentage-point increase); substantial increases in White enrollment (represented by a 20 percentage-point or greater increase); moderate decreases in White enrollment (represented by a 10-20 percentage-point decrease); and substantial decreases in White enrollment (represented by a 20 percentage-point or greater increase).

3rd Grade[11]

Figures 6 through 8 present the school-level mean ITBS 3rd grade math percentiles from 1994 to 2000 for Whites, Blacks, and Latinos, respectively.[12] For example, Figure 6

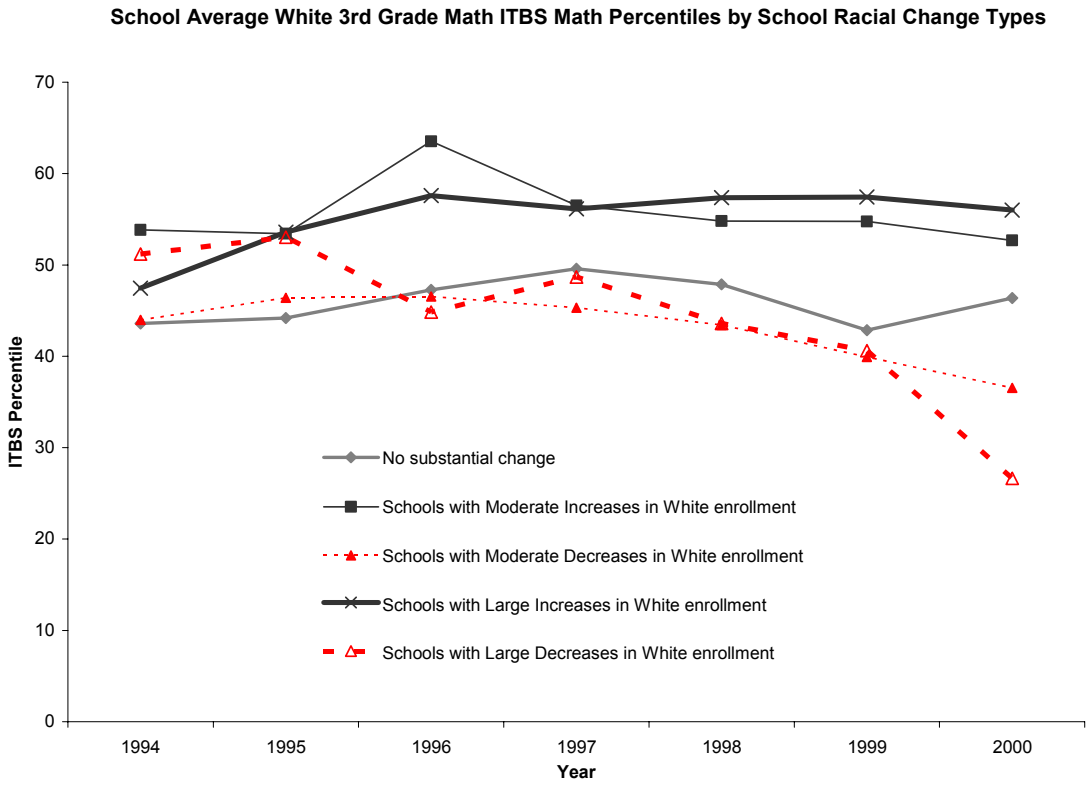
[11] The reader should note two important caveats when considering the figures in this and the 5th grade section. First, missing points in the trend lines are due to an inadequate number of schools with substantial sub-populations to accurately calculate statistics for those years. Second, there are relatively fewer schools that experienced moderate or substantial increases in Whites compared to other school groups.

[12] Because of data limitations, these calculations could not be weighted according to student body size and therefore need to be interpreted with caution.

shows that White students in schools that experienced no substantial change in racial/ethnic composition from 1994 to 2000 had a mean ITBS score at the 44th percentile in 1994. For Black and Latino students in the schools that similarly saw no substantial change, the mean ITBS score was at the 35th and 36th percentile, respectively, in 1994 (Figures 7 and 8).

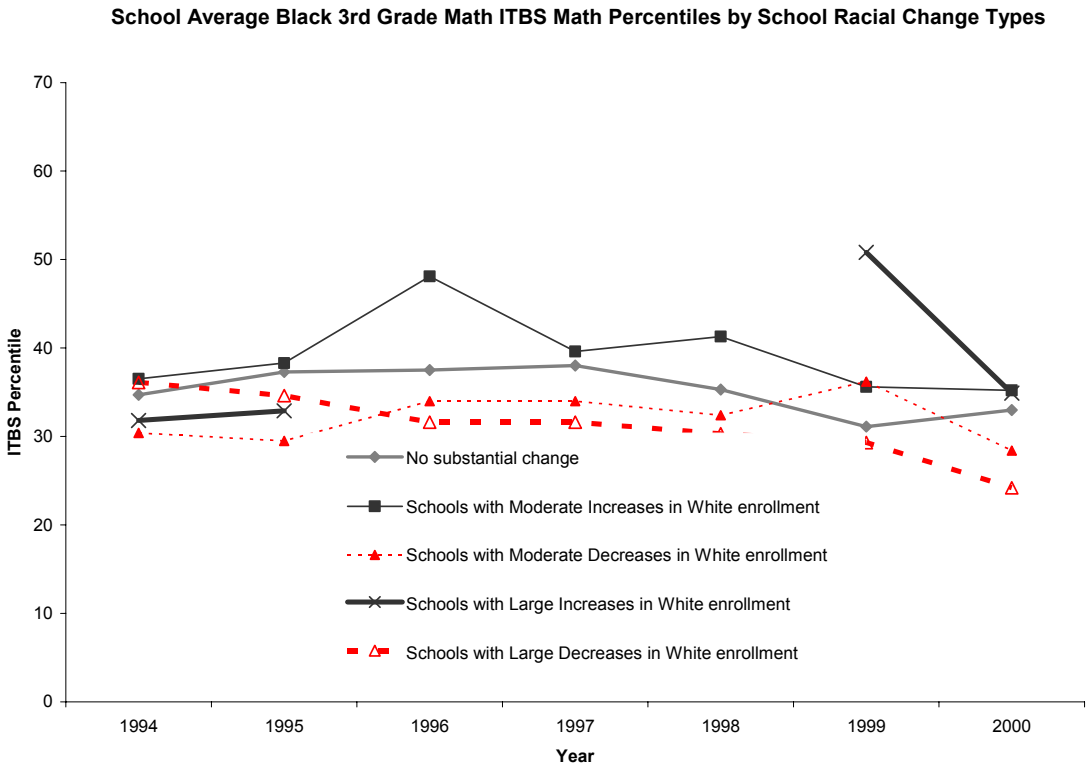
A simple way to interpret these figures is to compare achievement patterns in schools that changed with schools that did not. There are several observations worth highlighting. First, in 1994, ITBS percentiles were relatively closely grouped together across all school types for each racial/ethnic group, respectively. This suggests that there was no systematic difference in achievement levels, on average, among schools that would later experience substantial (and differential) changes in White enrollment versus those that would not. Second, for Whites specifically, school-level average math percentile scores do not appear to have improved as a result of either moderate or substantial increases in White enrollment in some schools (Figure 6). Although, descriptively, the trends indicate White students (similarly to non-White students) have shown a modest decline in schools where White enrollment has dropped relative to their counterparts in schools experiencing no change. Third, for African American students, in schools that experienced moderate or substantial gains in White enrollment, modest achievement gains were realized relative to Black students in schools that had no racial/ethnic change as a result of the reversal *Keyes* and demographic shifts (Figure 7). Similar to Whites, average achievement scores for Black students in schools with moderate or substantial decreases in White enrollment declined some during this period. Finally, Hispanics trends are similar to Blacks but, in fact, more pronounced (Figure 8). Latinos' more than all other groups witnessed achievement gains in schools where White enrollment increased relative to schools that saw no change or where White enrollment was moderately or substantially reduced.

Figure 6



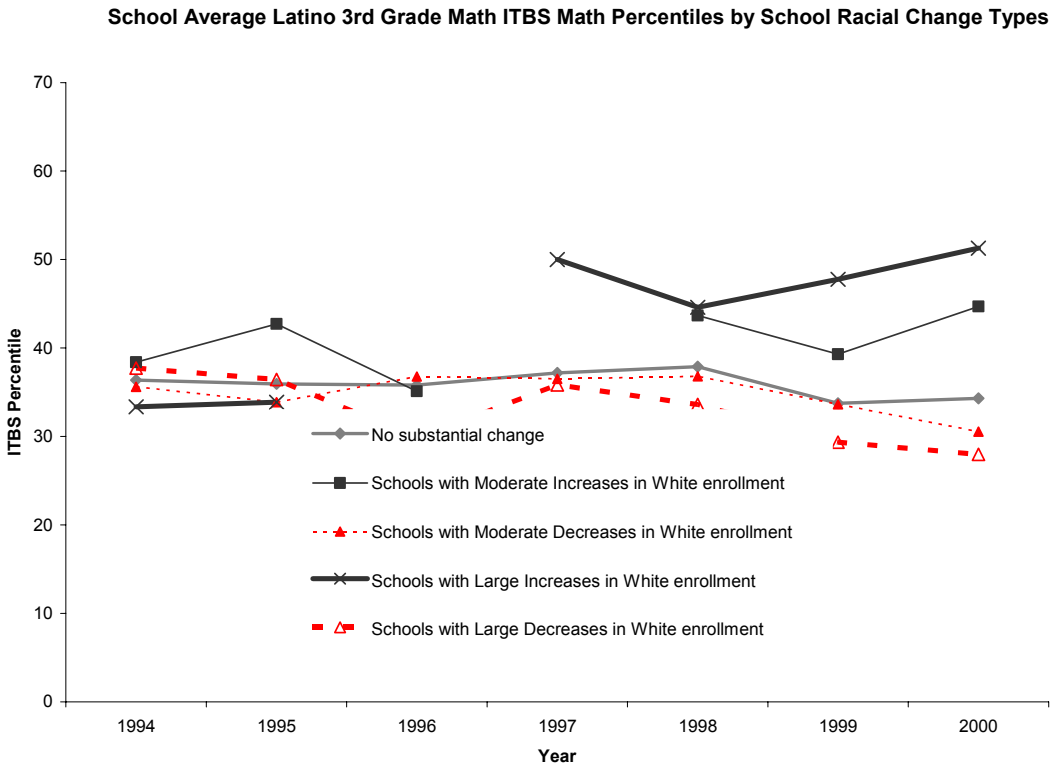
Source: Denver Public Schools school-level ITBS data, 1994-2000.

Figure 7



Source: Denver Public Schools school-level ITBS data, 1994-2000.

Figure 8

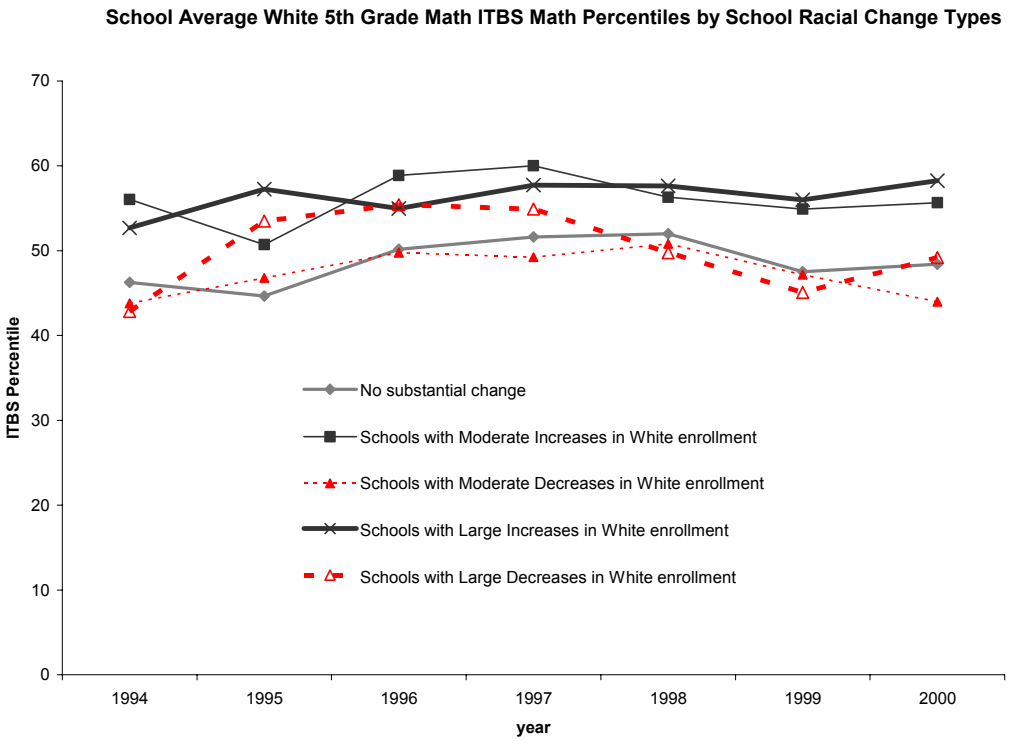


Source: Denver Public Schools school-level ITBS data, 1994-2000.

Fifth Grade

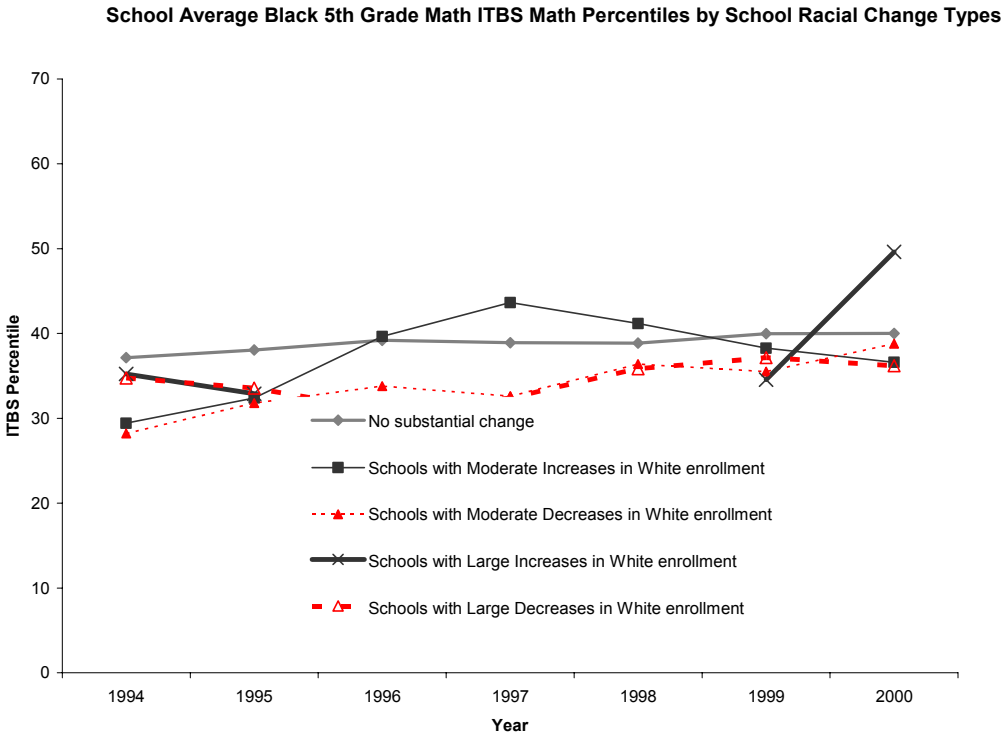
Figures 9 through 11 display 5th grade average school math scores for Whites, African Americans, and Hispanics, respectively, across schools experiencing varied racial/ethnic shifts. Again we can compare the trend in ITBS percentile scores in schools with moderate and substantial changes to schools that experienced no change in White enrollment during this period. As was the case with 3rd graders, within racial/ethnic subgroups, differences appear to be partly explained by drops in White enrollment (and its corresponding relationship to socio-economic status as per Figures 2 and 3). Relative to the average performance in schools with no substantial changes in racial/ethnic composition, White students' test scores have shown no increase in schools where White enrollment increased (Figure 9). For Blacks in schools where there were substantial increases in White enrollment, there was a pronounced increase in math percentile scores (Figure 10). Although these are few in number since not many Black students on the whole attended schools that saw these substantial increases in White enrollment, they make an important point about the potential benefits of racial/ethnic diversity for African American test score performance. Finally, Latino aggregate school test scores appear to have increased modestly in schools where White enrollment went up even moderately (Figure 11).

Figure 9



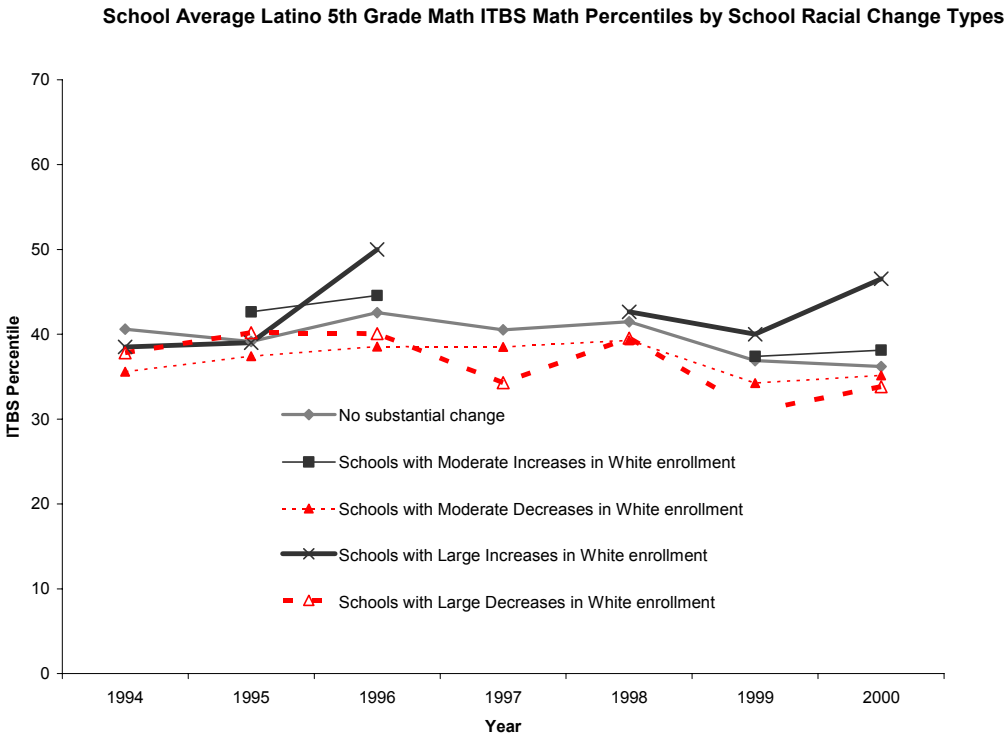
Source: Denver Public Schools school-level ITBS data, 1994-2000.

Figure 10



Source: Denver Public Schools school-level ITBS data, 1994-2000.

Figure 11



Source: Denver Public Schools school-level ITBS data, 1994-2000.

Discussion and Conclusion

White enrollment is only one way to characterize the changes in school racial composition. Every major White decline or increase in school enrollment is paired with an increase or decline of another racial/ethnic group. Nevertheless, White enrollment continues to be an important reference for understanding the impact of school racial composition as the relationship between percent White in a school and percent poor (free and reduced lunch eligible) remains quite strong.

Taken together, the findings of this study identify several important considerations. First, as a result of the end of *Keyes*, about half of schools went through moderate or substantial changes. Given the substantial demographic changes in DPS student racial composition—characterized by a steady decline in White enrollment, slight declines in Black enrollment, and dramatic increases in Latino enrollment—it would be reasonable to expect a decrease in the number of racially isolated White schools. In stark contrast to that expectation, the number of such schools actually increased immediately following *Keyes*, suggesting that the racial/ethnic neighborhood isolation off-set through busing was no longer being addressed. In fact, school racial composition patterns suggest that despite the stabilization in White enrollment patterns that might have been anticipated as

a result of the end of busing, White segregation continues to rise in Denver Public Schools.

Further, a unique historic data set of ITBS math percentile scores from 1994 to 2000 allowed us to look descriptively at how this policy impacted aggregate achievement across school types. Utilizing schools that did not experience any substantial changes as a descriptive comparison group, we found a complex picture of school racial composition changes and student achievement. From the descriptive subgroup look at test score trends during this period, we see overall that changes in school racial composition as a result of the end of Keyes may have had some, albeit modest, impacts on average achievement levels for different racial ethnic groups. Specifically, average White test scores in schools that experienced moderate or substantial differences in White enrollment were not distinctly different from those in schools that did not experience any substantial changes. This suggests that White test scores, were, on average, no better off as a result of the end of busing, a finding contrary to the argument many championing the end of busing were making. For African American students, there is some descriptive evidence of modest average achievement gains in schools that had substantial increases in White enrollments versus schools that did not change. This finding was even more pronounced for Latinos, who also saw average achievement gains in schools where White enrollment increased relative to schools that saw no change. Finally, although average Black and Latino test scores in schools with moderate or substantial decreases in White enrollment declined some during this period, relative to schools that did not experience substantial changes, this was not a consistent trend.

This study has several limitations. The historical data used in these analyses were burdened with missing and incomplete information, and these gaps limited the analyses that could be done. Further, the available data were presented as school-level aggregates, which again limits us analytically. As the paper suggests throughout, the findings presented are descriptive rather than causal in nature. In using test scores as an outcome measure of achievement, this analysis is also limited by a fairly small window of available data and may fall short of representing the extent to which long-term effects may ultimately manifest. Moreover, because of the retrospective nature of the work, the paper does not provide additional insight into what has happened in the district since 2000. Finally, there are many important outcomes (for example, educational and occupational attainment, and inter-group contact and racial attitudes) associated with school desegregation that the paper does not address, but which previous research has suggested may be at greatest stake for all students who are attending racially isolated schools.

Despite the restrictions of these data, these findings are complex but compelling, particularly for Latinos. More than 30 years ago, *Keyes* recognized the need to consider Hispanics in determining whether a district suffered from segregation. This paper reinforces the importance of that consideration. Much additional research and much richer data are needed to fully understand the long-term implications of the end of court-ordered desegregation for Denver schools.

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Appendix A

Change in Racial/Ethnic Composition, 1994-1998

School Name	Percentage Point Change, White	Percentage Point Change, Latino	Percentage Point Change, Black
AMESSE	-6	21	-12
ASBURY	25	3	-26
ASHLEY	-17	36	-17
BARNUM	-13	12	1
BARRETT	-15	18	-2
BEACH COURT	-8	8	0
BRADLEY	25	-28	5
BROMWELL	25	-5	-21
BROWN	-3	4	2
BRYANT-WEBSTER	-6	7	1
CARSON	16	5	-24
CENTENNIAL	-7	9	-1
CHELTENHAM	-13	25	-4
COLFAX	-10	10	-2
COLLEGE VIEW	-15	13	-1
COLUMBIAN	-10	10	-1
COLUMBINE	-18	16	4
CORY	24	5	-31
COWELL	-8	8	0
CROFTON	0	*	*
CROFTON/EBERT	-14	4	10
DEL PUEBLO	-20	20	1
DOULL	-16	18	0
EAGLETON	-5	4	1
EDISON	4	-6	2
ELLIS	11	-4	-8
FAIRMONT	-8	12	-2
FAIRVIEW	-13	-2	11
FALLIS	-23	37	-10
FORCE	-12	18	-10
FORD	-13	17	0
GARDEN	-7	7	2
GILPIN	-10	16	-6
GODSMAN	-18	20	0
GOLDRICK	-8	8	-1
GREENLEE	-14	10	3
GUST	-13	13	0
HALLETT	-23	5	18
HARRINGTON	-12	23	-11
HOLM	5	10	-19
JOHNSON	-23	21	1
KAISER	28	-30	2
KNAPP	-9	10	0
LINCOLN	-6	6	-5
MARRAMA	-14	5	7
MC GLONE	-8	32	-25
MC KINLEY-THATCHER	9	1	-9
MCMEEN	-3	14	-11

School Name	Percentage Point Change, White	Percentage Point Change, Latino	Percentage Point Change, Black
MITCHELL	-37	31	8
MONTCLAIR	-15	12	2
MOORE	-7	2	3
MUNROE	-6	7	0
NEWLON	-16	17	0
OAKLAND	-6	13	-8
PALMER	5	8	-17
PARK HILL	-2	1	2
PHILIPS	-25	7	22
REMINGTON	-5	4	-1
ROSEDALE	9	0	-3
SABIN	-12	13	-1
SAMUELS	19	-26	10
SCHENCK	-9	20	1
SCHMITT	-8	10	-2
SMEDLEY	-6	5	0
SMITH	-24	10	17
SOUTHMOOR	0	*	*
STECK	14	-3	-9
STEDMAN	-9	11	-2
STEELE	32	-13	-16
STEVENS	0	*	*
SWANSEA	-7	12	-4
TELLER	-15	8	6
TRAYLOR	-1	0	0
UNIVERSITY PARK	15	4	-19
VALDEZ	-9	11	-2
VALVERDE	-9	12	1
WESTWOOD	-9	5	0
WHITEMAN	-6	-36	39
WHITTIER	-22	12	12
WYMAN	-17	11	6

* Missing data.