EDUCATIONAL CHOICE NEW YORK CITY STYLE: A STUDY OF THE NEW YORK CITY SCHOOL CHOICE PROGRAMS

INTRODUCTION

Scholars, politicians, and pundits dominate the discussion of education reform with praise for parental choice.[1] For example, at his inauguration, New York City Mayor Rudolph W. Giuliani stated, "we must encourage school choice."[2] In a *Time Magazine* cover story, Robert Sorrell, head of a local chapter of the Urban League, asserted, "we need to

[1] *See* Anemona Hartocollis, *Choice System Helps Schools in East Harlem*, N.Y. TIMES, Feb. 24, 1998, at B1.

[2] *'Let's See if We Can Make the Changes Last': Excerpts From Mayor's Speech*, N.Y. TIMES, Jan. 2, 1998, at B4.

give parents choices."[3] Even Bill Clinton, as a presidential candidate in 1991 said, "people need to know they can walk away from bad schools."[4] This rhetoric has consumed the education reform debate in the United States for the past fifteen years.[5]

Beyond the rhetoric, however, lies one of the most important purposes of parental choice: improving students' academic performance.[6] This Note addresses the fundamental purpose of parental choice by questioning to what extent attending a school of choice improves a student's academic performance on course work and standardized tests. This Note attempts to answer the question by analyzing the students' academic records in the New York City school choice programs. Specifically, the study compares the math and English course scores of students who attended their choice high school and those who were rejected by their choice high school and attended their local neighborhood school.[7] Contrary to the rhetoric, the data shows that parental choice does not improve academic performance.

Part I discusses the significance of education in American society. Part II describes various types of parental choice systems. Part III denotes the theoretical underpinnings of parental choice programs. Part IV describes the current legal framework in some states that have adopted statutory school choice regimes. Part V describes New York City's school choice program. Part VI sets forth the study's methodological design. Finally, Part VII enumerates and explains the study's results.

I. SIGNIFICANCE OF EDUCATION IN AMERICAN SOCIETY

One must consider an important question: why do federal, state, and local governments believe education warrants constant proposals for parental choice reform? There are at least three prominent reasons for soci-

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[3] Richard Lacayo, *They'll Vouch for That*, TIME, Oct. 27, 1997, at 72.

[4] Theodore J. Forstman & Bruce Kovner, *How to Energize Education*, N.Y. TIMES, Jan. 3 1998, at A11.

[5] *See generally* MILTON & ROSE FRIEDMAN, FREE TO CHOOSE ch. 6 (1980); JOHN E. CHUBB & TERRY M. MOE, POLITICS, MARKETS, AND AMERICA'S SCHOOLS (1990); and MYRON LIEBERMAN, PRIVATIZATION AND EDUCATIONAL CHOICE (1989) (all three supporting parental choice); JEFFREY R. HENIG, RETHINKING SCHOOL CHOICE: LIMITS OF THE MARKET METAPHOR (1994); TONY WAGNER, HOW SCHOOLS CHANGE (1994) (both discussing the limits of parental choice reform).

[6] *See* Mary Anne Raywid, *The Mounting Case For Schools of Choice, in* JOE NATHAN, PUBLIC SCHOOLS BY CHOICE 14 (2d. ed. 1993) ("youngsters will perform better and accomplish more in learning environments they have chosen than in environments which are simply assigned to them"); Chester E. Finn, Jr., *Why We Need Choice, in* WILLIAM LOWE BOYD & HERBERT J. WALBERG, CHOICE IN EDUCATION: POTENTIAL AND PROBLEMS 4 (1990) ("[s]chools of choice are more effective educational institutions; that is, students learn more in them.").

[7] The study controls for initial student ability upon entering high school by comparing students of equal ability, as measured by standard reading and math scores assessed in middle school.

ety's emphasis on education. First, the decline in educational achievement directly impacts the competitiveness of industry.[8] When "human capital" deteriorates, the labor market in that community suffers and the community is less attractive to business.[9] Similarly, the rise in educational achievement increases national wealth and advances technological development.[10] Second, educational achievement influences the extent to which individuals participate in democracy.[11] Educated individuals are more likely to vote and participate in government.[12] Third, educational achievement effects the social fabric of society. For example, the more educated an individual is, the less likely that individual will commit violent crimes.[13] Consequently, educational achievement contributes to the "improve[ment] in social conditions, and [the] reduction [of] social tensions caused by economic inequalities."[14]

One must ask why does education need reform? An abundance of bleak statistics illustrate the problem.[15] In the United States, graduation rates have decreased,[16] while absenteeism has increased.[17] In urban areas, half of all fourth and eighth graders fail to reach minimal standards in reading, mathematics, and science.[18] In the study, *A Nation at Risk: The Imperative for Educational Reform*, an 18-member commission stated, "[t]he educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a

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8 *See* Tom Feeney, *Why Educational Choice: The Florida Experience*, *in* PRIVATIZING EDUCATION AND EDUCATIONAL CHOICE: CONCEPTS, PLANS, AND EXPERIENCES 52 (Simon Hakim et al. eds., 1994).

9 *See generally* EDGAR K. BROWNING & JACQUELINE M. BROWNING, MICROECONOMIC THEORY AND APPLICATIONS 568-94 (1986); MARTIN BRONFENBRENNER ET. AL., ECONOMICS 754 (1990) (arguing that for America to regain its competitive edge, it needs a "massive investment program in human capital—in the education and training of the young people who will form the work force of the future."); *but see* DEREK H. ALDCROFT, EDUCATION, TRAINING AND ECONOMIC PERFORMANCE 9-12 (1992) (arguing that while in "broad terms one can demonstrate a systematic relationship between income levels and educational endowment," the relationship between education and economic growth is "nebulous.").

10 *See* JOEL SPRING, AMERICAN EDUCATION 18 (1994).

11 *See* THOMAS E. PATTERSON, THE AMERICAN DEMOCRACY 247 (1993).

12 *See id.*

13 *See* SPRING, *supra* note 10, at 12-14.

14 *Id.* at 14.

15 *See* John Leo, Hey, *We're No. 19!*, U.S. NEWS AND WORLD REPORT, Mar. 9, 1998, at 14 (citing study of 21 nations which demonstrated that American high school seniors came in 16th in science, 19th in math, and last in physics); Rene Sanchez, *U.S. High School Seniors Rank Near Bottom*, WASHINGTON POST, Feb. 25, 1998, at A1 (citing study of 21 nations showing American students rank near the bottom in both math and science).

16 *See* CHUBB & MOE, *supra* note 5, at 9.

17 *See id.*

18 *See* Ethan Bronner, *Report Shows Urban Pupils Fall Far Short in Basic Skills*, N.Y. TIMES, Jan. 8, 1998, at A12.

nation and a people."[19] Against this backdrop, school reformers called for parental choice.

II. TYPES OF PARENTAL CHOICE SYSTEMS

Parental choice is defined in numerous ways. Some define choice as "empowering parents and students . . . to choose between private and public schools in a market-like arrangement where schools compete for students."[20] Others use a broader definition such as "education systems in which parents are allowed maximum decision-making authority over their children's schooling."[21] Regardless of how narrow or broad one's definition is, parental choice programs generally fall into one of four models.

The first is the public school choice model, which allows students to attend public schools within any school district, regardless of the students' residence in a particular district.[22] The second model provides both for public and private school choice. In this context, governments would provide subsidies (i.e., tax credits, vouchers, or direct aid) to public schools and students attending private schools.[23] The third model is known as "government-funded privatization."[24] Under this model, "the public school system is eliminated, and is replaced by state subsidies to parents, who then select any school of their choice for their children."[25] The government might still maintain some control, in terms of quality control, teacher certification, and other regulations.[26] Finally, the fourth model is known as "outright privatization."[27] This program eliminates all public schools and government subsidies to education, leaving parents to their own resources to pay for schooling.[28]

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19 NATIONAL COMMISSION ON EXCELLENCE IN EDUCATION, NATION AT RISK 5 (1984).

20 Marilyn V. Yarbrough, *School Choice and Racial Balance: Silver Bullet or Poison Dart?*, 2 KAN. L. J. & PUB. POL'Y 25, 26 (1992).

21 Helen Hershkoff & Adam S. Cohen, *School Choice and the Lessons of Choctaw County*, 10 YALE L. & POL'Y REV. 1, 1 (1992).

22 *See* ELCHANAN COHN, MARKET APPROACHES TO EDUCATION: VOUCHERS AND SCHOOL CHOICE 3 (1997).

23 *See id.*

24 *Id.* at 4.

25 *Id.*

26 *See id.*

27 *Id.*

28 *See id.*

III. PARENTAL CHOICES' THEORETICAL FRAMEWORK

A. THE PROBLEM

Many families move to a particular place because of the quality of services provided by local government.[29] The quality of the education system is often an important factor in this equation.[30] For many, however, the ability to "vote with their feet"[31] and move to another locality is expensive. Policy-makers have attempted to design parental choice statutes to solve this problem by providing students access to preferred schools, regardless of their place of residence.[32]

B. MARKET THEORY SUPPORTING PARENTAL CHOICE POLICY

Advocates of parental choice usually base their position on free-market theory.[33] Under this theory, education is a private good that is more efficiently transferred to consumers through a competitive marketplace.[34] Consumers of education (students and parents) enter the education marketplace to maximize their satisfaction,[35] while suppliers of education (schools) desire to maximize profits.[36] The interaction of the supply and demand establish the market price of education.[37] Propo-

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29 *See* Charles M. Tiebout, *A Pure Theory of Public Expenditures*, 64 J. POL. ECON. 416, 418 (1956) ("[T]he consumer-voter moves to [the] community whose local government best satisfies his set of preferences.").

30 *See id.*

31 ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES 16 (1970) (citing MILTON FRIEDMAN CAPITALISM AND FREEDOM 91 (1962)):

> Parents could express their views about schools *directly*, by withdrawing their children from one school and sending them to another, to a much greater extent then is now possible. In general they can now take this step only by changing their place of residence. *For the rest, they can express their views only through cumbrous political channels. Id.* (emphasis added).

32 *See* FRIEDMAN, *supra* note 5, at 161.

33 *See generally* Angela G. Smith, *Public School Choice and Open Enrollment: Implications for Education, Desegregation, and Equity*, 24 J.L. & EDUC. 147, 169 (1995) ("The market theory of choice is based on the assumption that market pressures will cause individual schools to improve or close; the end result in either case being a better school system.").

34 *See* Jonathan B. Cleveland, *School Choice: American Elementary and Secondary Education Enter the "Adapt or Die" Environment of a Competitive Marketplace*, 29 J. MARSHALL L. REV. 77, 80-81 (1995).

35 *See* MARTIN HUGHES ET AL., PARENTS AND THEIR CHILDREN'S SCHOOLS 100 (1994) (maintaining that parents consider many factors to determine their satisfaction with a particular school including relationships, the staff, the atmosphere, the ethos, good discipline, and wide-ranging education).

36 *See* HENIG, *supra* note 5, at 57.

37 *See generally* FRIEDMAN, *supra* note 5, at 14. Friedman argues that the pricing system performs three vital functions in the economy: (1) it transmits information; (2) it provides an incentive to adopt those methods of production that are least costly and thereby use available resources for the most highly valued purposes; and (3) it determines who gets how much of the product—the distribution of income. *See id.*

nents of parental choice assert that this interaction between supply and demand yields a more efficient and academically successful education system. Those who favor making education a private good maintain that the consumers will be better off because they can "compare prices and quality and make informed decisions about how best to allocate the money they have available to spend."[38]

At the core of the struggle to place education in the free-market is the belief that the current bureaucratic monopoly over education prevents innovation, improvement in educational services, and cost reductions.[39] The proponents of parental choice argue that when education is relinquished from bureaucratic control and placed in the free-market, this monopoly will end and improvement in educational achievement will begin.[40] John Chubb and Terry Moe advance three reasons why markets function to ensure the influential role of parents and students. First, they emphasize the suppliers (the schools) incentive to please the clientele (the parents and students).[41] Second, they stress parents' ability to choose among alternatives and the freedom to leave one school if not satisfied.[42] Finally, the authors underscore the notion that schools will close if they fail to satisfy a large number of parents.[43]

Further, Chubb and Moe examine what rights and duties education suppliers and consumers would maintain if society viewed education as a private good:

> Owners of a school have a legal authority to create whatever kind of school they please, but they cannot require anyone to attend or finance it. They have authority over their own property, not over the property of others. Parents and students have the right to seek out whatever kinds of schools they like. But they cannot force schools to adopt specific courses, hire certain teachers, or pursue certain values. *Nor can they force schools to grant them admission.* . . . They must be free to admit as many or as few students as they want, based on whatever criteria they think relevant—intelligence, interest, motivation,

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38 HENIG, *supra* note 5,at 57.

39 *See id.* The current bureaucratic education system is confusing because:

> . . . through its school funding arrangement, the relationship between prices and service received, constraining free choice by its mandatory assignment procedures and its effective monopoly, and limiting competition by imposing regulatory hurdles that make it difficult for new schools to be formed. *Id.*

40 *See* William Bennett, *Education Reform Through Choice, in* K.L. BILLINGSLEY, VOICES ON CHOICE: THE EDUCATION REFORM DEBATE 54-55 (1994).

41 *See* CHUBB & MOE, *supra* note 5, at 32.

42 *See id.*

43 *See id.*

> behavior, special needs—and they must be free to exercise their own informal judgments about individual applicants.[44]

In short, parental choice proponents advocate the freedom of parents and students to choose a school, and the freedom of schools to choose students. The latter poses serious equity problems. As one scholar stated, "[t]he admissions process is perhaps the area with the greatest potential for abuse in a deregulated environment, and both the policies and practices of choice schools in this regard must be subject to strict statutory guidelines."[45] The potential for abuse of the admissions system is one of many arguments advocated by parental choice opponents.

C. THEORIES AND ARGUMENTS OPPOSING PARENTAL CHOICE POLICY

Parental choice opponents fear that placing education into the free-market will produce a sub-optimal supply of education due to the free-rider problem.[46]

> Even when people recognize the collective social benefit that comes from a well-educated population, . . . all citizens have a self-interest in reducing their own contribution to the funding of schools, while shifting the burdens to others. . . . Citizens who act like rational, self-interested consumers will figure that they can enjoy benefits of living in a highly educated society even if they do not pay their own fair share. . . . Through its taxing authority, government can demand contributions from citizens, essentially forcing them to do what is in their collective best interest.[47]

Thus, if citizens exercised their own discretion, some families, acting rationally, will under-invest in education, relative to what is good for society at large. This phenomena is reflected in the way some elderly

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[44] *Id.* at 29, 221-23 (emphasis added); *see also* Albert Shanker and Bella Rosenberg, *Politics, Markets, and Americas Schools: A Rejoinder in* INDEPENDENT SCHOOLS, INDEPENDENT THINKERS 347 (1992) (concluding that Chubb and Moe's plan "may improve some students' chances of having their educational needs and wants fulfilled, but it also would further reduce other students' chances of doing so.").

[45] Stuart Biegel, *School Choice Policy and Title VI: Maximizing Equal Access for K-12 Students in a Substantially Deregulated Educational Environment*, 46 HASTINGS L.J., 1533, 1580 (1995).

[46] *See* HENIG, *supra* note 5, at 61.

[47] *Id.*

taxpayers vote down local school budgets because they no longer have children in the public school system.[48]

Consequently, parental choice opponents maintain that education is a public or collective good.[49] Collective goods are "those that are consumed by the community as a group. Markets typically fail to provide them in efficient quantities. . . . The services of schools have important external and collective aspects, since students from one district often meet and work with people from other school districts."[50] When market failure occurs,[51] governments may supply collective goods to make sure consumers do not under-invest in them relative to their value to society as a whole. For reasons stated earlier, education is one such desired collective good.[52] An educated populace serves social functions that benefit the entire society.[53] Such benefits affect third parties and are called externalities.[54] Externalities involved in education include encouraging lawful behavior, fostering political stability, and producing income gains for individuals and society.[55]

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48 *See* Paul Robert Kohn, A Pilot Study of the Attitudes of the Elderly Toward Public Education and Voting on School Referenda 40 (1989) (unpublished B.A. thesis, Cornell University) (on file with the Cornell University Library).

49 *See* BRONFENBRENNER, *supra* note 9, at 769, 781; HENIG, *supra* note 5, at 61.

50 BRONFENBRENNER, *supra* note 9, at 781.

51 Economists define market failure as the lack of initial conditions of market success, such as "informed consumers, absence of internal economies of scale in production, and absence of externalities either in production or consumption." MARK BLAUG, AN INTRODUCTION TO THE ECONOMICS OF EDUCATION 102 (1970).

52 *See supra* notes 8 through 14 and accompanying text.

53 *See* FRIEDMAN, *supra* note 5, at 86. Milton and Rose Friedman noted that:

> [T]he gain from the education of a child accrues not only to the child or to his parents but also to other members of the society. The education of my child contributes to your welfare by promoting a stable and democratic society. It is not feasible to identify the particular individuals (or families) benefited and so to charge for the services rendered. There is therefore a significant "neighborhood effect." *Id.*

54 *See* BRONFENBRENNER, *supra* note 9, at G-11 (defining externalities as "costs or benefits from the consumption or production of a good or service affecting people other than the buyer and seller of the good or service").

55 *See* BLAUG, *supra* note 51, at 108. The nine common externalities involved in education include:

> (1) the income gains of persons other than those that have received additional education, (2) the income gains of subsequent generations from a better educated present generation, (3) the provision of an efficient mechanism for discovery and cultivating potential talents, (4) the means of assuring occupational flexibility of the labor force, (5) the creation of an institutional environment that stimulates research in science and technology, (6) the encouragement of lawful behavior and the promotion of voluntary responsibility for welfare activities, both of which reduce the demand on social services financed out of taxes, (7) the tendency to foster political stability by developing an informed electorate and competent political leadership, (8) the emergence of "social cohesion" by the transmission of a common cultural heritage, and (9) the widening of intellectual horizons of both the educated and the uneducated, contributing to enhanced enjoyment of leisure.

Id.

Furthermore, opponents of parental choice urge that a free market system of education threatens a public school system that "is the most valuable social tool [available] to provide a common vision and shared experience."[56] Horace Mann, the father of public education in the United States, feared the destructive possibilities of religious, political, and class discord, and sought a common value system that might undergird American republicanism and diversity. He yearned for a public philosophy that emphasizes a sense of community.[57] Consequently, public schools in the United States have sought to foster a common set of values[58] and equality of social, political, and economic opportunity.[59] Choice opponents assert that such "common education experience cannot be left to the vagaries of individual or family choice."[60]

Parental choice opponents also reject the proposed market alternatives on equality of opportunity grounds. A school's right to reject students transfers the power to choose from parents to school administrators. In essence, the suppliers are choosing the consumers, not the other way around. For example, when a consumer purchases a shirt, the store does not select which consumers will purchase the shirt. If the consumer will pay the stated price, the store will sell the shirt. In the education marketplace, however, willingness to pay the stated price for services is not the only criteria school administrators consider. School administrators do not want just any student, they want students with certain abilities, attitudes, and skills. One commentator noted:

> So long as schools have the right to refuse admission to some students, school choice plans will result in a "creaming off" of the most talented students, who would be admitted to "better" schools while other schools were left to contend with increasing percentages of less academically able students in their classrooms.[61]

The school administrators' right to "cream off" the better students may force educators to neglect less talented students.[62] Consequently,

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56 Ralph J. Flynn, *An Educator's Perspective: Anti-Choice*, *in* PROCEEDINGS: THE FOURTEENTH CONFERENCE OF THE UNIVERSITY/URBAN SCHOOLS NATIONAL TASK FORCE: SCHOOL CHOICE 50 (Richard M. Bossone & Irwin H. Polishook eds., 1992).

57 *See* LAWRENCE CREMIN, THE REPUBLIC AND THE SCHOOL ON THE EDUCATION OF FREE MEN 8 (1957).

58 This is a very controversial subject deserving of an article in and of itself. *See* HENRY M. LEVIN, THE THEORY OF CHOICE APPLIED TO EDUCATION 6-7 (1989).

59 *See id.*

60 *Id.*

61 WAGNER, *supra* note 5, at 241 (arguing that schools will not "go out of business" no matter how poor a job they do because less talented students will still need a place to go to school after the more popular schools are filled to capacity).

62 *See id.*

parental choice may yield an even more inequitable education system than currently exists.[63]

IV. LEGAL FRAMEWORK

Fourteen states have enacted formal parental choice statutes.[64] Surprisingly, many of these statutes contain barriers that prevent students from attending their school of choice. These barriers include, inter alia, admission criteria and the exclusion of troubled students from the applicant pool, providing school administrators with a sorting mechanism that stifles educational opportunities for many students.[65] Delaware, for example, recently passed the School District Enrollment Choice Program.[66] The state legislature articulated the purpose of the program as follows:

> In establishing this program, it is the goal of the General Assembly to increase access to educational opportunity for *all* children throughout the State regardless of where they may live. It is therefore the intent of the General Assembly that this chapter be construed broadly to maximize parental choice in obtaining access to educational opportunities for their children.[67]

In the same breath, the legislature limits parental choice by allowing each school district to establish "criteria for acceptance or rejection of applications and setting priorities for acceptances. Such criteria shall be reasonably related to the nature of the program or school for which the application is submitted."[68] This broad statutory language provides school administrators with great discretion in accepting or rejecting student applications. For example, if the "nature of the program" involves

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63 *See* Joseph S. Ambler, *Who Benefits from Educational Choice? Some Evidence from Europe*, 13 J. POL'Y ANALYSIS AND MGMT. 454 (1994) (finding equality of opportunity suffers under school choice programs).

64 *See* MORRISON INSTITUTE, A NATIONAL REVIEW OF OPEN ENROLLMENT/CHOICE: DEBATES AND DESCRIPTION 32 (July 1993) (defining formal choice programs as "governed by specific state legislation that detail any of the parameters regarding program participation (e.g., reasons for rejecting nonresident student transfers) and prescribe activities such as transportation and parent information").

65 *See id.* (citing D. R. Moore & S. Davenport, *Cheated Again: School Choice and Students at Risk*, THE SCHOOL ADMINISTRATOR 12 (1989) ("School choice has typically become a new improved method of student sorting, in which schools pick and choose among students.").

66 *See* DEL. CODE ANN. tit. 14, § 401 (1998).

67 *Id.* (emphasis added).

68 DEL. CODE ANN. tit. 14, § 405(b) (1998); *but see* IDAHO CODE § 33-1404 (1997) (stating that schools may not consider "previous academic achievement, athletic or other extracurricular ability, handicapping conditions, or proficiency in the English language"); N.D. CENT. CODE § 15-40.3-06 (1997) (stating schools may not consider "previous academic achievement, participation in extracurricular activities, disabilities, English language proficiency, or previous disciplinary proceedings").

academic aptitude, schools can use the admissions process to select the over-achievers.

Furthermore, the Delaware statute includes restrictions on admissions based on "capacity." The statute states:

> A receiving district may disapprove an application because of lack of capacity in the district. It may also disapprove an application for a particular program or school because of lack of capacity in the program or school. For purposes of this subsection, "capacity" shall include *but not be limited to* such considerations as space, class size and enrollment restrictions reasonably related to the nature of the program or school for which the application is submitted.[69]

Once again, this broad language provides school administrators with ample opportunity to incorporate a selection bias into the application process. For example, the "but not be limited to" language allows school administrators to interpret "capacity" with the broadest brush.

Colorado provides even broader statutory language, granting school districts great latitude in setting admissions criteria. The Colorado statute provides:

> (3) Any school district may deny any of its resident pupils or any nonresident pupils from other school districts within the state permission to enroll in particular programs or schools within such school district only for any of the following reasons: . . .
>
> (c) The pupil does not meet the established eligibility criteria for participation in a particular program, including age requirements, course prerequisites, and *required levels of performance*.[70]

This delegation of authority to school administrators provides ample opportunity for schools to "cream-off" the better students and leave the less talented students for less selective, less preferred schools.[71] This is tantamount to *school choice*, not parental choice.[72] The schools authority to select students translates into a process of school administrators weighing the admissions choices, not parents and families. One may ar-

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69 *Id.* (emphasis added).

70 COLO. REV. STAT. ANN. § 22-36-101 (West 1999) (emphasis added).

71 *See* WAGNER, *supra* note 5, at 241.

72 Donald Macleod, *Bad Exam Results Drove School to Start Selection*, GUARDIAN (London) 6 (Jan. 9, 1996) ("This is a move towards schools selecting pupils and away from parents choosing schools. Parental choice has always been a fiction. For oversubscribed schools parental preferences are of little use if a child does not fulfill the admissions criteria.").

gue that these schools choose students based on merit and, therefore, any students with ability may choose his or her school preference. Accepting this argument on its face,[73] it proves the problem with parental choice as currently construed. Parental choice statutes in Delaware and Colorado discriminate in favor of students with ability. Consequently, the education system articulates the message that society values those students with ability more than students struggling with their academic studies. The rhetoric of parental choice, however, never articulates this message or these restrictions to the parents affected by these programs.

In addition to providing systematic advantages to over-achievers, the Colorado statute disadvantages under-achievers. Under the Colorado parental choice program, school districts need not comply with the parental preferences of a child who "has been expelled, or is in the process of being expelled. . . ."[74] Such discretion may lead to schools excluding certain types of students based on the image the school is trying to portray.[75]

Parental choice becomes a misnomer, because the statutory framework installs barriers and restrictions that prevent parents from choosing their school of preference and provides school administrators with ample power to do the choosing for them. This phenomena is best described by an audit commission in Great Britain:

> In short, the schools that are in demand do not tend to expand. And in these cases, "choice" is primarily exercised by the schools deciding which pupil they will accept through the rationing device of the school's admission policy, rather than by parents deciding which school their children will attend.[76]

A random-assignment system, such as the one used in New York City public high schools, would alleviate many of the statutory barriers to parental choice.

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73 This argument will not always prove correct since over-subscription may trump the desire of the school to accept all of the meritorious candidates.

74 COLO. REV. STAT. ANN. § 22-36-101.

75 *See* Jonathan Robinson, *The Law of Education in 1992*, NEW L.J. 24 (Jan. 10, 1992) (citing reports in Great Britain showing that schools are "increasingly excluding children with behavioral difficulties in order to avoid damaging the schools' image and reputation with parents").

76 John O'Leary & David Charter, *Parents Denied Choice of Schools*, TIMES 1-2 (Dec. 17, 1996).

V. NEW YORK CITY'S SCHOOL CHOICE PROGRAMS

A. HISTORY OF NEW YORK CITY'S SCHOOL CHOICE PROGRAMS

In the beginning of the twentieth century, the New York City public school system consisted primarily of a zoned or neighborhood school system where students attended the school designated for their neighborhood by local school districts.[77] As many people joined the labor force instead of completing high school in the early and middle periods of the twentieth century, parents did not seek educational choice.[78] Rather, they maintained confidence in their neighborhood school.[79]

Parental satisfaction with zoned schools declined in the late 1960s.[80] Many parents no longer felt safe sending their children to neighborhood schools as the feeling of pride and confidence in neighborhood schools deteriorated into fear and insecurity. Consequently, in 1968, New York City created an experimental program in John Dewey High School.[81] Every applicant to the school had to file a special application to attend.[82] The school utilized a formula in its admissions process requiring the school to accept below-average, average, and above-average readers, using standardized reading exams given in the eighth grade.[83]

During the 1970s, many high schools adopted choice programs and New York City built new schools specifically for such programs.[84] When neighborhood schools started to feel pressure to attract students, they too adopted choice programs to supplement existing programs.[85] The neighborhood schools, however, did not eliminate their zoned programs. Instead, they established screened programs including "schools

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77 Telephone Interview with Lawrence Edwards, Superintendent of High Schools, New York City Board of Education (Jan. 1995).

78 *See id.*

79 *See id.* Lawrence Edwards stated:

> Vocational high schools represent a significant exception because of their popularity among students who seek to learn a specific trade. Four specialized high schools provide another exception to traditional neighborhood schools: Stuyvesant, Brooklyn Tech., Bronx High School of Science, and Fiorello H. LaGuardia High School of the Arts, are among the most prestigious in the City. These schools admit students based on passing an examination. New York City also had single sex schools such as Boys and Girls High School. Other than these exceptions, all students attended their zoned school. *Id.*

80 *See id.*

81 *See id.*

82 *See id.*

83 *See id.* The school accepted twenty-five percent of the students from the below-average reading group, fifty percent from the average reading group, and twenty-five percent from the above average reading group. *See* OFFICE OF RESEARCH, EVALUATION, AND ASSESSMENT (OREA), NEW YORK CITY BOARD OF EDUCATION, A LONGITUDINAL STUDY OF THE IMPACT OF EDUCATIONAL OPTIONS REVISED ADMISSIONS POLICY 1 1987-91 (1992).

84 Telephone Interview with Lawrence Edwards, *supra* note 77.

85 *See id.*

within schools" to which any student could apply.[86] In short, within one building existed two schools: a neighborhood school for local residents and a choice school for students living within and outside the local school district.

The experiment with John Dewey High School and the "schools within schools" programs produced more interest in parental choice. The Screened and Education Options Programs provided the next step.

B. DESCRIPTION OF EDUCATIONAL OPTIONS PROGRAM

1. *General information*

On September 17, 1986, the New York City Board of Education accepted the Chancellor's recommendations regarding the admissions process for the parent choice program known as "educational options."[87] Educational Options Programs (EOP) now exist in more than one hundred and fifty New York City public high schools.[88] Sixty-one are total EOP schools, while the rest constitute "schools within schools."[89] EOP schools advertise their programs as helping to prepare students for particular careers, including law, medicine, and business.[90] The schools also require the basic academic courses, thus preparing students for college.[91]

In October of every year, a high school fair takes place in Manhattan, where parents and students gather information about high schools and the admissions process.[92] In November, students must complete their applications for high school.[93] Every student seeking to attend a New York City public high school must fill out an application, including those students who want to attend their local neighborhood schools.[94] Students who choose to attend their neighborhood school simply check a box on the application indicating their choice and the process is com-

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86 *See id.* The "school within a school" program focused on a specific career, such as law, but also required the completion of academic courses for college.

87 Letter from Frank L. Smith, Executive Director, High School Division, New York City Board of Education to High School Superintendents (Oct. 6, 1986) (on file with author).

88 *See* OFFICE OF SCHOOL PROGRAMS AND SUPPORT SERVICES, NEW YORK CITY BOARD OF EDUCATION, SUPPLEMENTARY HIGH SCHOOL DIRECTORY GUIDE FOR COUNSELORS 1998-1999 (1999).

89 *See* NEW YORK CITY BOARD OF EDUCATION, DIRECTORY OF PUBLIC HIGH SCHOOLS 58-9 (1994-95).

90 *See* OFFICE OF RESEARCH, EVALUATION, AND ASSESSMENT (OREA), *supra* note 83, at 1.

91 *See id.*

92 *See* NEW YORK CITY BOARD OF EDUCATION, DIRECTORY OF THE PUBLIC HIGH SCHOOLS 3 (1998-99).

93 *See id.*

94 Zoned schools are schools that serve only a particular geographic region. *See* ROBERT L. CRAIN, THE EFFECTIVENESS OF NEW YORK CITY'S CAREER MAGNET SCHOOLS: AN EVALUATION OF NINTH GRADE PERFORMANCE USING AN EXPERIMENTAL DESIGN 5 (1992).

pleted.[95] A neighborhood school cannot deny admission to a student residing within the school district.[96]

Students are not limited to neighborhood schools, as they may apply to schools outside their district. The application provides students with a list of the eight prestigious programs in the New York City high school system.[97] Students must pass an examination or audition to gain admission to these schools.[98] Additionally, the application provides eight spaces to apply for admission into the EOP or screened programs. Students are instructed to list up to eight EOP or screened schools in priority order, because indicating a high priority increases the chances of admission.[99] Students may gain admission into an EOP school through one of two methods: random-assignment or school-selection.[100] Students may attain admission into a screened school only through school-selection.[101]

2. *Random-assignment*

The Board of Education selects half of the new admissions at random from those students who identify the EOP school as their first choice.[102] Among both the randomly-assigned and school-selected cohorts, sixteen percent must constitute below-average readers, sixty-eight percent average readers, and sixteen percent above-average readers.[103] Students who score within the top two percent on the standardized reading test, however, are automatically accepted to their first choice.[104]

The Educational Testing Service (ETS)—a private corporation—administers the admissions process.[105] They assign a four-digit number to every student who applies to a particular program.[106] The priority

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95 *See* NEW YORK CITY BOARD OF EDUCATION, DIRECTORY OF THE PUBLIC HIGH SCHOOLS 9 (1997-98).

96 *See id.*

97 These programs include Bronx High School of Science, Brooklyn Technical High School, Stuyvesant High School, and the five programs at Fiorello H. LaGuardia High School of the Arts. *See* CRAIN, *supra* note 94, at 5.

98 *See* NEW YORK CITY BOARD OF EDUCATION, STUDENT HANDBOOK FOR THE SPECIALIZED HIGH SCHOOLS 1995-96, 4 (1995).

99 *See* CRAIN, *supra* note 94, at 5. In 1994-95, over 90% of the randomly-selected applicants received acceptance into one of their top two choice schools. Telephone interview with Robert Klein, Director of Admissions, New York City Board of Education (Jan. 1995).

100 *See* Letter from Frank L. Smith to High School Superintendents, *supra* note 87, at 1.

101 This study analyzes the EOP system. Unlike the EOP schools, the screened schools select one hundred percent of their student body. The EOP schools select fifty percent of their student body. *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 92, at 9.

102 *See id.*

103 *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 95, at 12. The schools base these reading levels on the Degrees of Power standardized reading exam administered in the middle schools. *Id.*

104 *See id.*

105 *See* CRAIN, *supra* note 94, at 5.

106 *See id.*

level designated by the student on his or her application is the first digit.[107] The remaining three digits constitute the random numbers used for selection purposes.[108] Students with the lowest random numbers receive offers to enroll in their school of choice.[109] If a student applies to eight different EOP schools, he or she will receive eight different random numbers.[110]

Each school must provide the Board of Education with information about the number of spots available for student admissions by filling out a seat declaration form and sending it to the Board of Education in November.[111] Factors a school considers when calculating its seat utilization include: (1) the incoming zoned population (only for schools that have zoned and EOP programs); (2) anticipated "no shows;" (3) "over the counter" admissions (students who moved into New York City after the application process and never applied to high school); (4) discharges; and (5) the student declination rate.[112]

Prior to the Board's resolution, random-selection did not exist and schools selected their entire student body.[113] The Board of Education instituted random-selection because it feared that an admissions process using solely school-selection may allow popular schools to choose the "better" students leaving those who did not meet the school-based criteria with limited or no choices.[114] This "creaming" off of better students limited the enrollment opportunities for many at-risk students.[115]

3. *School-selection*

After the randomly-assigned cohort is placed into an EOP school by the computer, the school administrators receive the application of students seeking admission who were not placed through the random-assignment process.[116] At this point, school administrators may consult the following items when selecting a student:

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107 *See id.*

108 *See id.*

109 *See id.*

110 *See id.*

111 Telephone interview with Robert Klein, *supra* note 99.

112 *See id.*

113 *See* OFFICE OF RESEARCH, EVALUATION AND ASSESSMENT (OREA), *supra* note 83, at 1. The Board did, however, require schools to select twenty-five percent of their students from the above-average reading level, fifty percent from the average reading level, and twenty-five percent from the below-average reading level. *See id.*

114 *See* HIGH SCHOOL ADMISSION AND THE IMPROVEMENT OF SCHOOLING: A REPORT OF THE UNIVERSITY CONSULTANTS 17 (1986).

115 *See* EDUCATION PRIORITIES PANEL, LOST IN THE LABYRINTH: NEW YORK CITY HIGH SCHOOL ADMISSIONS 10 (1985) (finding "many schools have been selecting the 'best' students . . . leaving those who did not do well, to fend for themselves.").

116 *See* CRAIN, *supra* note 94, at 6.

> (1) the citywide standardized reading test score attained in the term preceding application, (2) subject grades earned in the term preceding application, (3) overall average in the term preceding application, (4) whole day absences in the school year preceding application, (5) half-day absences in the school year preceding application, (6) lateness in the school year preceding application, and (7) student interest as demonstrated by priority choice.[117]

Schools must not consider locally administered tests, interviews, exhibitions, or performances, except for screened programs that concentrate on areas such as performing arts, fine arts, or design.[118] The EOP schools will select those students best meeting the school's selection criteria. If a student is rejected from the randomly-assigned and school-selection process, the student is guaranteed a place at his or her zoned school.[119]

4. *Acceptance into EOP*

The Board of Education and individual schools issue acceptances during the course of three rounds, and each student must make a final choice by the end of the third round.[120] The randomly-assigned and school-selected students are combined and students are sent acceptance letters.[121] Students may accept or reject the offers of admission or wait to hear about admission off two waiting lists.[122] The first waiting list is constructed randomly by the Educational Testing Service.[123] The school creates the second waiting list for its own portion of school-selected students.[124] The waiting list students fill rounds two and three if round one did not meet the school's quota.[125]

Students do not know whether they fall within the randomly-assigned or school selected cohort, nor is the school given the name of randomly-assigned students.[126] The school could maintain records as to whom they selected and all the others would constitute the randomly-assigned group, but it is unlikely that the school would devote resources to such a project. Consequently, the selection process is anonymous.

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117 *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 95, at 12.
118 *See* Letter from Frank L. Smith to High School Superintendents, *supra* note 87, at 1.
119 *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 95, at 9.
120 *See* CRAIN, *supra* note 94, at 5-6.
121 *See id.*
122 *See id.*
123 *See* EDUCATIONAL TESTING SERVICE, HIGH SCHOOL ADMISSION SYSTEM 1-2 (1991).
124 *See id.*
125 *See id.*
126 *See* CRAIN, *supra* note 94, at 6.

Students may appeal their admission to a certain school by sending an appeal letter to the Division of High Schools.[127]

A hypothetical illustration may prove helpful. Assume one hundred thousand students apply to the New York City public high school system. Further assume that forty-five thousand students apply to the EOP system, fifteen thousand apply to their neighborhood high schools, and forty thousand apply to screened programs. Of the forty-five thousand applicants to the EOP, thirty-three percent would be randomly-assigned, thirty-three percent would be school-selected, and fifteen-percent would be rejected by both methods and would subsequently attend their neighborhood school.[128] Of the thirty-three percent randomly-assigned and the thirty-three percent school-selected, sixteen percent will be below-average readers, sixty-eight percent will be average readers, and sixteen percent will be above-average readers. The remaining nineteen percent would end up attending private schools or moving out of New York City.

In 1998, 89,566 students applied to New York City high schools, with 77,066 applying for special programs and 12,500 applying directly to their zoned high school.[129] Students applied to 437,455 EOP programs, averaging 4.9 school choices per application.[130] In 1998, after the admissions process ended, randomization and school selection process rejected 10,815 students who subsequently attended their neighborhood school.[131] The process, however, accepted 40,685 students.[132]

In total, approximately sixty-four thousand students enrolled in New York City public high schools in 1998.[133] This means that 25,566 applicants decided not to enroll in a New York City public high school.[134] These students may have decided to stay in middle school for another year, entered private school, or moved to another state or city.

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127 *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 95, at 19.

128 The remaining nineteen percent may have enrolled in private school or left New York City.

129 *See* EDUCATIONAL TESTING SERVICE, SPECIAL REPORTS (May 1998). In 1991, 86,200 students applied to New York City high schools, with 73,200 applying for special programs and thirteen thousand applying directly to their zoned high school. *See id.*

130 *See id.* In 1991, students applied to 370,660 programs, averaging 4.3 per application. *See id.*

131 *See id.* In 1991, after the admissions process ended, the randomization and school selection process rejected 12,000 students who subsequently attended their neighborhood school. *See id.*

132 *See id.*

133 *See id.* In 1991, 62,943 students enrolled in New York City public high schools. *See id.*

134 *See id.* In 1991, 23,257 applicants decided not to enroll in a New York City public high school. *See id.* In addition, in 1991, 13,009 students attended their zoned school by choice, while 11,745 randomly-assigned and 8,743 school-selected students decided to attend a New York City public high school. *See id.*

The EOP provides an intricate system that attempts to give students a choice of high schools. Is the system, however, maximizing student potential? A brief review of previous studies may shed some light on this paramount question.

C. PREVIOUS STUDIES ON THE NEW YORK CITY EDUCATIONAL OPTIONS PROGRAM

Previous studies on the EOP system focused on educational equality, parent and student behavior, and standardized test exams. The Office of Educational Assessment (OEA) of the New York City Board of Education studied the class of 1987 entering the EOP system.[135] The study compared a semester's worth of work of a sample[136] of randomly- and school-selected students.[137] The study asked, "are the randomly assigned educational option students performing as well as selected educational option students in their first semester of high school?"[138] The study's performance indicators included the total number of credits earned, the number of credits earned toward high school graduation, and attendance.[139]

The OEA study's results included the following: (1) only thirty-four percent of the randomly-assigned students maintained mathematical skills at or above grade level when they entered high school, as compared to almost fifty percent of the school-selected students;[140] (2) the randomly-assigned students accrued more absences than the school-selected students;[141] (3) on average, the randomly-assigned students received about seven-tenths of a credit less than school-selected students during the fall 1987 semester;[142] and (4) the randomly-assigned students earned fewer credits toward graduation than the school-selected students.[143]

The OEA study noted that the disparity in the number of credits earned between both cohorts may derive from differences in credits ob-

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135 OFFICE OF EVALUATION AND ASSESSMENT (OEA), NEW YORK CITY BOARD OF EDUCATION, EDUCATIONAL OPTIONS HIGH SCHOOL ADMISSIONS POLICY STUDY (1988).

136 The sample consisted of 17,236 students, 56 percent of whom were randomly-selected into their school of choice (9,791), and 43.2 percent of whom were school-selected (7,445). *See id.* at 5.

137 *See id.*

138 *See id.* at 4.

139 *See id.*

140 *See id.* at 7-8. Over half of the school-selected students were absent five or fewer days during the semester, as compared with forty-three percent of the randomly-selected students. *See id.* at 13.

141 *See id.*

142 *See id.* at 14. About thirty percent of the randomly-selected students received six or more credits, as compared with more than forty-five percent of the school-selected students. *See id.*

143 *See id.* at 17.

tained prior to entering high school.[144] Nevertheless, the study asserted that randomly-assigned students were not performing as well as school-selected students.[145] What the study does not address, however, is how the randomly-assigned and school-selected students performed on their course work—how they performed academically.

The Office of Research, Evaluation, and Assessment (OREA) also conducted a study of the EOP system.[146] OREA executed a four-year longitudinal study of the randomly-assigned and school-selected students entering EOP schools in the fall of 1987.[147] One group of subjects entered in the ninth grade and the other in the tenth. The OREA findings include the following: (1) school-selected students demonstrated better school completion outcomes than randomly-assigned students;[148] (2) school-selected students attained a superior four-year graduation rate (51.1% for the ninth grade cohort and 45.5% for the tenth grade cohort) as compared with the four-year graduation rate of the full-high school class (37.6%);[149] (3) randomly-assigned students also attained a higher four-year graduation rate than the full high school class (the 39.8% graduation rate was 2.2% higher than full-high school graduation rate);[150] (4) the randomly-assigned students' dropout rate (15.9%) was 3.6% lower than the full high school class;[151] (5) the dropout rate of both randomly-assigned and school-selected students who remained in the EOP system constituted about half the dropout rate of students who transferred out of the EOP system;[152] and (6) randomly-assigned students progressed through high school at a slower rate than school-selected students.[153]

Both the OEA and OREA reports argue that the EOP system decreases the dropout rate and provides opportunities for at-risk students. Some problems exist, however, with these studies' methodology. For example, the OREA report did not control for pre-existing differences between the randomly and school-selected cohorts. Consequently, the disparity in results could derive from pre-existing differences in ability level and not as a result of the EOP choice system. In addition, one may use a more accurate measure of academic achievement than absences,

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144 *See id.*

145 *See id.* at 18-19.

146 *See* OFFICE OF RESEARCH, EVALUATION, AND ASSESSMENT, *supra* note 83.

147 *See id.*

148 *See id.* For the ninth grade entrants both groups performed better than the city wide average, showing higher graduation rates and lower dropout rates than the full high school cohort.

149 *See id.*

150 *See id.*

151 *See id.*

152 *See id.* at vi.

153 *See id.* (Accruing credits at a slower rate than school-selected students, randomly-assigned students fall slightly behind in advancing toward graduation.).

tardiness, and dropout rates. This study attempts to fill these gaps in methodology and measurement to better understand the impact of educational choice on New York City public schools.

VI. METHODOLOGY AND DESIGN

This study poses the following question: do students who receive their choice high school perform better academically because they received their choice high school? As stated earlier, one of the most important purposes of parental choice is to improve students' academic performance. Credit hours earned toward graduation and absences simply are not adequate measures of any school choice program's effectiveness. One must also know how students performed in courses and on standardized exams.

To test the significance of educational choice, one must operationalize his or her observations.[154] Some experts believe that: "The problem is that you can't directly observe concepts in the real world—they are abstractions. Therefore, the concepts must be operationalized—defined in terms that can be measured."[155] To operationalize the concept of academic performance, this study uses three sequential math courses and five English courses (the dependent variables).

This study reviewed eleventh grade transcripts of 1150 students who entered a New York City public high school in 1991-92. The Office of Automated Admissions randomly selected these 1150 transcripts. The study contains three cohorts: 412 randomly-assigned students, 440 school-selected students, and 298 students who were rejected by the randomly-assigned and school selection process and therefore attended their neighborhood high school (the independent variables). The transcripts contain data[156] from the first two-and-a-half years of high school for the entering class of 1991-92.

The study measures the academic performance of the 1150 students in English 1 through English 5 and Sequential Math 1 through Sequential Math 3.[157] Students may take other English or math courses, but the aforementioned are the standard courses for eleventh grade students. In addition, the study analyzes the Sequential Math 1 and 2 standardized Regents exam.[158]

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154 Operational definitions are sets of observations that represent abstract concepts. *See* ARTHUR W. BIDDLE & KENNETH M. HOLLAND, WRITER'S GUIDE: POLITICAL SCIENCE 103 (1987).

155 *See id.*

156 This data includes their course grades, sequential math Regents exams, whether the students enrolled in honors or advanced placement courses, absences, and tardiness.

157 By the end of two-and-a-half years of high school study, students should have taken these courses.

158 The Department of Education determined that:

Without controlling for initial student ability, this study would say little about EOP's effectiveness. Consequently, this study uses a pre-test/post-test control group.[159] All three cohorts are given a pre-test to establish a base of student ability. The standardized reading and math scores taken during middle school constitute the pre-test. This helps isolate educational choice as an influence on academic performance. For example, if three different students have the same standardized reading and math scores and they are each from the three different cohorts, one can see how well each performed under the three different conditions. The randomly-assigned and school-selected cohorts constitute two types of treatment groups and the zoned cohort represents the control group. After the treatment (the EOP admissions process) is completed, all three groups are given a post-test consisting of the eight courses—five English and three math.

Family background, socioeconomic status, and student ability may all affect the differences between the cohorts. These factors, however, are controlled by the pre-test. In fact, any alternative hypothesis must explain events after the pre-test because the pre-test is assumed to reflect the aforementioned factors on academic performance. This study's design, however, may pose a problem of mortality. Experimental mortality "results from a differential loss of subjects from comparison groups over the course of the experiment."[160] For example, several students in the zoned cohort may start in English 1 and not get to English 5. To control for this attrition, the study examines academic progress. To conclude that one cohort is out-performing another cohort if there is forty percent less students in the academically successful cohort would constitute a significant fallacy. Consequently, this study controls for the academic progress and performance of students in all three cohorts.

Recall that the standardized reading exams play a central role in EOP's selection process. The randomly-assigned and school-selected cohorts must contain sixteen percent below-average readers, sixty-eight

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> Regents exams are achievement tests based on state course of study used in secondary schools. Prepared by teacher examination committees and Department subject and testing specialists, [the Regents exams] provide schools with a basis for evaluating the quality of the instruction and learning that have taken place. They are used by school personnel to identify major learning goals, offering both teachers and pupils a guide to important understandings, skills, and concepts. The examinations also provide pupils, parents, counselors, administrators, college admissions officers, and employers with objective and easily understood achievement information for use in making sound educational and vocational decisions.

NEW YORK STATE EDUCATION DEPARTMENT, REGENTS EXAMINATIONS, REGENTS COMPETENCY TESTS, & PROFICIENCY EXAMINATION: SCHOOL ADMINISTRATOR'S MANUAL 1 (Jan. 1990).

159 *See* Lawrence P. Clark, *Designs for Evaluating Social Programs, in* LEARNING PACKAGES IN THE POLICY SCIENCES 17 (1987).

160 *See id.*

percent average readers, and sixteen percent above-average readers based on the Degrees of Power Reading test.[161] Table 1 lists the raw scores needed on the DRP test to constitute a below-average, average, or above-average reader.

TABLE 1
RAW READING SCORES AND CORRESPONDING PERCENTAGE GROUP ON DRP EXAM FOR 1991

Raw Reading Score	Percentage Group
Below 37	Bottom 16%
37-65	Middle 68%
Above 65	Top 16%
73 or Above	Top 2%

Figure 1 illustrates a hypothetical relationship between ability and performance for each cohort. School administrators are required to select students within three different groups of ability levels. The study assumes that the school administrators will tend to select those students at the top of each group. The diagonal line represents a hypothetical relationship between ability and performance with a Z, R, and S placed on the line for zoned, randomly-assigned, and school-selected respectively.

Figure 2 represents the school-selection bias given the same ability level. Since school administrators have access to records, such as absences, tardiness, and DRP and MAT scores, they will use this information to select students. Thus, if two students have a sixty-five on the DRP exam, but one is rarely absent and the other has many absences, the school administrators will likely choose the person with the fewest absences and good ability, what this study terms "over-achievers." Figure 2 shows that at any given reading level—30, 60, or 90—one can expect the school-selected students to perform better, on average, in English

161 *See* NEW YORK CITY BOARD OF EDUCATION, *supra* note 92, at 12. New York City introduced the Degrees of Power Reading (DPR) test in 1986 for grades three through twelve. The DRP serves the following functions:

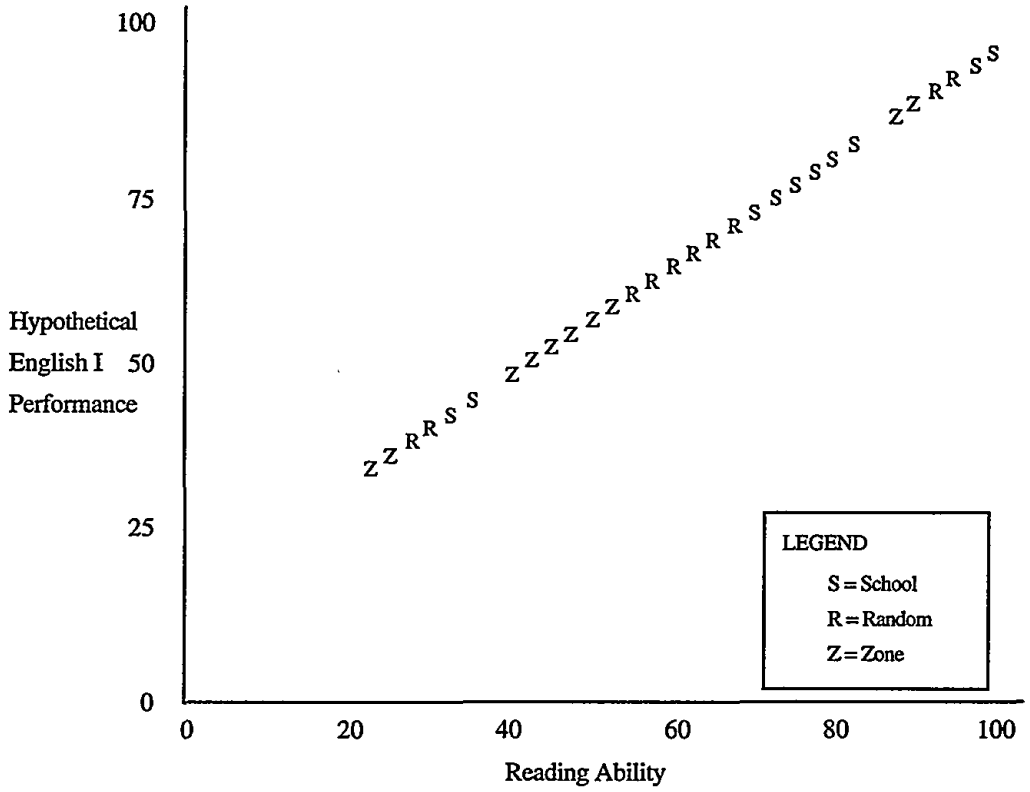
> (1) The DRP is used to measure students' reading ability and to analyze the difficulty of reading material, such as textbooks, novels, or newspapers.
>
> (2) The test gauges how well students understand a series of passages that are progressively more difficult. Each DRP test consists of a series of passages - 11 passages in all - each approximately 300 words long, on a variety of subjects. In each passage, seven sentences have a missing word. Students are asked to select the word that belongs in the sentence from a list of five choices.
>
> (3) The test is designed so that students must understand the whole passage in order to choose the correct response.

Id.; *see* OFFICE OF EDUCATIONAL ASSESSMENT (OEA), NEW YORK CITY BOARD OF EDUCATION, THE D.R.P. TEST AND TEACHING TOOL BULLETIN 1-2 (May 1987).

courses than the randomly-assigned students and the randomly-assigned students to perform better, on average, than the zoned students.

Taking into account both the differences in ability and the school-selection bias, Figure 3 graphically states this studies hypothesis regarding how the zoned, randomly-assigned, and school-selected students will perform if educational choice is making a difference on academic performance. For educational choice to have an impact on academic performance, the difference between the zoned and randomly-assigned students must prove greater than the difference between the randomly-assigned and school-selected students. If this is not the case, and the difference between the school-selected and randomly-assigned students is greater than the difference between the randomly-assigned and zoned students, then it is probably the school administrators skill in selecting "over-achievers" producing the difference in performance. The next section provides the answer to this proposition.

FIGURE 1

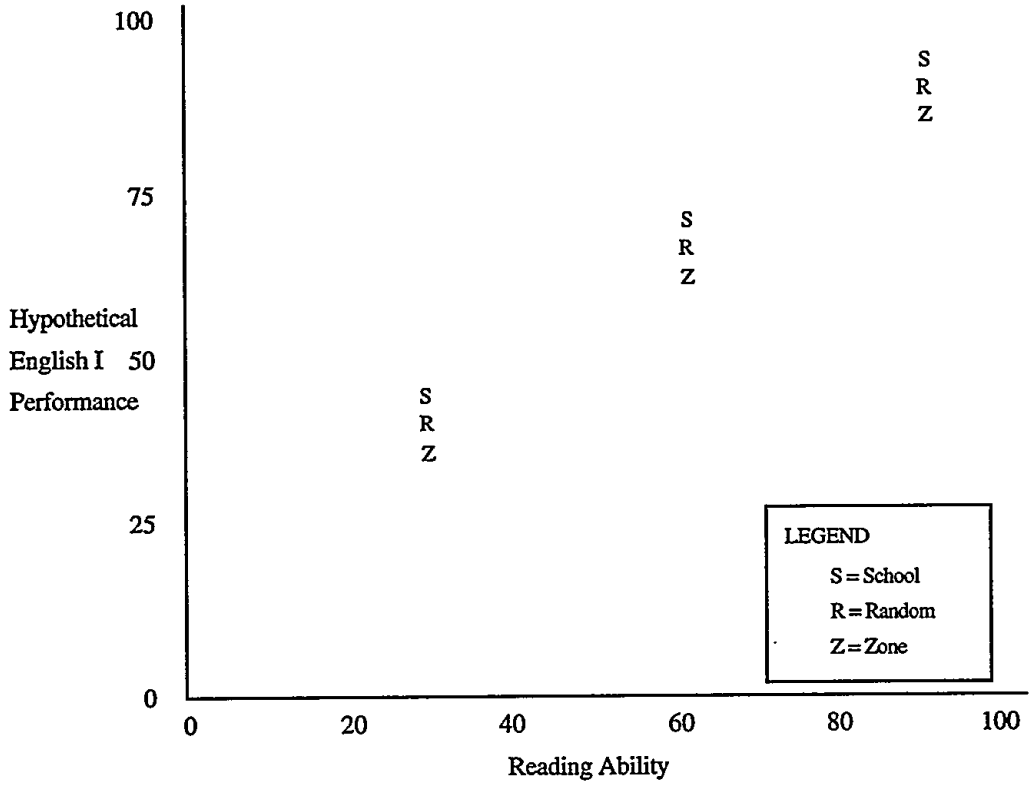


VII. RESULTS

A. ACADEMIC PROGRESS

To determine whether educational choice fosters academic excellence, this study measures academic excellence using two distinct cate-

FIGURE 2



gories. First, academic progress is defined as attending a course in a timely manner, that is, taking a course at or before the expected time. Second, academic performance is defined as grades on course work and standardized exams given the same initial ability. If choice has an effect on academic excellence, students who receive their choice high school will progress in a more timely manner and perform better on course work.

Table 2 states the number of students contained in the study at each grade level for each cohort.[162] Student attrition from ninth to tenth and tenth to eleventh grade could derive from drop-outs, student relocation, or enrollment in private schools. Table 2 serves as the basis for computing the percentages of students attending different courses.

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162 One may question why there is a disparity between the number of zoned students relative to the number of randomly and school-selected students? When the Board of Education generated the transcripts for each cohort, it could not simply ask the computer for transcripts of the zoned students rejected from the randomly and school-selected admissions process. The Board of Education asked for the students who did not receive any choice. This number could include students who enrolled in private school, moved to another location, or remained in middle school. Consequently, roughly one hundred fifteen students generated for the zoned cohort consisted of students who did not actually attend a New York City public high school. This same problem is not present for the randomly-assigned and school-selected cohort because the Board of Education could ask the computer for transcripts of students who were randomly-assigned or school-selected.

FIGURE 3

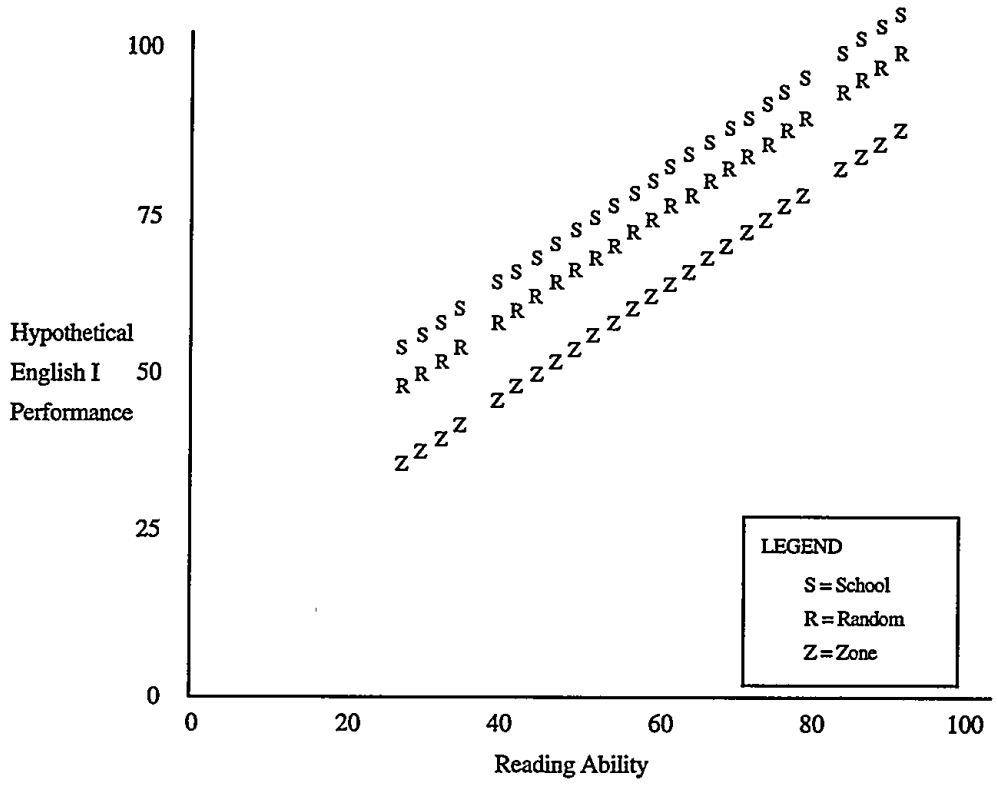

Table 3 reports the average scores on both pre-tests: the DRP reading exam and MAT math exam. The mean scores on the DRP exam follows the pattern of the school-selected students out-performing both

TABLE 2
THE NUMBER OF STUDENTS AT EACH GRADE-LEVEL

Time Period	Zoned Students	Randomly-Assigned Students	School-Selected Students
9th Grade	287	407	435
10th Grade	280	382	426
11th Grade	230	329	391

the randomly-assigned and zoned students and the randomly-assigned students out-performing the zoned students. The MAT scores, on the other hand, show that the zoned students actually out-performed the randomly-assigned students, while the school-selected students out-performed both groups.

TABLE 3
MEAN SCORES ON PRE-TESTS

Cohort	Count	Pre-test	Mean
Zoned Students	268	DRP	49.3
Zoned Students	260	MAT	62.1
Randomly-Assigned Students	370	DRP	51.5
Randomly-Assigned Students	378	MAT	61.5
School-Selected Students	393	DRP	53.3
School-Selected Students	407	MAT	68.5

Table 4[163] depicts the percentage of students who attended math and English courses and Table 5[164] shows the percentages of students who took these courses in a timely manner. These tables show that, on average, a larger percentage of school-selected students progress in math and English than both the randomly-assigned and zoned students. There is little difference, however, in the progress between randomly-assigned and zoned students.

The central point elicited from Table 4 is that the difference in academic progress between the randomly-assigned and zoned students is less than the difference between the randomly-assigned and school-selected students. The average margin of difference in math courses between the school-selected and zoned cohort is 14.8% and in English courses is 5.8%. The average margin of difference in math courses between the randomly-assigned and school-selected students is 12% and in English courses is 3.5%. The average margin of difference between the randomly-assigned and zoned students in math courses is 3.0% and in English courses is 2.2%. Thus, on average the school-selected students progress well through English and math courses. On the other hand, little difference exists between the academic progress of randomly-assigned and zoned students.

Table 5 addresses the question of which cohort progresses in a timely manner, defined as taking a course on or ahead of schedule.[165] Once again, the school-selected cohort contained a larger percentage of students attending math and English courses in a timely manner.

On average, the school-selected students out-performed the zoned students by 8.8% in math and 7.2% in English, regarding attending

163 Table 4 includes the percentages of students who first entered the EOP system in ninth grade and attended the eight courses analyzed in this study.

164 In Table 5, the percentages of students taking courses in a timely manner, is based on the number of students in tenth grade for Sequential Math 2, English 3, and English 4 and based on the number of students in eleventh grade for Sequential Math 3 and English 5.

165 Students meet this criteria if they take Sequential Math 1, English 1, and English 2 during or before ninth grade; Sequential Math 2, English 3, and English 4 during or before tenth grade; and Sequential Math 3 and English 5 during or before eleventh grade.

TABLE 4
PERCENTAGE OF STUDENTS WHO ATTENDED SEQUENTIAL MATH AND ENGLISH COURSES

Course	Zoned Students	Randomly-Assigned Students	School-Selected Students
Sequential Math 1	59.2	69.0	77.9
Sequential Math 2	32.8	34.9	50.0
Sequential Math 3	18.1	15.0	26.7
English 1	92.1	91.0	89.2
English 2	83.3	91.0	92.0
English 3	73.9	75.2	82.5
English 4	63.8	65.6	72.4
English 5	52.6	54.1	58.4

courses in a timely manner. The school-selected out-perform the randomly-assigned students by an average of 10.1% in math and 4.8% in English, also regarding attending courses in a timely manner. When comparing the randomly-assigned and zoned students, however, the zoned students out-performed the randomly-assigned students by a small average of 1.3% in math, but the randomly-assigned students exceeded the zoned students in English by 2.3%. The data in Table 5 essentially follows the pattern in Table 4, in that the school-selected students progress much faster than both the randomly-assigned and zoned students, but the randomly-assigned and zoned students show little difference in their academic progression.

Tables 6, 7, 8, and 9 address the issue of academic progress when one controls for the students' ability.[166] The tables report the probability of a student in each cohort taking a course in a timely manner given the same ability. The estimated probability is calculated by multiplying the slope with the reading or math pre-test scores and adding the intercept.

Once again, the data indicates that there is no consistent evidence demonstrating that choice is having an effect on academic progress. Table 6 shows that at a MAT score of seventy-five, the zoned and randomly-assigned students are essentially equivalent in progressing to Sequential Math 1 and with MAT scores of ninety and 105, the zoned students maintain a higher probability of progressing to Sequential Math 1 than randomly-assigned students. The same results hold true for Sequential Math 2 and 3.

166 The MAT and DRP scores are broken down differently because the performance measures on the exams differ. For example, a sixty on the DRP exam is equivalent to a seventy-five on the MAT exam. Scores of 30, 75, and 105 on the MAT exam are considered low, average, and high respectively. DRP scores of 20, 60, and 80 are considered low, average, and high respectively.

TABLE 5
PERCENTAGE OF STUDENTS WHO ATTENDED SEQUENTIAL MATH AND ENGLISH ON OR AHEAD OF SCHEDULE*

Course	Zoned	Randomly-Assigned	School-Selected
Sqtl 1 total	31.7	35.1	43.2
Ahead	11.8	9.3	15.6
On time	19.9	25.8	27.6
Sqtl 2 total	25.1	20.9	31.3
Ahead	12.2	7.1	11.0
On time	13.2	14.7	20.7
Sqtl 3 total	18.1	15.0	26.7
Ahead	10.5	5.9	10.6
On time	9.6	10.9	17.9
English 1	82.6	83.3	84.8
Ahead	23.7	23.1	23.2
On time	58.9	60.2	61.6
English 2	70.4	79.1	81.8
Ahead	22.3	23.6	25.1
On time	48.1	60.7	56.8
English 3	66.2	67.1	74.3
Ahead	21.3	20.9	21.6
On time	46.1	49.2	53.8
English 4	61.0	60.9	69.4
Ahead	18.1	17.4	21.9
On time	43.9	46.3	50.1
English 5	52.6	54.1	58.4
Ahead	14.3	14.7	18.2
On time	46.6	48.0	44.5

* Ahead of time means taking Sequential 1 in eighth grade, taking Sequential 2 in eighth or ninth grade, taking sequential 3 in 8th, 9th, or 10th grades. Ahead of time in English 1 and English 2 means taking the courses in eighth grade, taking English 3 and English 4 in eighth or ninth grades, and English 5 in 8th, 9th, or 10th grade.
* On time means taking Sequential 1 in ninth grade, Sequential 2 in tenth grade, Sequential 3 in eleventh grade, English 1 and English 2 in ninth grade, English 3 and English 4 in tenth grade, and English 5 in eleventh grade.

Table 7 reports the probability of taking Sequential Math 2 in a timely manner, given the student has taken Sequential Math 1 in a timely manner. The probability that randomly-assigned and zoned students progress to Sequential Math 2 is either identical or the zoned students are more likely to attend the course. The school-selected students have a higher probability of attending Sequential Math 2 than both the randomly-assigned and zoned students given the same initial math ability.

Table 8 reports the probability of taking Sequential Math 3 in a timely manner given the student has taken Sequential Math 2 in a timely manner. This table also demonstrates that choice played no role in greater academic progress.

Table 9 yields similar results about the probability of progressing in a timely manner in English courses. In English 1 students with DRP

scores of twenty and forty show that choice made a difference because the difference in probabilities of progression in the course between the randomly and school-selected students is smaller than the difference between the randomly-selected and zoned students. This pattern does not exist for students with DRP scores of sixty and eighty, where the zoned students maintained a higher probability of progression than the randomly-assigned students. In short, the data shows no consistent evidence of educational choice improving academic progression.

TABLE 6
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING SEQUENTIAL MATH 1 IN A TIMELY MANNER GIVEN EQUIVALENT MAT SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking Sequential Math 1 for MAT Scores 30	60	75	90	105
Zoned (N=252)	–.55	.014*	.38	0'	.29	.50	.71	.92
Randomly-Assigned (N=374)	–.47	.013*	.24	0'	.31	.51	.70	.90
School-Selected (N=402)	–.50	.014*	.24	0'	.34	.55	.76	.97

* Statistically Significant at p .05.
' Estimated at or below zero probability.

TABLE 7
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING SEQUENTIAL MATH 2 IN A TIMELY MANNER GIVEN EQUIVALENT MAT SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking Sequential Math 2 for MAT Scores 30	60	75	90	105
Zoned (N=248)	–.63	.014*	.44	0'	.21	.42	.63	.84
Randomly-Assigned (N=352)	–.51	.011*	.24	0'	.15	.32	.48	.65
School-Selected (N=394)	–.68	.015*	.30	0'	.22	.45	.67	.90

* Statistically Significant at p. 05.
' Estimated at or below zero probability.

TABLE 8
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING SEQUENTIAL MATH 3 IN A TIMELY MANNER GIVEN EQUIVALENT MAT SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking Sequential Math 3 for MAT Scores 30	60	75	90	105
Zoned (N=204)	−.58	.013*	.41	0'	.20	.40	.59	.79
Randomly-Assigned (N=300)	−.51	.011*	.26	0'	.15	.32	.48	.65
School-Selected (N=361)	−.70	.014*	.30	0'	.14	.35	.56	.77

* Statistically Significant at p .05.
' Estimated at or below zero probability.

TABLE 8 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING SEQUENTIAL MATH 2 IN A TIMELY MANNER GIVEN THE STUDENTS HAS TAKEN SEQUENTIAL MATH 1 IN A TIMELY MANNER

Cohort	Intercept	Slope	R2	Estimated Probability of Taking Sequential Math 2 for MAT Scores 30	60	75	90	105
Zoned (N=79)	−.46	.014*	.28	0'	.38	.59	.80	1.0
Randomly-Assigned (N=120)	−.39	0.13*	.16	0'	.39	.59	.78	.98
School-Selected (N=169)	−.42	.014*	.22	0'	.42	.63	.84	1.1

* Statistically Significant at p .05.
' Estimated at or below zero probability.

TABLE 8 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING SEQUENTIAL MATH 3 IN A TIMELY MANNER GIVEN THE STUDENT HAS TAKEN SEQUENTIAL MATH 2 IN A TIMELY MANNER

Cohort	Intercept	Slope	R2	Estimated Probability of Taking Sequential Math 3 for MAT Scores 30	60	75	90	105
Zoned (N=59)	−.23	.011*	.13	.10	.43	.60	.76	.93
Randomly-Assigned (N=70)	−.55	.016*	.22	0'	.41	.65	.89	1.1
School-Selected (N=123)	−.07	.011*	.13	.26	.59	.76	.92	1.1

* Statistically Significant at p .05.
' Estimated at or below zero probability.

TABLE 9
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING ENGLISH 1 IN A TIMELY MANNER GIVEN EQUIVALENT DRP SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking English 1 for DRP Scores 20	40	60	80
Zoned (N=261)	.49	.0069*	.08	.63	.77	.90	1.00
Randomly-Assigned (N=365)	.66	.0040*	.02	.74	.82	.90	.98
School-Selected (N=388)	.69	.0036*	.02	.76	.83	.91	.98

* Statistically Significant at p .05.

TABLE 9 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING ENGLISH 2 IN A TIMELY MANNER GIVEN EQUIVALENT DRP SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking English 2 for DRP Scores 20	40	60	80
Zoned (N=261)	.19	.011*	.13	.41	.63	.85	1.10
Randomly-Assigned (N=365)	.48	.0064*	.04	.61	.74	.86	.99
School-Selected (N=388)	.65	.0035*	.01	.72	.79	.86	.93

* Statistically Significant at p .05.

TABLE 9 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING ENGLISH 3 IN A TIMELY MANNER GIVEN EQUIVALENT DRP SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking English 3 for DRP Scores 20	40	60	80
Zoned (N=256)	.21	.0094*	.09	.40	.59	.77	.96
Randomly-Assigned (N=344)	.21	.0093*	.06	.40	.58	.77	.95
School-Selected (N=381)	.41	.0064*	.04	.54	.67	.79	.92

* Statistically Significant at p .05.

TABLE 9 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING ENGLISH 4 IN A TIMELY MANNER GIVEN EQUIVALENT DRP SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking English 4 for DRP Scores 20	40	60	80
Zoned (N=256)	.27	.0075*	.05	.42	.57	.72	.87
Randomly-Assigned (N=344)	.48	.0033	.01	.55	.61	.69	.74
School-Selected (N=381)	.31	.0072*	.04	.45	.60	.74	.89

* Statistically Significant at p .05.

TABLE 9 (Continued)
REGRESSION STATISTICS AND ESTIMATED PROBABILITY OF TAKING ENGLISH 5 IN A TIMELY MANNER GIVEN EQUIVALENT DRP SCORES

Cohort	Intercept	Slope	R2	Estimated Probability of Taking English 5 for DRP Scores 20	40	60	80
Zoned (N=209)	.31	.0063*	.04	.44	.56	.69	.81
Randomly-Assigned (N=294)	.50	.0032	.01	.56	.63	.69	.76
School-Selected (N=347)	.25	.0070*	.03	.39	.53	.67	.81

* Statistically Significant at p .05.

B. ACADEMIC PERFORMANCE

Table 10 and 11 report the regression statistics for academic performance in math and English courses, controlling for student ability in math and reading. The estimated class performance is calculated by multiplying the slope with the reading or math pre-test scores and adding the intercept. If educational choice improves academic performance, the school-selected students will out-perform both the randomly-assigned and zoned students and the randomly-assigned students will out-perform the zoned students. Note that eighth grade performance occurs prior to the "treatment" of educational choice. In addition, the regressions for students taking the course on-time are in bold print because the majority of students are taking the course during this time period.

Table 10 portrays student performance on all three math courses. The statistics show no evidence that educational choice played a role in academic performance for Sequential Math 1. For below-average math students, with MAT scores of thirty in ninth grade, the zoned students

out-performed the randomly-assigned students by four points and the school-selected students by eight points. With a MAT score of sixty, the zoned students continued to out-perform the randomly-assigned students by a margin of three points and the school-selected by one point. For the average math student, the zoned students out-performed the randomly-assigned students by three points, but the school-selected out-performed the zoned by two points. With a MAT score of ninety, once again, the zoned students out-performed the randomly-assigned students, and the school-selected students out-performed the zoned students. Lastly, for above-average math students, the zoned students continued to out-perform the randomly-assigned students, with the school-selected students out-performing the zoned students.

When comparing the randomly-assigned and school-selected students, except for the below-average math students, the school-selected students out-performed the randomly-assigned students. For MAT scores of 60, 75, 90, and 105, the marginal difference between the randomly-assigned and school-selected is 2, 5, 8, and 11 respectively. The central point is that those not receiving their choice high school—the zoned students—actually out-perform those who did, the randomly-assigned. Consequently, the Sequential Math 1 results yield no evidence that educational choice is improving academic performance.

Turning to Sequential Math 2, there is also little evidence that educational choice is translating into higher academic performance. For below-average math students, the zoned students out-performed the randomly-assigned and school-selected students by two and three points respectively. With a MAT score of sixty, the course grades are roughly the same for all three cohorts. For average math students, the zoned and randomly-assigned cohorts had the same performance with a score of seventy, and the school-selected achieved a seventy-four. With a MAT score of ninety, the difference in class performance between the randomly-assigned and school-selected students is greater than the difference between the randomly-assigned and zoned students. As stated in the methodology and design section, this pattern demonstrates that there is very little difference in academic performance between those students receiving a choice high school and those not receiving one. The school-selected students' performance may be caused by other factors, such as those considered by school administrators when selecting the students.

As with Sequential Math 1 and 2, Sequential Math 3 shows no consistent pattern indicating that educational choice plays a role in academic performance. For math students with MAT scores of thirty and sixty, the zoned students out-performed both the randomly-assigned and school-selected students. For average math students, the zoned students continued to out-perform the randomly-selected students. With a MAT score

of ninety, the school-selected, randomly-assigned, and zoned students received scores of 70, 77, and 68 respectively, but this pattern is the exception, not the rule. Consequently, educational choice has had little or no influence on sequential math performance.

Table 11 reports the academic performance statistics for English 1 through English 5. The data on English 1 shows the pattern favoring educational choice: school-selected students out-performed both the randomly-assigned and zoned students, the randomly-assigned students out-performed the zoned students, and the difference between the randomly-assigned and zoned students exceeded the difference between the randomly-assigned and school-selected students. English 2 performance, however, presents a different pattern. For example, at DRP scores of sixty and eighty, school-selected and zoned students maintained a higher English 2 score than randomly-assigned students. At a DRP score of forty, the randomly-assigned and zoned students have equivalent performance in English 2. At all reading levels, the school-selected students out-performed the randomly-assigned and zoned students. For English 3, there is relatively no difference in the performance of the randomly-assigned and zoned students. The same pattern holds true for English 4 and 5. Consequently, educational choice had little or no influence on academic performance in English courses.

TABLE 10
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN SEQUENTIAL MATH 1 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Scores of 30	60	75	90	105
Zoned 8th (N=26)	38	.47*	.14	52	66	73	80	87
9th (N=52)	42	.40*	.24	54	66	72	78	84
10th (N=31)	50	.26	.06	58	66	70	73	77
11th (N=22)	56	.18	.015	61	67	70	72	75
Randomly-Assigned								
8th (N=33)	45	.44*	.38	58	71	78	85	91
9th (N=93)	38	.41*	.23	50	63	69	75	81
10th (N=40)	57	.13	.02	61	65	67	69	71
11th (N=29)	51	.26	.08	59	67	71	74	78
School-Selected								
8th (N=64)	55	.34*	.24	65	75	81	86	91
9th (N=105)	28	.61*	.35	46	65	74	83	92
10th (N=34)	51	.28*	.12	59	68	72	76	80
11th (N=21)	53	.18	.06	48	42	40	37	34

* Statistically Significant at p .05.

TABLE 10 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN SEQUENTIAL MATH 2 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Scores of 30	60	75	90	105
Zoned 8th (N=7)	37	.54*	.57	53	69	78	86	94
9th (N=13)	62	.19	.04	68	73	76	79	82
10th (N=33)	50	.27*	.12	58	66	70	74	78
11th (N=17)	54	.16	.04	59	64	66	68	71
Randomly-Assigned								
9th (N=15)	15	.74*	.50	37	59	71	82	93
10th (N=42)	46	.32*	.10	56	65	70	75	80
11th (N=35)	56	.16	.03	61	66	68	70	73
School-Selected								
8th (N=6)	97	−.18	.06	92	86	84	81	78
9th (N=33)	32	.55*	.42	49	65	73	82	90
10th (N=60)	42	.42*	.19	55	67	74	80	86
11th (N=54)	60	.73	.01	82	104	115	126	137

* Statistically Significant at p .05.

TABLE 10 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN SEQUENTIAL MATH 3 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Scores of 30	60	75	90	105
Zoned 9th (N=7)	−6.1	.85*	.54	19	45	58	70	83
10th (N=9)	33	.51	.21	48	64	71	79	87
11th (N=21)	87	−.21	.03	81	74	71	68	65
Randomly-Assigned								
10th (N=11)	9	.82*	.47	34	58	71	83	85
11th (N=26)	31	.51*	.23	46	62	69	77	85
School-Selected								
9th (N=5)	80	−.14	.00	76	72	70	67	65
10th (N=29)	49	.34	.09	59	69	75	80	85
11th (N=57)	56	.25*	.25*	64	71	75	79	82

* Statistically Significant at p .05.

TABLE 10 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN SEQUENTIAL MATH 3 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Scores of 30	60	75	90	105
Zoned 9th (N=7)	–6.1	.85*	.54	19	45	58	70	83
10th (N=9)	33	.21	.21	48	64	71	79	87
11th (N=21)	87	–.21	.03	81	74	71	68	65
Randomly-Assigned								
10th (N=11)	9	.82*	.47	34	58	71	83	85
11th (N=26)	31	.51*	.23	46	62	69	77	85
School-Selected								
9th (N=5)	80	–.14	.00	76	72	70	67	65
10th (N=29)	49	.34	.09	69	69	75	80	85
11th (N=57)	56	.25*	.25*	71	71	75	79	82

* Statistically Significant at p .05.

TABLE 11
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN ENGLISH 1 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for DRP Scores of 20	40	60	80
Zoned 8th (N=59)	63	.25*	.09	68	73	78	83
9th (N=147)	55	.24*	.06	60	65	69	74
10th (N=7)	97	–1.15*	.60	74	51	28	05
Randomly-Assigned							
8th (N=84)	72	.59	.00	84	96	107	119
9th (N=212)	54	.32*	.09	60	67	73	80
10th (N=8)	106	–.89*	.54	88	70	53	35
School-Selected							
8th (N=90)	64	.32*	.18	70	77	83	90
9th (N=234)	55	.34*	.10	62	69	75	82
10th (N=3)	44	.43*	.99	53	61	70	78

* Statistically Significant at p .05.

TABLE 11 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN ENGLISH 2 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for DRP Scores of 20	40	60	80
Zoned 8th (N=55)	66	.17	.03	69	73	76	80
9th (N=121)	55	.26*	.04	60	65	71	76
10th (N=6)	90	−.90	.88	72	54	36	18
Randomly-Assigned							
8th (N=88)	67	.16	.02	70	73	77	80
9th (N=191)	60	.15*	.02	63	66	69	72
10th (N=18)	60	.13	.01	63	65	68	70
School-Selected							
8th (N=98)	63	.33*	.18	70	76	83	89
9th (N=207)	58	.28*	.06	64	69	75	80
10th (N=11)	30	.87*	.34	47	65	82	100

* Statistically Significant at p .05.

TABLE 11 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN ENGLISH 3 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for DRP Scores of 20	40	60	80
Zoned 9th (N=46)	59	.19	.04	63	67	70	74
10th (N=112)	59	.22*	.03	63	68	72	77
11th (N=10)	50	.39	.07	58	66	73	81
Randomly-Assigned							
9th (N=67)	73	−.11	.01	71	69	66	64
10th (N=162)	56	.26*	.06	61	66	72	77
11th (N=14)1	55	.80	.00	71	87	103	119
School-Selected							
9th (N=71)	44	.55*	.19	55	66	77	88
10th (N=186)	50	.44*	.15	59	68	76	85
11th (N=14)	24	.84*	.38	41	58	74	91

* Statistically Significant at p .05.

TABLE 11 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN ENGLISH 4 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for DRP Scores of 20	40	60	80
Zoned 9th (N=40)	61	.12	.02	63	66	68	71
10th (N=102)	55	.27	.04	60	66	71	77*
Randomly-Assigned							
9th (N=61)	86	−.32*	.08	80	73	67	60
10th (N=152)	50	.34*	.07	57	64	70	77
School-Selected							
9th (N=67)	37	.61*	.19	49	61	74	86
10th (N=170)	49	.45*	.16	58	67	76	85

* Statistically Significant at p .05.

TABLE 11 (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE IN ENGLISH 5 BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for DRP Scores of 20	40	60	80
Zoned 10th (N=29)	48	.39*	.12	56	64	71	79
11th (N=86)	63	.13	.01	66	68	71	73
Randomly-Assigned							
10th (N=46)	63	.12	.01	65	68	70	73
11th (N=139)	65	.13	.01	68	70	73	75
School-Selected							
10th (N=50)	46	.49*	.17	56	66	75	85
11th (N=132)	63	.19*	.03	67	71	74	78

* Statistically Significant at p .05.

CONCLUSION

This study has attempted to answer one the most highly debated topics in education policy: does educational choice enhance the academic performance of students? The results show that educational choice does not hinder academic performance, nor does it help. Very little difference exists between the randomly-assigned and zoned students and when there is a difference, many times the zoned students out-performed the randomly-assigned students. The key finding for policy purposes, however, is that the school-selected students out-performed both the randomly-assigned and zoned students. A logical inference from this finding is that the school administrators who selected these students used transcript information, such as attendance and middle school records, to select the

"over-achievers." While there is no direct evidence for this proposition, the study does show that educational choice does not produce the statistical differences in academic progress and performance between the three cohorts.

One must observe, however, that this study only analyzed the public school choice model discussed in Part II. Consequently, one may question whether the results would follow a similar pattern in a private school choice or hybrid model. Nevertheless, the study provides grounds for, at the very least, reforming the New York City EOP.

The New York City Board of Education should eliminate school-selection from its admission process and use only random-assignment. Random-assignment maximizes parental empowerment in three ways. First, random-assignment prevents schools from considering students' prior academic record or aptitude in admission decisions. Under a random-assignment regime, the computerized admission system never receives the students' prior academic record and, therefore, cannot consider such data in the admissions process. The computer only considers the parents' listed prioritized schools and the physical capacity of each school. Second, random-assignment does not provide schools with an opportunity to discriminate against troubled youth in the admissions process. Rejecting troubled youth contradicts the notion that parental choice is for *all* parents, not those that school administrators or legislators deem worthy of empowerment. Third, random-assignment does not confer special priority to parents living within the school district or zone of the preferred school. Random-assignment maximizes parents' ability to send their children to schools of choice without having to relocate their families, because such relocation would have no effect on the admissions process.

The only barrier to attaining your school of choice in a pure random-assignment system is the weight that parents place on the application by prioritizing one school over another. This restriction, however, is self-imposed and reflects the parents' preference, not the preference of school administrators. Policing-makers who design parental choice programs must take great care to prevent school administrators from injecting a selection bias into the admissions process. Educational equity and opportunity requires no less.

Mitchell Edwards†

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APPENDIX
REGENTS DATA

REGRESSION STATISTICS AND ESTIMATED PERFORMANCE ON THE SEQUENTIAL MATH 1 REGENTS EXAM BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Score of 30	60	75	90	105
Zoned 8th (N=24)	16	.66*	.25	36	56	66	75	85
9th (N=31)	35	.44*	.16	48	61	68	75	81
10th (N=12)	43	.47*	.60	57	71	78	85	92
11th (N=5)	22	.47	.03	36	50	57	64	71
Randomly-Assigned								
8th (N=28)	19	.70*	.40	40	61	72	82	93
9th (N=43)	40	.80*	.27	24	48	60	72	84
10th (N=15)	43	.35	.10	54	64	69	75	80
11th (N=4)	81	−.34*	.98	71	61	56	50	45
School-Selected								
8th (N=55)	12	.72*	.29	34	55	66	77	88
9th (N=67)	−17	1.03*	.29	14	45	60	76	91
10th (N=18)	45	.36	.06	56	67	72	77	83

* Statistically Significant at p .05.

APPENDIX (Continued)
REGRESSION STATISTICS AND ESTIMATED PERFORMANCE ON THE SEQUENTIAL MATH 2 REGENTS EXAM BY COHORT AND BY GRADE-LEVEL WHEN COURSE WAS TAKEN FOR THE FIRST TIME

Cohort	Intercept	Slope	R2	Estimated Class Performance for MAT Scores of 30	60	75	90	105
Zoned 8th (N=7)	−10	.97*	.88	19	48	63	77	92
9th (N=10)	62	.15	.00	67	71	72	76	78
10th (N=19)	57	.16	.01	62	67	69	71	74
Randomly-Assigned								
8th (N=3)	27	.50	.00	42	57	65	72	80
9th (N=13)	−9	.96*	.62	20	49	63	77	92
10th (N=21)	8	.76*	.21	31	54	65	76	88
11th (N=4)	−66	1.56	.64	−19	28	51	74	98
School-Selected								
8th (N=5)	−58	1.35	.37	−18	23	43	64	84
9th (N=31)	41	.41*	.15	53	66	72	78	84
10th (N=47)	−2	.89*	.43	25	51	65	78	91
11th (N=10)	30	.17	.04	35	40	43	45	48

* Statistically Significant at p .05.