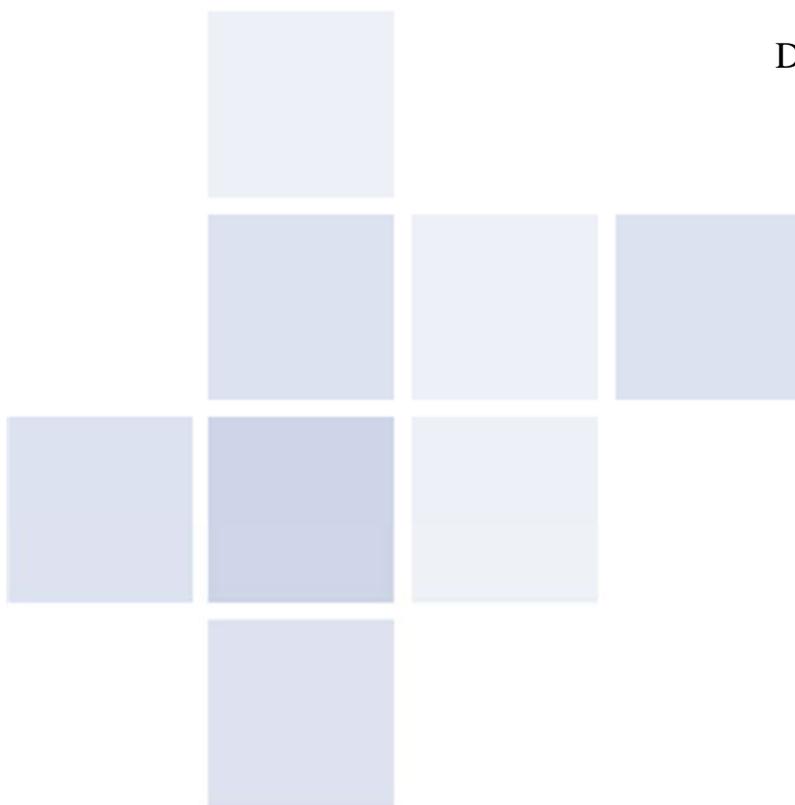




## Integrated Magnet Schools: Outcomes and Best Practices

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In the 1970s, school districts adopted the magnet school model as a popular way to desegregate school districts. Magnet schools as programs with special themes and emphases were used to promote voluntary racial integration. Districts hoped that these select programs would attract families from a variety of different backgrounds, thus creating voluntary racially integrated schools.<sup>1</sup> Both “whole” magnets and “school-within-a-school” models have been used. Whole magnets are those that are dedicated to a singular academic focus (e.g. fine arts, science, and math) whereas a school-within-school is typically a magnet program located within a non-magnet public school. Generally, whole school magnets have been found to be more diverse than school-within-a-school magnets.<sup>2</sup>

Despite their original purpose, magnet schools have over the years shifted away from desegregating school districts.<sup>3</sup> As early as 1983, the Department of Education found that 60% of magnet schools studied were “fully desegregated.” As of 2003, the Department of Education reported that only 57% of “newly founded magnet programs were making progress in combating racial isolation, while another 43% were experiencing an increase in segregation.”<sup>4</sup> Nonetheless, “[s]tudents participating in magnets are [more likely to come from backgrounds where parents were more organized and tended to be highly motivated to find high quality opportunities for their children, even if they did not necessarily have more financial resources.”<sup>5</sup> Some magnet schools therefore are still committed to desegregation.

Compared to regular public schools, magnet programs have enrolled a larger share of black and Latino students as well as low-income students and are located primarily in urban

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<sup>1</sup> <http://prrac.org/pdf/DiversityResearchBriefNo6.pdf>.

<sup>2</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>3</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>4</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>5</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

areas.<sup>6</sup> According to data taken in 2009-10 by the National Center for Education Statistics, “[m]agnet programs enrolled more than twice the number of students served by charter schools, making magnets by far the largest sector of choice schools (more than 2.5 million students enrolled in magnet schools across the nation).”<sup>7</sup> Nonetheless, “charter schools received upwards of \$250 million from the federal government, while magnet schools obtained roughly \$100 million.”<sup>8 9</sup>

## I. ACADEMIC ACHIEVEMENT IN MAGNET SCHOOLS

An important part of the rationale for magnet schools is the desire to create a school environment that improves academic achievement for students of all races. There are two primary ways that magnets seek to do this – through enhanced, often specialized academic programs and by providing an integrated learning environment.<sup>10</sup> This section reviews the empirical literature that looks at student achievement in magnets. Studies comparing magnets to traditional public schools are reviewed first, followed by those comparing them to the other major choice program used in the U.S., charter schools. Other factors are covered in subsequent sections, including the role of integration in performance outcomes, alternative performance measures and description of a few model programs.

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<sup>6</sup> <http://files.eric.ed.gov/fulltext/ED529163.pdf>; [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>7</sup> <http://files.eric.ed.gov/fulltext/ED529163.pdf>.

<sup>8</sup> <http://files.eric.ed.gov/fulltext/ED529163.pdf>. As of 2010, there were also a number of school districts reporting cuts to the budgets of magnet schools. The school board members in Arlington Virginia were “debating whether the district should continue paying \$730,000 to keep the magnet school Thomas Jefferson High School.” “In Ware County, Georgia one of the state’s best magnet schools was ordered to close [in 2009] due to a budget shortfall of \$900,000.” And “[i]n Hartford, Connecticut two interdistrict magnet schools in the city faced losses of approximately \$750,000 . . . Both magnet schools have too many students from their home district, which threatens state desegregation funding.” <http://files.eric.ed.gov/fulltext/ED512272.pdf>.

<sup>9</sup> Magnet schools have been found by some studies to be “more costly than traditional schools (e.g. selecting and training teachers, publicity, etc.)” [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>10</sup> A broad literature documents the potential benefits of integrated schools. See Institute on Race and Poverty, “Failed Promises Assessing Charter Schools in the Twin Cities,” November 2008, <http://www.law.umn.edu/uploads/5f/ca/5fcac972c2598a7a50423850eed0f6b4/8-Failed-Promises-Assessing-Charter-Schools-in-the-Twin-Cities.pdf> for a review of this literature.

### A. Comparisons between Magnet Schools and Traditional Public Schools

The results from studies comparing student achievement in magnet schools to traditional public schools are very mixed. A number find positive outcomes for magnets, while others find little difference between the two types of schools.

A significant number of empirical studies have concluded that students in magnet schools outperform their peers in traditional public schools in test scores. Studies have shown magnet schools to increase student achievement, student motivation and satisfaction with school, teacher motivation and morale, and parent satisfaction with the school.”<sup>11</sup> In a 1983 national study of magnet schools, 80% of the magnet schools analyzed had average reading and math achievement scores that exceeded the district's averages.”<sup>12</sup> In a 1990 study examining student attitudes and achievement for black students participating in St. Louis’s city and suburban transfer program compared students who enrolled in traditional neighborhood schools, interdistrict suburban schools, and city magnet programs for grades four, six, eight, and ten. In most instances, students in city magnet schools had the highest academic achievement. Some of these results however, could have been due to the fact that students in these magnet programs had higher achievement before enrolling in these programs.”<sup>13</sup>

Gamoran (1996) of the University of Wisconsin “found that magnet students made faster achievement gains in most subjects – with the exception of mathematics – than high school students in other types of schools.”<sup>14</sup> Gamoran used data compiled by the National Educational

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<sup>11</sup> <http://ncrve.berkeley.edu/abstracts/MDS-803/MDS-803-THE.html> citing Blank, 1989; Crain et al., 1992; Gamoran, 1996; Heebner, 1995; Metz, 1986; Musumecchi & Szczykowski, 1991. “Almost all the studies reviewed by Blank (1989) show that average test scores of students in magnet schools are higher than scores for non-magnet schools.”

<sup>12</sup> <http://ncrve.berkeley.edu/abstracts/MDS-803/MDS-803-THE.html> citing Blank, Dentler, Baltzell, and Chabotar (1983).

<sup>13</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>14</sup> <http://files.eric.ed.gov/fulltext/ED529163.pdf>. See also <http://www.ascd.org/publications/educational-leadership/oct96/vol54/num02/Do-Magnet-Schools-Boost-Achievement%2%A2.aspx>.

Longitudinal Study (NELS) to track the achievement of 24,000 eighth grade students from public and private schools across the country. Gamoran determined that magnet schools were more effective than traditional public schools as well as some private schools (i.e. Catholic and secular) at improving student achievement in reading and social studies. Still, students attending magnet schools were found to have math and science scores similar to those of students enrolled in traditional public schools.<sup>15</sup>

Betts (2006) led another study<sup>16</sup> on magnet schools in California, which examined school choice in the San Diego Unified School District in 2006, then the nation's eighth largest school system. The study analyzed the district's four school choice systems: magnets, Voluntary Enrollment Exchange Program, open enrollment, and charter schools.<sup>17</sup> Betts found "that students who attended a senior high magnet school received significantly higher scores on the mathematics subtest of the California Standards Test two and three years after winning a magnet lottery than students who lost the magnet lottery and attended a traditional high school."<sup>18</sup>

A team of researchers, including Casey D. Cobb, a professor of education at the University of Connecticut, reported on Connecticut's magnet program, to be discussed in greater detail in Part II. They compared magnet lottery "winners" and "losers" as well in Connecticut and found that magnet schools and high schools have positive effects on students' reading and

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<http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>

<sup>16</sup> Julian Betts, et al., *Does School Choice Work? Effects on Student Integration and Achievement* (Public Policy Institute of California, 2006) [http://www.ppic.org/content/pubs/report/R\\_806JBR.pdf](http://www.ppic.org/content/pubs/report/R_806JBR.pdf).

<sup>17</sup> Julian Betts, et al., *Does School Choice Work? Effects on Student Integration and Achievement* (Public Policy Institute of California, 2006).

<sup>18</sup> The reading performance however, of magnet lottery winners was not significantly different than the performance of nonmagnet students who had lost the lottery one to three years earlier.

<http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>

math scores.<sup>19</sup> More specifically, they concluded that “intersdistrict magnets are largely meeting their mission of providing learning environments that are both more diverse and more conducive to academic achievement than would otherwise be available to students in Connecticut’s central cities.”<sup>20</sup>

In addition to the heightened math and reading scores, Cobb and her team of researchers found additional academic and social benefits. These benefits included stronger peer support for academic achievement in magnets than in non-magnet city schools, more encouragement and support for college attainment for twelfth-grade magnet city students than twelfth grade city students in non-magnets, greater classroom attendance for magnet students than non-magnet city students, and closer friendships between minority students and white students at magnet schools than non-magnet suburban schools.<sup>21</sup>

In an earlier study, Abadzi and Dunkins (1984) looked at a model magnet program which promoted both high achievement and voluntary integration. A magnet program in the Fort Worth (Texas) Independent School District was one of the subjects of their report, which at that time was in its third year of implementation. The program had been implemented in two high schools, two middle schools, and an elementary school and used uniform entry criteria for all races. The report found that in 1982-83, students at these programs “scored 2-3.9 year above district norms, and showed 1.5-2.5 months gain per month of instruction.” Black students especially were found to perform at high levels at these schools. Making up fifty percent of the student enrollment,

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<sup>19</sup> The Forgotten Choice citing Bifulco, R., Cobb, C.D., Bell, C. (2008). *Do magnet schools outperform traditional public schools and reduce the achievement gap? The case of Connecticut’s interdistrict magnet school program.* Occasional Paper No. 167. New York: National Center for the Study of Privatization in Education.

<sup>20</sup><http://cepa.uconn.edu/uconncepa/assets/File/Research%20Projects/Magnet%20Schools/Final%20Magnet%20Report.pdf> .

<sup>21</sup> <http://prrac.org/pdf/DiversityResearchBriefNo6.pdf> citing Casey Cobb, Robert Bifulco & Courtney Bell, *Evaluation of Connecticut’s Interdistrict Magnet Schools*, The Center for Education Policy Analysis, (University of Connecticut, 2009), available at <http://www.education.uconn.edu/research/cepa/assets/Final%20Magnet%20Report.pdf>.

black students, while scoring lower and showing slightly smaller gains than their white peers, still “scored 3-4.6 years above district Black norms.”<sup>22</sup>

In the mid-1980s and late 1990s there were two more studies showing the academic progress of students in magnet schools. One study in particular found that in general, career magnets programs in New York produced higher reading scores for students,<sup>23</sup> “as well as increased opportunity for closer student-teacher relationships and access to unique curricula.”<sup>24</sup> Further, a 1998 study of magnet schools in Jacksonville –Duvall County found that “comparisons of the district’s norm-referenced achievement tests yielded evidence of higher achievement for magnet students at all grade levels.”<sup>25</sup> This despite the struggles of these magnet programs to effectively desegregate their school systems.

There have also been a number of studies that show no significant differences in student achievement between magnet schools and traditional public schools.<sup>26</sup> Esposito (2010) analyzed data for 12,000 students taken in 2002 from the Educational Longitudinal Study, a nationally representative sample of students attending 920 schools. He found that traditional public school students actually scored marginally higher in mathematics in tenth and twelfth grades. Ultimately, Esposito “estimated that the type of school students attended accounted for only three to six percent of the individual test score variance and concluded that changing school practices instead of school types might lead to more successful school improvement efforts.”<sup>27</sup> Nonetheless, in his analysis of choice schools and traditional public schools, Esposito concluded

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<sup>22</sup> [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/34/7d/4d.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/34/7d/4d.pdf).

<sup>23</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>24</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>25</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>26</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>27</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>.

that “high school magnet schools did achieve significantly higher scores than similar traditional schools.”<sup>28</sup>

These modest differences in test scores have also been shown by Ballou, Goldring and Liu (2006) that studied magnet schools in a mid-sized city in Tennessee. They examined the academic performance of students who were “winners” and “losers” of four magnet middle school lotteries. These researchers then compared the academic performance of these two groups. They controlled for prior achievement test scores, ethnicity, and income level. While the Analysis of Tennessee Comprehensive Assessment of Progress (TCAP) scores showed “no evidence of a positive magnet school effect in reading,” there was evidence of attendance at a magnet school having a positive effect on test scores in mathematics. Nonetheless, the researchers determined that once controls were added for student demographics and prior achievement, there was no significant difference between magnet and non-magnet students' test scores in mathematics.<sup>29</sup>

There have also been two studies on magnet schools in Prince George’s County, Maryland that show no correlation between attendance at magnet schools and increased academic achievement. The first study, Adcock and Phillips (2000), contrasted the Maryland School Performance Assessment Program (MSPAP) scores of students attending 28 elementary magnet schools to those of students attending 89 elementary non-magnet schools.<sup>30</sup> The

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<sup>28</sup> The study went on to speculate the reasoning for this, suggesting that these results may be attributed to “the smaller size of magnets, better students, curricular differences, better teachers, different governance, or some combination of these factors.” [http://ncspe.org/publications\\_files/OP156.pdf](http://ncspe.org/publications_files/OP156.pdf) .

<sup>29</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>.

<sup>30</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Adcock, E.P., & Phillips, G.W. (2000). *Accountability Evaluation of Magnet School Programs: A Value-Added Model Approach*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, April 2000. ERIC Document Reproduction Service No. ED441857.

researchers based their analyses on a composite MSPAP score that consisted of reading, writing, language arts, six mathematics, science, and social studies content area scores.

Researchers initially found that there was no significant difference between magnet and non-magnet school students' MSPAP average composite test scores. Since there were a greater number of higher achieving students identified in the district's magnet schools, the researchers conducted additional analyses that controlled for students' prior scores on a test of academic ability. Once controlling for this, the researchers discovered that “the average composite MSPAP score of students in magnet schools was significantly lower than the average score of students in non-magnet schools.”<sup>31</sup>

Yu et al (2005) conducted a second study of magnet programs in Prince George's County Public Schools. They examined seven magnet elementary schools by comparing fifth grade reading and mathematics performance of students previously enrolled in magnet and non-magnet programs when they were in fourth grade. These researchers matched students by gender, ethnicity, poverty status, and prior reading and mathematics achievement test scores. Yu and colleagues found that six<sup>32</sup> of the seven magnet schools “had minimal, if any, effect on students' [Maryland School Assessment] reading or mathematics scores.”<sup>33</sup>

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<sup>31</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Adcock, E.P., & Phillips, G.W. (2000). *Accountability Evaluation of Magnet School Programs: A Value-Added Model Approach*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, April 2000. ERIC Document Reproduction Service No. ED441857.

<sup>32</sup> These schools focused on areas such as music and technology; creative and performing arts; and science, math, and technology. <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>

<sup>33</sup> Results did indicate however, that the French Immersion magnet program had a positive impact on students' Maryland School Assessment (MSA) reading and mathematics scores. <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Yu, N.Y., Li, Y.H., & Tompkins, L.J. (2005). *Using the Multiple-Matched-Sample and Statistical Controls to Examine the Effects of Magnet School Programs on the Reading and Mathematics Performance of Students*. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada, April 2005. ERIC Document Reproduction Service No. ED490624.

Archbald and Kaplan (2004) led a nationwide study that sampled over 30,000 students from 1,000 schools and 300 school districts. Similar to the studies listed above, these researchers focused their study on whether school districts with magnet schools had higher National Assessment of Educational Progress (NAEP) scores than those without magnet schools. The study also compared districts with more than twenty percent of magnet schools to districts with less than twenty percent of magnet schools and districts with no magnet schools. When these researchers controlled for school demographic variables such as parental education level, school median income, and the number of children living below poverty, they found only “small, non-significant differences” between districts with magnet schools and those with no magnet schools.<sup>34</sup>

Finally, Dohrmann et al (2007) examined the academic achievement of Milwaukee Public Schools high school students who previously attended two Montessori magnet programs from preschool through fifth grade. The researchers then compared the achievement of the magnet students with students who attended traditional elementary schools but graduated from the same Milwaukee high schools. All students were matched on the basis of gender, income level, and ethnicity. The researchers discovered that students who attended Montessori magnet programs “scored higher on ACT and Wisconsin Knowledge and Concepts Examination (WKCE) mathematics and science subtests than their matched peers who attended traditional

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<sup>34</sup> “NAEP reading and mathematics scores were marginally lower in districts with magnet schools and associated school choice policies. The authors concluded that school choice is basically a process of redistributing students among schools within a district; therefore, it has no effect on student achievement at the districtwide level.” <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Archbald, D.A., & Kaplan, D. (2004). Parent Choice Versus Attendance Area Assignment to Schools: Does Magnet-Based School Choice Affect NAEP Scores? *International Journal of Educational Policy, Research, & Practice*, 5 (1), 3-35.

elementary schools.” But researchers found no significant differences between magnet and non-magnet students on grade point average or English and social studies test scores.<sup>35</sup>

### B. Comparisons between Magnet Schools and Charter Schools

Comparing magnet schools to charter schools is also important. Charter schools are the primary other school choice currently used in the U.S. Like magnets, charters have been promoted as both a means to promote integrated schools and to enhance student achievement. A number of studies have looked at student achievement in charter schools, with mixed results that largely reflect differences in the laws governing how charters are implemented in different states. For the most part these studies compare charters to traditional public schools.<sup>36</sup> However, a few studies provide direct comparisons between magnets and charters.

Blume et al (2010) compared Los Angeles charter and magnet schools, analyzing the standardized test scores of students enrolled in 152 charter schools and 161 magnet schools in the Los Angeles, California area. The work compared the raw standardized test scores in reading and mathematics for charter and magnet students. They found that “students attending magnet schools scored higher on tests of reading and mathematics than those attending charter schools.” Further, the researchers found that the percentages were “particularly significant for African

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<sup>35</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Dohrmann, K.R., Nishida, T.K., Gartner, A., Lipsky, D.K., & Grimm, K.J. (2007). High School Outcomes for Students in a Public Montessori Program. *Journal of Research in Childhood Education*, 22 (2), 205-217.

<sup>36</sup> See Institute on Race and Poverty, “Failed Promises Assessing Charter Schools in the Twin Cities,” November 2008, <http://www.law.umn.edu/uploads/5f/ca/5fcac972c2598a7a50423850eed0f6b4/8-Failed-Promises-Assessing-Charter-Schools-in-the-Twin-Cities.pdf> for a review of this literature.

American students.” In fact, all demographics scored better on the tests than students attending traditional schools.<sup>37</sup>

A study conducted by researchers for the Chicago Teachers Union produced similar findings. In that study the Chicago Public Schools (CPS) magnet elementary schools significantly outperformed comparable charters on CPS’ accountability measures. On average, non-selective magnet schools outranked charters by twelve percentile points in reading and two percentile points in math.<sup>38</sup> The study went on to find that CPS’s non-selective magnet schools with similar levels of Free or Reduced Lunch figures outranked charter schools by twelve percentile points in reading and two percentile points in math at the 52nd percentile in reading and the 57th in math.<sup>39</sup>

### C. The Role Integration Plays in the Academic Achievement at Magnet Schools

For the past two decades researchers have conducted studies on the positive effects of socio-economic and racially integrated magnet schools, namely the relationship between integration and closing the academic achievement gap. Several studies have found that students of all races who attend integrated schools have higher levels of critical thinking, meaning the ability to adopt multiple perspectives.<sup>40</sup> Mickelson’s 2010 review of this literature concludes that the research overwhelmingly shows that “attending racially and socioeconomically diverse

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<sup>37</sup> <http://infonomics-society.org/IJCDSE/A%20Case%20for%20the%20Support%20of%20U.S.%20Magnet%20Schools%20of%20the%20Creative%20and%20Performing%20Arts.pdf> citing Blume, H., Landsberg, M., Poindexter, S. Charters generally perform better than traditional schools, not as well as magnets. *Los Angeles Times*. January 10, 2010.

<sup>38</sup> <http://www.ctunet.com/quest-center/research/black-and-white-of-chicago-education.pdf>.

<sup>39</sup> This study also found that charter schools did “not improve student test scores any more than” neighborhood schools with similar student populations. And when compared to magnet schools, charter schools under-enrolled students with Individualized Education Plans. <http://www.ctunet.com/quest-center/research/black-and-white-of-chicago-education.pdf>.

<sup>40</sup> <http://prrac.org/pdf/DiversityResearchBriefNo6.pdf>.

schools has positive effects on math and reading and other areas, such as science.”<sup>41</sup> Further, these effects have been found to benefit white students as well.

Gurin found that white students in “racially diverse classrooms were more likely to score higher on complex analytical tests, possess greater intellectual confidence, desire to pursue graduate degrees, understand and appreciate the ideas of others, and were more likely to maintain and pursue friendships across racial and ethnic lines.”<sup>42</sup>

Cobb et al (2008) and his team of researchers also found that among the Connecticut middle schools they analyzed, “the effects were found to be the largest when the magnet school reduced the racial isolation by at least 40 points in comparison to district schools the city students would otherwise be attending.”<sup>43</sup> They concluded that there were “reasons to believe that these more diverse and academically oriented environments are associated with more positive intergroup attitudes and relations and improved academic performance for individual students.”<sup>44</sup>

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<sup>41</sup> <http://www.ctmirror.org/story/2010/01/15/2-billion-later-do-magnet-schools-help-kids-learn>.

<sup>42</sup> <http://www.berkeleyschools.net/information-on-berkeley-unifieds-student-assignment-plan/>. There have also been studies showing that “both white and nonwhite students in racially diverse schools are less racially prejudiced than those in other schools.” <http://www.ruizlaw.com/upload/files/ruiz.osu.pdf> citing Braddock & McPartland, *supra* note 47, at 285; Hallinan & Smith, *supra* note 47, at 13–14; Wells & Crain, *supra* note 47, at 552. “The studies have also found that an increase in interracial contact among students creates more interracial sociability and friendship.” <http://www.ruizlaw.com/upload/files/ruiz.osu.pdf> citing Hallinan & Smith, *supra* note 47, at 13. Racially integrated schools have been found to give “all students access to social networks that are connected to opportunity and social mobility.” <http://www.wmitchell.edu/lawreview/documents/4.orfield.pdf> citing Mark Granovetter, *The Micro-Structure of School Desegregation*, in SCHOOL DESEGREGATION RESEARCH: NEW DIRECTIONS IN SITUATIONAL ANALYSIS 99–107 (Jeffrey Prager, Douglas Longshore & Melvin Seeman eds., 1986). Researcher Gary Orfield has written much on this topic, citing evidence that students who attended desegregated schools were more likely to lead integrated lives as adults, in settings such as higher education, housing, and the workplace.”<sup>42</sup> Overall, he found that attending heterogeneous schools leads ‘to a greater ability to work with and understand people of backgrounds different than one’s own, and to more fully participate in a rapidly changing democratic society.’” <http://www.ruizlaw.com/upload/files/ruiz.osu.pdf> citing ORFIELD & LEE, *supra* note 37, at 26.

<sup>43</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf) citing Bifulco, R., Cobb, C.D., Bell, C. (2008). *Do magnet schools outperform traditional public schools and reduce the achievement gap? The case of Connecticut’s interdistrict magnet school program*. Occasional Paper No. 167. New York: National Center for the Study of Privatization in Education.

<sup>44</sup> <http://www.ctmirror.org/story/2010/01/15/2-billion-later-do-magnet-schools-help-kids-learn>.

Magnet schools aside, researchers have also examined the effects of socio-economic integration in traditional public schools. A carefully controlled study published in 2010 analyzed students and families who were randomly assigned to public housing units in Montgomery County, Maryland. The study set out to answer the question as to whether low-income students perform better in higher-poverty schools that receive greater resources, or in more affluent schools with fewer resources. The study analyzed two approaches. Firstly, the Montgomery County School District invested about \$2,000 per pupil in its lowest income schools (the ‘red zone’) to “employ a number of innovative educational approaches.”<sup>45</sup> Secondly, the county also “had a long-standing inclusionary housing policy that allowed low-income students to live in middle-and upper-middle-class communities and attend moderately affluent schools (the ‘green zone’).”<sup>46</sup>

Overall, the study found that “low-income students attending more-affluent elementary schools (and living in more-affluent neighborhoods) significantly outperformed low-income elementary students who attend higher-poverty schools with state-of-the-art educational interventions.” Further, “[b]y the end of elementary school, students living in public housing who attended the most affluent schools cut their initial, sizable math achievement gap with nonpoor students in the district by half. For reading, the gap was cut by one-third.” In general this and studies similar to that in Montgomery County support advocates of racial and socio-economic integration, which had been the mantra of most magnet schools.<sup>47</sup>

In spite of these findings, a few academic researchers argue that it is not the magnet model or integration that is generating these findings. They argue instead that the results are

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<sup>45</sup> <http://www.aft.org/pdfs/americaneducator/winter1213/Kahlenberg.pdf>.

<sup>46</sup> <http://www.aft.org/pdfs/americaneducator/winter1213/Kahlenberg.pdf>.

<sup>47</sup> <http://www.aft.org/pdfs/americaneducator/winter1213/Kahlenberg.pdf>.

more likely due to extra spending in magnets.<sup>48</sup> However, these researchers are out-numbered by those described above.

#### D. Magnet Schools, Graduation Rates and College Admissions Rates

In addition to improved test scores in math and reading, there is increasing data showing a correlation between attendance at magnet school and higher graduation rates as well as admission to college. This is of significance considering studies have found that career academies are most strongly associated with increased graduation rates.<sup>49</sup> Overall, “most studies have found that students who attend magnet schools have higher graduation rates than students attending public schools.”<sup>50</sup>

Silver et al (2008) used a longitudinal data set to follow the individual records of over 48,000 students in the Los Angeles Unified School District (LAUSD). Students entered the ninth grade for the first time in 2001-02 and were expected to graduate in 2005.<sup>51</sup> There were several

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<sup>48</sup> See for instance, David Armor at <http://www.ctmirror.org/story/2010/01/15/2-billion-later-do-magnet-schools-help-kids-learn>.

<sup>49</sup> <http://files.eric.ed.gov/fulltext/ED536516.pdf> citing Vanderkam, L. (2009). LAPD High. City Journal, 19(2). Retrieved from [http://www.city-journal.org/2009/19\\_2\\_LAPD-magnet-schools.html](http://www.city-journal.org/2009/19_2_LAPD-magnet-schools.html); Gehring, J. (2000). Eye on Academies. Education Week on the Web, 19(33), 38-40. Retrieved from <http://www.edweek.org/ew/articles/2000/04/26/33academies.h19.html?qs=gehring>; Flaxman, E., Guerrero, A., & Gretchen, D. (1999). Career Development Effects of Career Magnets Versus Comprehensive Schools. National Center for Research in Vocational Education, University of California, Berkeley, CA. Retrieved from <http://vocserve.berkeley.edu/abstracts/MDS-803/MDS-803.html>.

<sup>50</sup> <http://files.eric.ed.gov/fulltext/ED536516.pdf> citing Siegel-Hawley, G., & Frankenberg, E. (2011). Magnet School Student Outcomes: What the Research Says. The National Coalition on School Diversity, Brief No. 6. Retrieved from <http://www.prrac.org/pdf/DiversityResearchBriefNo6.pdf>; Cobb, C.D., Bifulco, R., & Bell, C. (2009). Evaluation of Connecticut's Interdistrict Magnet Schools. The Center for Education Policy Analysis, University of Connecticut, Storrs, CT. Retrieved from <http://www.education.uconn.edu/research/CEPA/assets/FinalMagnetReport.pdf>; Hadderman, M., & Smith, S. (2002). Intrasectional (Public) Choice Plans: Magnet Schools. Clearinghouse on Educational Policy and Management, College of Education, University of Oregon, Eugene, OR. Retrieved from [http://eric.uoregon.edu/trends\\_issues/choice/intrasectional.html](http://eric.uoregon.edu/trends_issues/choice/intrasectional.html).

<sup>51</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Silver, D., Saunders, M., & Zarate, E. (2008). What Factors Predict High School Graduation in the Los Angeles Unified School District. California Dropout Research Project Report #14, University of

controls in the study. For student-level factors, researchers controlled for ethnicity, gender, test scores, and absenteeism. And for school-related factors, they controlled for ethnic composition and poverty level. The researchers found “that students enrolled in the district's magnet programs graduated at higher rates than non-magnet students.”<sup>52</sup> Some three-quarters (73 percent) of students who attended an LAUSD senior high magnet school graduated. This compared to the 45 percent of LAUSD senior high non-magnet students who graduated.<sup>53</sup> Similar to the studies listed under the previous subsection (racial integration), Silver et al concluded that their “findings suggest students who attend racially isolated middle schools and high schools do not fare as well in completing a high school diploma as students who attend middle schools with larger percentages of White and Asian students.”<sup>54</sup>

Dohrmann et al (2007) analyzed LAUSD magnet schools and found that “students attending a magnet school had increased access to “college-going resources and greater opportunities to learn.”<sup>55</sup> This could be connected to studies showing a connection between students attending Montessori magnet programs scored higher on the ACT.<sup>56</sup>

The Pittsburgh Public School District has also witnessed “an overwhelming number of Black students graduating from its magnet schools.” For instance in 2013, the Pittsburgh Science

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California, Santa Barbara, CA. Retrieved from h. What Factors Predict High School Graduation in the Los Angeles Unified School District. California Dropout Research Project Report #14, University of California, Santa Barbara, CA. Retrieved from <http://www.hewlett.org/uploads/files/WhatFactorsPredict.pdf>

<sup>52</sup> Researchers also found that “[f]irst-time freshmen who attended a magnet school or center during middle school had a 68% chance of graduating compared to 51% for those students who did not attend a magnet middle school.”

<sup>53</sup> “Researchers suggested that magnet schools' theme-based nature led to increased student interest and engagement.” <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>.

<sup>54</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>. See also <http://files.eric.ed.gov/fulltext/ED529163.pdf>.

<sup>55</sup> <http://www.hewlett.org/uploads/files/WhatFactorsPredict.pdf>.

<sup>56</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Dohrmann, K.R., Nishida, T.K., Gartner, A., Lipsky, D.K., & Grimm, K.J. (2007). High School Outcomes for Students in a Public Montessori Program. *Journal of Research in Childhood Education*, 22(2), 205-217.

and Technology Academy, which opened in 2009, saw all 56 of its seniors graduate.<sup>57</sup> Other magnet schools in the district such as Pittsburgh Obama and Pittsburgh CAPA saw graduation 100 percent of their Black senior graduate. Pittsburgh Obama actually graduated 100 percent of its seniors and Pittsburgh CAPA graduated 97.5 of its white seniors. Further, “[t]he students at these schools are also planning to attend college in large numbers than district averages.”

There have also been (a smaller number of) contrary reports. Crain et al examined the school records of over 9,000 students who attended 59 programs. Researchers interviewed 110 students who had applied to four different career magnet high schools and compared the lottery winners to those who lost the lottery and graduated from a comprehensive high school. With respect to graduation and dropout rates, the researchers found “[m]any of the career magnet programs ... had lower graduation rates than the comprehensive schools.” “Only 26 percent of the lottery winners graduated high school at the end of the fourth year; 31 percent of the lottery losers graduated after four years.”<sup>58</sup>

#### E. Model Integrated Magnet School Programs

There are several noteworthy integrated magnet schools that have set the bar in terms of academic achievement. The Wake County Public School System in Raleigh, North Carolina is home to many of these model schools. And even though the criterion for selection no longer involves race,<sup>59</sup> diversity, namely socioeconomic status is considered for admissions. In part, Wake County has produced model magnet schools because students are achieving at high academic levels. In 2003, 91.3 % of students at magnet schools tested at or above grade level, up

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<sup>57</sup> <http://www.newpittsburghcourieronline.com/index.php/youth/13957-pgh-magnets-boast-high-grad-rates>.

<sup>58</sup> <http://www.tc.columbia.edu/centers/iee/BRIEFS/Brief22.pdf>

<sup>59</sup> After 1997, Wake County removed race.

from 81.9 percent in 1998.<sup>60</sup> Overall, “research shows that over the years, Wake County’s low-income, minority, and white students have generally outperformed comparable students in other large North Carolina districts that do not break up concentrations of poverty.”<sup>61</sup> Grant (2009) reported that Wake County “reduced the gap between rich and poor, black and white, more than any other large urban educational system in America.”<sup>62</sup>

Then there are the magnet programs in Hartford, Connecticut. In 2012, the State Department of Education in Connecticut reported that students attending magnet schools in Hartford outperformed their peers who attend their neighborhood schools.<sup>63</sup> “The data indicates that Hartford-resident students enrolled in choice programming opportunities perform at higher levels than those who are enrolled in the city public schools.”<sup>64</sup> As of 2005-06, Connecticut boasted 51 interdistrict magnet schools, of which forty-one were located in Hartford, New Haven, or Waterbury areas.<sup>65</sup> Of the 39 inter-district magnet schools serving students from these cities in 2005-06, “16 were less than 20 percent white, 11 were between 20 and 30 percent white, and 12 were more than 40 percent white.”<sup>66</sup>

And in Portland, Oregon, the magnet program at Benson Polytechnic High School<sup>67</sup> has seen high levels of academic achievement among its minority and low-income students. Since the early 1900s, Benson has operated as a technical school, providing specific majors for high school students in arts and communications, health occupations, and industry and engineering.

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<sup>60</sup> <http://www2.ed.gov/admins/comm/choice/magnet/report.pdf>.

<sup>61</sup> <http://www.aft.org/pdfs/americaneducator/winter1213/Kahlenberg.pdf>.

<sup>62</sup> Gerald Grant, *Hope and Despair in the American City: Why There are No Bad Schools in Raleigh* (Cambridge, MA: Harvard University Press, 2009), 92.

<sup>63</sup> <http://www.sheffmovement.org/news/2013-09-12ctmirror.shtml> For Connecticut Department of Education report see <http://www.ctmirror.org/node/143623#report>.

<sup>64</sup> <http://www.sheffmovement.org/news/2013-09-12ctmirror.shtml> For Connecticut Department of Education report see <http://www.ctmirror.org/node/143623#report>.

<sup>65</sup> [http://ncspe.org/publications\\_files/OP167.pdf](http://ncspe.org/publications_files/OP167.pdf).

<sup>66</sup> [http://ncspe.org/publications\\_files/OP167.pdf](http://ncspe.org/publications_files/OP167.pdf).

<sup>67</sup> <http://www.pps.k12.or.us/news-c/schoolfair/hsinfobrochure.pdf>.

For the 2012-13 school year, Benson reported a student population that was 29.3% white, 22.2% black, 17.10% Asian, and 26.3% Hispanic. The test scores for this past year were all above the state and district averages. Benson reported test score averages of 76% in math, 87% in reading, and 85% in science.<sup>68</sup> More impressive is the school's graduation rate, which at 82% stands well-above the district and state averages of 63% and 68% respectively.<sup>69</sup>

## II. CHARACTERISTICS OF SUCCESSFUL MAGNET SCHOOLS

A variety of factors contribute to magnet school success. This section looks at the evidence regarding the implementation of racial integration objectives, student performance, and how to sustain these goals over time.

The most important factor contributing to achieving integration goals is the scale of the program. Not surprisingly, whole magnet schools typically produce more diverse student populations than school-within-school magnets.<sup>70</sup> Effective outreach has also been shown to contribute to successful integration efforts. Frankenberg and Siegel-Hawley (2008) conclude that “[s]chools that outreach to prospective students were more likely to have experienced increasing integration over the last decade, while one-quarter of those without special outreach were one-race schools.”<sup>71</sup> They also found that non-competitive admissions policies and lower teacher

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<sup>68</sup> <http://schools.oregonlive.com/school/Portland/Benson-Polytechnic-High-School/>.

<sup>69</sup> <http://schools.oregonlive.com/school/Portland/Benson-Polytechnic-High-School/>.

<sup>70</sup> In a 2008 survey, Erica Frankenberg and Genevieve Siegel-Hawley found that “[t]wo-thirds of whole magnets (66.1%) reported substantial integration under their current policy or a gradual increase in integration levels. Only half of the “school within a school” magnets were similarly integrated ... Importantly, 16.6% of school within school magnets report being one-race schools, which suggests that these magnet programs are less effective than whole magnets, among the magnet schools in this survey, in creating racially diverse schools. Additionally, there are a disproportionately lower percentage of within-school magnets that reported increasing integration during the last decade (only 22%). By contrast, 35% of whole-magnets reported increasing integration during this time period.” [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>71</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

turnover were associated with greater integration rates.<sup>72</sup> Finally they found that the existence of clear desegregation goals were a good indicator of whether a school would be integrated. Of the magnets surveyed, “ten percent of those that never had desegregation goals reported being one-race schools, and seven percent that never had goals or are in the process of changing them are also one-race schools.” The figures of these schools without desegregation plans were “considerably higher than those schools that do have desegregation – less than 3% of those are considered to be predominately of one race.”<sup>73</sup>

Planning guides from the Magnet School of America program and planning the Office of Educational Research and Improvement (OERI) focus on creating sustainable magnet programs (not necessarily focused on racial integration).<sup>74</sup> Both sources emphasize clearly stated themes and goals and careful examination of the community to be served.

For instance, the OERI guided lays out a ten-step plan including:

- (1) Decide what the program is supposed to do;
- (2) Find out what the community wants;
- (3) Decide on themes;
- (4) Choose strong leaders;
- (5) Let teachers volunteer;
- (6) Provide staff development;
- (7) Market the program to parents;
- (8) Decide on selection criteria;
- (9) Develop a practical transportation plan; and
- (10) Identify and tap funding sources.<sup>75</sup>

A number of factors have also been found to contribute to student achievement in magnet schools.<sup>76</sup> Hadderman, and Smith (2002) find that greater per pupil spending, the provision of more

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<sup>72</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>73</sup> [http://www.magnet.edu/files/pdf/rar\\_rethink.pdf](http://www.magnet.edu/files/pdf/rar_rethink.pdf).

<sup>74</sup> <http://www.magnet.edu/about/board-of-directors/Gladys-Pack> and [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/34/7d/4d.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/34/7d/4d.pdf).

<sup>75</sup> [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/34/7d/4d.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/34/7d/4d.pdf).

<sup>76</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Hadderman, M., & Smith, S. (2002). Intrasectoral (Public) Choice

resources, the creation of a safe, orderly learning environment, greater selectivity in student admissions, and the ability to attract more highly qualified teachers all contribute.<sup>77</sup> Goldring (2004) examined the impact of Nashville, Tennessee magnet schools on students' mathematics achievement in grades five and six. The study analyzed one academic magnet school where students were required to meet specific standards to qualify for the entrance lottery and four non-selective magnet schools that did not have lottery requirements.<sup>78</sup> Overall, there was a positive association between Tennessee Value-Added Assessment System mathematics scores and attendance at a magnet school, but the relationship was complicated. Gains at the selective magnet amounted to "17 percent of a year's normal growth in grade 5, but disappeared in grade 6." As for non-selective magnet schools, "gains were not apparent until grade 6, but then were much larger, amounting to one-half of a year's growth."<sup>79</sup>

Research on the effects of differing magnet themes suggest no strong advantage for one type of magnet over others. The largest study to look at this issue was by the Houston Independent School District's Department of Research and Accountability, which conducted a study in 2007 that examined the performance of students enrolled in three different types of magnet programs at 105 of the district's schools. These schools included school-within-a-school magnet programs, separate magnet schools, and add-on magnet programs. Using data from

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Plans: Magnet Schools. Clearinghouse on Educational Policy and Management, College of Education, University of Oregon, Eugene, OR. Retrieved from [http://eric.uoregon.edu/trends\\_issues/choice/intrasectional.html](http://eric.uoregon.edu/trends_issues/choice/intrasectional.html).

<sup>77</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf> citing Hadderman, M., & Smith, S. (2002). Intrasectional (Public) Choice Plans: Magnet Schools. Clearinghouse on Educational Policy and Management, College of Education, University of Oregon, Eugene, OR. Retrieved from [http://eric.uoregon.edu/trends\\_issues/choice/intrasectional.html](http://eric.uoregon.edu/trends_issues/choice/intrasectional.html); Fuller, B., Burr, E., Huerta, L., Puryear, S., & Wexler, E. (1999). School Choice: Abundant Hopes, Scarce Evidence of Results. Policy Analysis for California Education, Berkeley School of Education, University of California, Berkeley, CA. ERIC Document Reproduction Service No. ED476193.

<sup>78</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>

<sup>79</sup> <http://oer.dadeschools.net/EvaluationMatters/TransmittalOfInformationCapsuleAReviewOfTheResearchOnMagnetSchools.pdf>

Texas Assessment of Knowledge and Skills and the Stanford Achievement Test, researchers found that “students in all three types of magnet programs in all grades had higher passing rates on the reading, mathematics, writing, and science subtests of the assessments than did their respective grade-level counterparts districtwide.”<sup>80</sup>

Khalenberg (2010) reviewed Wake County’s magnet programs in North Carolina, he concluded that “constant communication” on the part of school officials and community plays a critical role in the effectiveness of these magnet schools and similar school choice programs. He also points to strong national leadership, namely that of U.S. Secretary of Education Arne Duncan. The same can be said for local leadership. For instance, Benson High School in Portland, Oregon, despite its impressive test scores and graduation rates, actually came close to being reduced from a four-year program to a two-year tech center, offering zero high school diplomas.<sup>81</sup> But the support of a strong alumni board and administrative staff helped pressure Portland Public Schools into keeping Benson a four-year program.<sup>82</sup>

### **III. HIGH ACADEMIC ACHIEVING, RACIALLY INTEGRATED MAGNET SCHOOLS IN MINNESOTA**

Among school choice programs in Minnesota, magnet schools have tended to be overshadowed by the state’s open enrollment and charter programs. However, there several good examples of racially and economically integrated magnet schools in Minnesota that also achieve high academic marks. Tables 1 through 5 summarize demographic and performance data for 15 racially integrated magnet programs in the Twin Cities region.

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<sup>80</sup> <http://www.magnet.edu/files/documents/review-of-research-on-magnet-schools.pdf> citing Goldring, E. (2004). Public School Choice: Magnet Schools, Peer Effects, and Student Achievement. Peabody College of Education and Human Development, Vanderbilt University, Nashville, TN.

<sup>81</sup> [http://www.oregonlive.com/portland/index.ssf/2010/05/a\\_better\\_benson\\_high\\_school\\_or.html](http://www.oregonlive.com/portland/index.ssf/2010/05/a_better_benson_high_school_or.html)

<sup>82</sup> <http://portlandtribune.com/pt/9-news/21117-high-school-redesign-traps-benson>.

Capitol Hill Magnet (Rondo) in St. Paul is a good example. The school specializes in several areas including science, visual arts, drama, physical education and music. It serves children in grades one through eight. Standardized testing proficiency rates ranged from 80 to 98 percent for math (2010) and from 78 to 92 percent for reading (2012). These rates were all well above state averages, which ranged from 59 to 83 percent for math and from 71 to 82 percent for reading.

Capitol Hill Magnate is also a prime example of a stably integrated school, 52 percent of its students white, 17 percent black, 23 percent Asian, and 6 percent Hispanic – shares that have remained steady over a number of years.<sup>83</sup> (Tables 1-5)

Barton Open Elementary in Minneapolis, serving kindergarten through eighth grade students, is another good example. Roughly a third of its students were non-white in 2010 and it was among the highest scoring schools in the group. For math, only two classes in 2010 fell below the state proficiency averages. For reading, all grades at Barton exceeded the state averages in 2012. (Tables 1-5)

In Eagan, Glacier Hills Elementary has reported similar successes. Serving children in grades kindergarten through fifth, the student population was 54 percent white, 17 percent black, 14 percent Asian, and 10 percent Hispanic in 2010. With arts and science at the heart of the program, proficiency rates ranged from 74 to 94 percent for math (only grade four performed below the state average of 77 percent). All grades for 2012 tested above the state average for reading, ranging from 83 percent proficient to 90 percent. (Tables 1-5)

Weaver Lake Science, Math, & Tech School in Maple Grove boasts high test scores as well. The school serves grades three through six and places a high value on technology and

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<sup>83</sup> <http://www.greatschools.org/minnesota/st.-paul/2068-Capitol-Hill-Magnet-Rondo/?tab=test-scores>.

scientific investigation. In 2010, math proficiency rates ranged from 71 percent to 91 percent (all above the state average). Reading rates ranged from 83 percent to 89 percent (again, all above the state average). Its racial composition mirrors Glacier Hills at 55 percent white, 20 percent Asian, 16 percent black, and 5 percent Hispanic. (Tables 1-5)

Cedar Park Elementary, located in Apple Valley serves grades three through five and also concentrates on scientific, technological, and mathematical curricula. In 2010, math proficiency rates ranged from 63 to 93 percent, with only grade five below the state average. In 2012, the reading rates ranged from 78 to 79 percent. Similar to Rondo and Eagen, Cedar Park has a relatively diverse racial student population. In 2010, the student mix was 47 percent white, 21 percent black, 15 percent Hispanic, and 13 percent Asian. (Tables 1-5)

Some other included magnet programs do not do as well. However, they tend to be the schools that are closest to being non-white segregated. These include schools such as Whittier International (72 percent non-white), Emerson Elementary (82 percent non-white), and Sheridan Elementary (90 percent non-white). (Tables 1-5)

**Table 1 Racial Demographics for Magnet Schools in 2010<sup>84</sup>**

<b>School</b>	<b>White %</b>	<b>Black %</b>	<b>Hispanic %</b>	<b>Asian %</b>	<b>American Indian %</b>
<b>Armatage</b>	65%	22%	5%	4%	1%
<b>Bancroft</b>	16%	28%	44%	2%	9%
<b>Barton</b>	67%	22%	7%	3%	1%
<b>Capitol Hill (Rondo)</b>	52%	17%	6%	23%	1%
<b>Cedar Park</b>	47%	21%	15%	13%	1%
<b>Dowling</b>	62%	22%	7%	6%	3%
<b>Emerson</b>	18%	7%	69%	2%	2%
<b>Fair (Downtown)</b>	30%	53%	6%	2%	3%
<b>Glacier Hills</b>	54%	17%	10%	14%	5%
<b>Marcy</b>	56%	27%	7%	6%	3%
<b>Seward</b>	48%	32%	6%	9%	5%
<b>Sheridan</b>	10%	60%	7%	15%	7%
<b>Weaver Lake</b>	55%	16%	5%	20%	0%
<b>Whittier</b>	28%	37%	29%	3%	2%
<b>Windom</b>	28%	8%	61%	1%	0%

**Table 2 State Average Proficiency Rates for Standardized Test Scores**

<b>Subjects</b>	<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 10</b>	<b>Grade11</b>
<b>Math (2010)</b>	83%	77%	69%	69%	64%	59%	N/A	52%
<b>Reading (2012)</b>	80%	75%	79%	76%	71%	72%	77%	N/A

<sup>84</sup> All data in tables 1-5 is taken from Greatschools.org, which has used demographic statistics and test score from the Minnesota Department of Education. See <http://www.greatschools.org/>.

**Table 3 Standardized Math Proficiency Rates for Magnet Schools in 2010**

School	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10	Grade 11
Armatage	89%	79%	66%	--	--	--	--	--
Bancroft	39%	29%	34%	--	--	--	--	--
Barton	85%	88%	64%	62%	75%	81%	--	--
Capitol Hill (Rondo)	98%	93%	90%	94%	83%	80%	--	--
Cedar Park	93%	77%	63%	--	--	--	--	--
Dowling	84%	69%	68%	--	--	--	--	--
Emerson	76%	37%	28%	23%	16%	19%	--	--
Fair (Downtown)	78%	67%	54%	44%	24%	50%	N/A	17%
Glacier Hills	94%	71%	74%	--	--	--	--	--
Marcy	65%	50%	42%	66%	52%	53%	--	--
Seward	87%	72%	68%	60%	71%	74%	--	--
Sheridan	39%	19%	41%	35%	26%	23%	--	--
Weaver Lake	91%	88%	71%	80%	--	--	--	--
Whittier	67%	60%	30%	--	--	--	--	--
Windom	95%	74%	n/a	10%	43%	20%	--	--

**Table 4 Standardized Reading Proficiency Rates for Magnet Schools in 2010**

School	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10	Grade 11
Armatage	84%	81%	84%	--	--	--	--	--
Bancroft	27%	41%	48%	--	--	--	--	--
Barton	83%	92%	72%	75%	79%	92%	--	--
Capitol Hill (Rondo)	86%	91%	94%	92%	74%	83%	--	--
Cedar Park	79%	70%	68%	--	--	--	--	--
Dowling	83%	72%	81%	--	--	--	--	--
Emerson	55%	33%	37%	40%	35%	39%	--	--
Fair School	67%	67%	70%	72%	45%	48%	74%	N/A
Glacier Hills	86%	71%	66%	--	--	--	--	--

<b>Marcy</b>	69%	60%	59%	77%	69%	66%	--	--
<b>Seward</b>	80%	71%	70%	52%	72%	77%	--	--
<b>Sheridan</b>	18%	19%	32%	26%	22%	29%	--	--
<b>Weaver Lake</b>	82%	82%	87%	76%	--	--	--	--
<b>Whittier</b>	60%	47%	40%	--	--	--	--	--
<b>Windom</b>	50%	51%	32%	17%	37%	18%	--	--

**Table 5 Standardized Reading Scores for Magnet Schools in 2012**

<b>School</b>	<b>Grade 3</b>	<b>Grade 4</b>	<b>Grade 5</b>	<b>Grade 6</b>	<b>Grade7</b>	<b>Grade 8</b>	<b>Grade 10</b>	<b>Grade 11</b>
<b>Armatage</b>	86%	86%	94%	--	--	--	--	--
<b>Bancroft</b>	42%	23%	32%	--	--	--	--	--
<b>Barton</b>	91%	85%	88%	94%	77%	82%	--	--
<b>Capitol Hill (Rondo)</b>	92%	91%	94%	94%	82%	78%	--	--
<b>Cedar Park</b>	77%	79%	78%	--	--	--	--	--
<b>Dowling</b>	95%	80%	86%	--	--	--	--	--
<b>Emerson</b>	56%	45%	55%	n/a	n/a	n/a	--	--
<b>Fair School</b>	88%	n/a	64%	71%	79%	72%	71%	--
<b>Glacier Hills</b>	88%	83%	90%	--	--	--	--	--
<b>Marcy</b>	79%	64%	71%	81%	66%	78%	--	--
<b>Seward</b>	71%	68%	74%	76%	59%	67%	--	--
<b>Sheridan</b>	40%	34%	42%	30%	29%	37%	--	--
<b>Weaver Lake</b>	84%	83%	89%	89%	--	--	--	--
<b>Whittier</b>	58%	45%	58%	--	--	--	--	--
<b>Windom</b>	65%	66%	58%	n/a	n/a	n/a	--	--

#### IV. UNIVERSITY PARTNERSHIPS WITH MAGNET SCHOOLS

University partnerships are a potentially viable option for magnet schools. North Carolina is a leader in this type of partnership. Roughly ten years ago, the Wake County Public School System collaborated with North Carolina State University, creating the Centennial Campus Middle School. The University's College of Education and Psychology jointly developed the project.<sup>85</sup> The students and faculty of Centennial "frequently engage" with faculty, students, and facilities at North Carolina State's ten colleges, as well as its corporate and government partners.<sup>86</sup> Centennial has also seen academic improvement since its inception. In math, "Centennial eighth-graders achieved high growth and on the state-required computing test, Centennial's pass rate jumped from 71 percent to 87 percent."<sup>87</sup>

North Carolina is also home to Hampton Elementary, located in the city of Greensboro. Starting in 2001, the school implemented a new extended instruction magnet program. The school later partnered in 2010 with North Carolina Agricultural and Technical State University. This partnership allows students to access tutors, interns and student mentors, as well as ongoing instructional support for Hampton staff.<sup>88</sup>

In Connecticut, the University of Hartford sponsors the University of Hartford Magnet School (UHMS) and the University High School of Science and Engineering (UHSSE). UHMS opened in the fall of 2002 and serves students in pre-kindergarten to grade five and exposes students to the University's programming. Programming at the University includes: teaching lab for early childhood and elementary education college students, after school Strings and Band

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<sup>85</sup> <http://www.ls3p.com/projects/k12-education/centennial-campus-middle-school/>.

<sup>86</sup> <http://ccms.wcpss.net/about-use/the-idea/>.

<sup>87</sup> <http://www.sas.com/success/centennial.html>.

<sup>88</sup> <http://www.gcsnc.com/education/school/schoolhistory.php?sectiondetailid=240867&linkid=nav-menu-container-4-1798557>.

program run by the Hartt School of Music, and a mentoring program that matches University of Hartford students with UHMS students.<sup>89</sup> In fall 2009, UHSSE opened its new building on the University of Hartford Campus. UHSSE specializes in a range of scientific, engineering, and technology fields and focuses on getting students integrated in the college experience.<sup>90</sup>

Also in Connecticut, Goodwin College, a private school, is preparing to open three new inter-district magnet schools on its campus. The schools were scheduled to open in the fall of 2013 and would draw students from the city of Hartford and neighboring areas. The three schools include the Connecticut River Academy, the Pathways Academy of Technology and Design, and the Goodwin College of Early Childhood Magnet School. The Connecticut River Academy has an environmental studies theme and offers extensive project-based experiences in a technology-rich environment. The high school also provides students with “extensive academic and social experiences” at the College and can earn college credit starting their junior year.<sup>91</sup> The Pathways Academy is also a high school, but prior to its partnership with Goodwin it was located at another location for nearly ten years and has already been recognized as one of Connecticut’s premier magnet schools. The Goodwin College Early Childhood Magnet School will serve students in pre-kindergarten and kindergarten. The Early Childhood Magnet School has been described as a “laboratory school” for students in Goodwin’s growing child study and early childhood education degree programs. Students however, will be taught by fully certified early childhood educators.<sup>92</sup>

Another partnership between magnets and universities exists in Worcester, Massachusetts. Clark University has partnered with Jacob Hiatt Magnet School, which serves

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<sup>89</sup> <http://www.crecschools.org/our-schools/university-of-hartford-magnet-school/about-our-school/>.

<sup>90</sup> [http://www.hartford.edu/enhp/itr/clpe/schools\\_oncampus.aspx](http://www.hartford.edu/enhp/itr/clpe/schools_oncampus.aspx).

<sup>91</sup> [http://www.goodwin.edu/Magnet\\_Schools/](http://www.goodwin.edu/Magnet_Schools/).

<sup>92</sup> [http://www.goodwin.edu/Magnet\\_Schools/](http://www.goodwin.edu/Magnet_Schools/).

children in grades pre-kindergarten through six. Clark graduate students serve as yearlong interns at the Jacob Hiatt, and Hiatt teachers continue their own education and professional development with Clark faculty and courses.<sup>93</sup> Clark has also partnered with another pre-kindergarten through sixth grade magnet school, Goddard School of Science and Technology.

Arkansas State University has developed partnerships with eight magnet schools. These schools include Eagle Mountain Magnet School; Sulphur Rock Magnet School; West Magnet School; Health, Wellness and Environmental Science magnet School; International Studies Magnet School, Math and Science Magnet School; Microsociety Magnet School; Visual and Performing Arts Magnet School. Since the fall of 2010, the cooperating schools have agreed to participate in the preparation of teachers and provide proper instructional and physical resources for Arkansas State teacher preparation students completing field experiences.<sup>94</sup>

A few graduate programs have also partnered with magnet school. The Florida International School of Law (FISL) partners with Miami Killian Senior High School, a magnet program that offers rigorous liberal arts curriculum with the opportunity to earn over thirty college credits at FISL. The partnership allows students to “work closely with professionals, participating in shadowing and mentoring programs.” Students have the opportunity to take “field trips to law firms, courthouses, and other governmental agencies.”<sup>95</sup>

The University of Louisville Law School partnered with a magnet high school. Starting in the fall of 2001, the Law School entered a partnership with Central High School. Students participating in the program can partake in moot court competitions and speaker events, law school visits, and a writing competition.<sup>96</sup> There are several primary curricular components of

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<sup>93</sup> <http://www.mass2020.org/files/file/elt-promising-partnerships-clark.pdf>.

<sup>94</sup> <http://www.astate.edu/a/prof-ed-programs-office/partnership/cooperating-schools.dot>.

<sup>95</sup> <http://yourchoicemiami.org/index.php?/index/department/2/4>.

<sup>96</sup> <http://www.law.louisville.edu/central-high-school-partnership>.

the partnership program: street law, writing skills and mentorship program, substantive American government coursework, and civil liberties coursework. The street law curriculum is taught by 12 to 15 law school students for Central High sophomores. Similarly, for the civil liberties curriculum, five third year law students teach civil liberties to Central High seniors. From 2009 to 2011, four Central High alums have gone onto study at the Law School – one in 2009, one in 2010, and two in 2011.<sup>97</sup>

## **V. CONCLUSIONS**

The magnet school approach provides a number of models for enhancing educational opportunities for urban students. The standard approach – specialty elementary and middle schools – is the one most commonly seen in Minnesota. A survey of results for racially diverse magnets in the Twin Cities clearly suggests that students do best in stably integrated schools – schools that do not make the transition to predominantly non-white that is so common for racially diverse schools. Further, results in several other states also suggest that there are potential benefits for the region in pursuing magnet school-University partnerships. The fact that several of Minnesota’s most prominent colleges and Universities are located within the city limits of Minneapolis and St. Paul implies great potential for a role for higher education in promoting integrated school environments designed to enhance student performance in urban areas.

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<sup>97</sup> <http://www.law.louisville.edu/central-high-school-partnership>.

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