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EVALUATION OF THE CLEVELAND SCHOLARSHIP AND TUTORING PROGRAM

SUMMARY REPORT 1998 - 2003

Kim K. Metcalf, Ph.D.
Natalie A. Legan M.S., M.Ed.
Kelli M. Paul, M.S.
William J. Boone, Ph.D.

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INDIANA UNIVERSITY

School of Education
201 North Rose Avenue
Bloomington, Indiana 47405
(812) 856-8159

<http://crlt.indiana.edu/index.html>
kmetcalf@indiana.edu or wboone@indiana.edu

1998-2003 Summary Report

Since the inception of the Cleveland Scholarship and Tutoring Program (CSTP) in 1996, Dr. Kim Metcalf has led a team of investigators from Indiana University in ongoing study of the program and its effects. From the outset, it was intended that the current evaluation examine issues associated with the CSTP, specifically, as well as questions related to the broader issue of school choice. Since the study's inception, data collection and reporting have focused on providing information on several descriptive and outcome factors. Descriptive factors examined include characteristics of students and families, qualities of the teachers and classrooms experienced by students, parental opinions of the program and, more generally, parental opinions of the education their children receive. Outcome factors continue to be a focal point of the evaluation with the annual collection of achievement data from approximately 4,000 students in 100 different schools.

CSTP Overview

From the outset, the scholarship program has been focused on providing private school choice to families of low income who live within the boundaries of the Cleveland Municipal School District. However, during the summer of 2003, the Ohio Legislature made two notable changes to the program. The first expanded upward, and into high school, the highest grade at which students were eligible to use the state-funded scholarship for private school enrollment. In previous years, scholarships were available to students only through eighth grade. Beginning with the 2003-2004 school year, students who had used a scholarship to attend private school in eighth grade during the previous school year were eligible for a scholarship that could be used for private school enrollment in grade nine. Further, during the following academic year (2004-2005), students who had used a scholarship for private school enrollment in grade nine during the 2003-2004 school year were eligible to receive one in grade ten. The second change increased the amount of private school scholarships awarded by the program. Until this change, the maximum amount of a scholarship was to be 90% of up to \$2,500 in tuition – a maximum scholarship amount of \$2,250. Beginning in the 2003-04 academic year, the

maximum scholarship for students in grades kindergarten through eight is 90%¹ of tuition up to \$3,000, while for students in grades nine and ten the maximum is 90% of tuition up to \$2,700.

Evaluation Overview

While a number of research questions have emerged and been emphasized over the years, the longitudinal study has consistently been guided by three primary research questions:

1. What are the characteristics of students who participate in the CSTP, and how do they compare with students who do not participate?
2. What are the characteristics of the classrooms and teachers with whom scholarship students work in private schools, and how do they compare with the characteristics of classrooms and teachers in public schools?
3. What is the impact of participation in the CSTP on students' academic achievement?

A mixed-model, longitudinal research design has been used to address the three previously defined primary research questions. Multiple comparison groups have been distinguished in an attempt to delineate program factors and effects, and multiple data sources have been drawn upon. The primary data source used to address student achievement is the Terra Nova, a standardized test produced by CTB/McGraw-Hill. Each year, the Terra Nova has been administered to students in the longitudinal sample by representatives of the evaluation team. At the time of test administration, trained evaluation staff also collects classroom-level data in both public and private schools in which students are enrolled via teacher interviews and limited classroom observations. The principal sources of data on students' demographic characteristics have been records

¹ The scholarship covers either 75% or 90% (depending upon the family's income level) of the total amount of tuition up to the maximum allowable amount. Parents are responsible for cover the additional 25% or 10% of the tuition.

maintained by the Cleveland Scholarship and Tutoring Program (CSTP) office and Cleveland Municipal School District (CMSD) records.

The primary intent of Question One is to examine the extent to which students whose families choose to participate in the CSTP are demographically representative of the larger student population in Cleveland. Question Two examines potential differences in the classroom experiences of students who attend private schools using a scholarship and students who attend public schools. The primary analyses addressing Question Three compare the achievement of students who have used a scholarship continuously from kindergarten through the present (in the current report, this is through fifth grade) with that of students who attend public schools. In addition, we have included under this question analyses that examine the comparative academic achievement of students who used a scholarship for one or more years but who exited the program to enroll in public schools and those public school students who were awarded a scholarship at some point between kindergarten and fifth grade, but who remained in public schools.

Sample and Sample Selection

Research and evaluation of voucher programs has generated substantial debate over the most appropriate comparison group(s) against which to assess program impacts.² In the present study, multiple comparison groups are used to ensure that the most complete and representative judgments can be made. To initiate the longitudinal evaluation, the evaluation team obtained the broadest possible sample of participating and non-participating students during their first grade year in 1998-1999. These students

² For example, William G. Howell and Paul E. Peterson, *The Education Gap: Vouchers and Urban Schools* (Washington, DC: Brookings Institution, 2002); Martin Carnoy, *Do School Vouchers Improve Student Performance?* (Washington, DC: Economic Policy Institute, 2001); Kim K. Metcalf, Ronald R. Beghetto, and Natalie A. Legan, *Voucher Research: Understanding the Methodological Dilemmas* (Paper presented at the annual meeting of the American Educational Research Association, 2002). Howell and Peterson argue that the most appropriate approach to examining the impact of vouchers is through randomized field trials (RFTs), in which eligible applicants are randomly assigned (e.g., through a lottery process) either to receive a voucher or not. Carnoy first speculated that such an approach might overestimate the impact of vouchers due to a *negative* treatment effect for those who wanted, but did not receive a voucher. Metcalf, Beghetto and Legan draw on the work of Heckman and other researchers to build a case that such an effect may exist and, as a result, that multiple comparison groups are required to fully understand the impacts of vouchers.

subsequently have been, and will continue to be, followed over a multi-year period that currently includes first grade (1998-1999), second grade (1999-2000), third grade (2000-2001), fourth grade (2001-2002), and fifth grade (2002-2003).³

Over the five-year period covered by the present report, evaluation activities have been designed to identify and compare students in each of five groups. These groups include:

- (a) *scholarship recipient-users* attending private schools;
- (b) *scholarship applicant non-recipients* – students who applied for but did not receive a scholarship and who attend public schools;
- (c) *scholarship recipient non-users* – students who applied for and received a scholarship but did not use the scholarship and attend public schools;
- (d) *former scholarship users* – students who received and used a scholarship for one or more years, subsequently withdrew from the CSTP, and now attend public schools; and
- (e) *non-applicants* – public school students whose families never applied for a scholarship.

Through an ongoing process of monitoring and updating student status, and because students move into and out of the various groups, sample sizes vary across the six testing episodes. Furthermore, due to student transience, double promotion of target students, retention of target students, absences during the testing episodes, inconsistent school records, and other uncontrollable and unintended factors, the actual sample obtained from each testing episode differs from the target sample. Over the period covered by the present report, the target and actual samples are presented in Table 1.

Data Analysis Techniques

Data analysis has been conducted to focus on each of the three questions guiding this phase of the evaluation and on relevant emerging sub-questions. For each question, analyses included both descriptive and inferential statistical techniques. Inferential analyses relied upon analysis of variance, multiple regression, and, when appropriate, follow-up pairwise comparisons techniques.

³ Data from 6th graders were collected during the 2003-2004 school year as part of this longitudinal study. Pending funding, these results will be reported in a subsequent report.

Table 1. Target and Actual Samples

Student Group	Time of Testing											
	Autumn, 1998 (1 st Grade)		Spring, 1999 (1 st Grade)		Spring, 2000 (2 nd Grade)		Spring, 2001 (3 rd Grade)		Spring, 2002 (4 th grade)		Spring, 2003 (5 th Grade)	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Scholarship recipient-users	883	885	789	878	695	717	672	676	489	651	636	640
Public applicant non-recipients	480	492	467	479	436	441	377	378	341	493	484	485
Public non-applicants	–	1408	1436	1402	1041	1027	1183	1170	1503	1794	1566	1587
Public scholarship recipient non-users	80	83	79	82	89	90	96	100	227	223	278	278
Public former recipient-users	32	30	51	50	97	98	124	129	185	207	318	318

Note: The “Target” sample includes students for whom the evaluation team possessed current school information and, as a result, intentionally scheduled proctors to administer the standardized test at those schools. Target and actual samples differ as a function of schools, during the time of testing, assisting data collection staff in identifying the school of enrollment for students who are part of the broader sample but who evaluation staff was unable to identify in a school prior to testing.

Summary of Findings

What are the characteristics of students who participate in the Cleveland Scholarship and Tutoring Program, and how do they compare with students who do not participate?

The primary intent of Question One was to examine the extent to which students whose families choose to participate in the CSTP are demographically representative of the larger student population in Cleveland.

Students whose families use a scholarship for private school enrollment are similar to public school students in sex, but differ in terms of minority status and eligibility for free lunch. Slightly more than half (about 55%) of the students in all of the public and private school groups are females. This is true for each of the three primary groups of interest. However, whereas 80% of fifth grade public school students were of minority status, only 65.8% of students who had used a scholarship in fifth grade were of minority status. It is worth noting that a greater proportion of minority students who use a scholarship are of Hispanic (7.2%) or Multiracial (4.2%) status than are students in public schools (5.2%

and 1.7%, respectively). Both students who applied for but did not receive a scholarship (64%) and those who were using a scholarship to attend private schools (43%) were less likely to qualify for free lunch than were public school students whose families had never applied for a scholarship (82%). It should be noted that estimation of eligibility for free lunch for public school students is based upon data that are nearly three years old and, on the basis of our own analyses, probably underestimate current family income for between 15-30% of the public school students in our sample.

The demographic characteristics of the cohort vary based upon the grade level of entry into the CSTP. Students who enter the program after kindergarten (i.e., who are not directly a part of the longitudinal sample), are proportionally similar in sex to those who have participated throughout their schooling with 55% being female. Overall, these entering students also are similar to continuing students in terms of minority status, but differ widely from continuing students in eligibility for free lunch. For example, students who joined the cohort in second grade were significantly more likely to qualify for free lunch (65.0%) than students who entered in all other years except for kindergarten (students who had used a scholarship continuously for six years beginning in kindergarten), and students who entered in kindergarten were significantly more likely to qualify for free lunch (49.0%) than students who began using a scholarship in third grade (23.0%).⁴ Across these findings, few distinct trends are seen with students who join the scholarship program over time varying widely from one another across years, but with these differences being of inconsistent directionality.

Students who entered the CSTP after first grade were more likely to have attended private schools previously. Slightly more than two-thirds of students who joined the cohort after first grade had attended private school prior to entering the program with remaining students having attended public schools. Of these students, over 60% of public school entrants had applied unsuccessfully for a scholarship in previous years compared with about 44% of private school entrants. In terms of the demographic factors, students

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who entered the scholarship program from public schools are nearly identical to their public school peers. However, students who enter the program from private schools are more likely to be Caucasian and of higher income than both continuing scholarship students and public school students.

Students who chose to leave the scholarship program are more likely to be minority and eligible for free lunch than those who remain. The sex of students who exit the program after kindergarten is similar to that of continuing students, with slightly more than half of these students being female. However, exiting students, particularly those who exited after kindergarten or first grade (i.e., one or two years in the program), are much more likely to be of minority status and eligible for free lunch than students who remain in the program through fifth grade. In fact, while the differences are not always statistically significant, students who left the program each year from first to fourth grade were proportionally more minority and more were eligible for free lunch than were continuing students.⁵

Students in the CSTP change schools less often than students in public schools. Nearly 57% of students in the CSTP sample have never changed schools during this period and 86% have changed schools no more than once. However, public school students who had applied for but not received a scholarship or those who had never applied were more than twice as likely to have changed schools two or more times between kindergarten and fifth grade than were students who used a scholarship throughout this period (14% and 17% versus 6%, respectively). Further, whether they attended public or private schools, minority students and those of lower income were found to be more likely to have changed schools than non-minority students.

The relationship between the available demographic factors and students' fifth-grade achievement is quite small. In contrast to a substantial body of research in recent years,

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data from the current study have found sex, minority status, or eligibility for free lunch⁶ to explain only a small portion of variance in students' fifth-grade achievement. This ranges from 2.2% in reading to 7.0% in science. In all, while the relationship among these variables is found to be statistically significant, the practical significance of the contribution of these variables to students' academic performance is extremely limited.

What are the characteristics of the classrooms and teachers with whom scholarship students work in private schools, and how do they compare with the characteristics of classrooms and teachers in public schools?

The second question guiding the current study examines potential differences in the classroom experiences of students who attend private schools using a scholarship and students who attend public schools.

While public and private schools do not differ significantly in their class size or the number of years teachers have taught in their current buildings, public school teachers are more likely to be fully certified, have advanced degrees, and have more overall teaching experience. By fifth grade, students in the sample had experienced classes that were of highly similar size, with a mean class size across school types being slightly more than 21 students. In addition, students in both types of schools worked with teachers who worked in their present school for roughly half of their teaching career. Notably, and as we have found in previous years of the study, experiencing larger classes from first to fifth grade is associated with higher fifth grade achievement.

Public school students worked with teachers who had an average of over 14 years of experience, whereas private school students' teachers had slightly less than 11 years. Similarly, while the vast majority of all teachers were fully certified, a greater proportion of public school teachers (97%) were certified than were private school teachers (90%). Perhaps understandably, the most dramatic difference between public and private school teachers was in completion of graduate coursework. Nearly 80% of public school

⁶ Again, it should be noted that estimation of eligibility for free lunch for public school students is based upon data that are nearly three years old, and on the basis of our own analyses, probably underestimates current family income for between 15-30% of public school students in our sample.

teachers had completed coursework beyond their undergraduate degree, but slightly less than 40% of private school teachers had done so.

What is the impact of participation in the Cleveland Scholarship and Tutoring Program on student academic achievement?

The primary analyses addressing this question have compared the achievement of students who have used a scholarship continuously from kindergarten through fifth grade with that of two groups of public school students: those who applied for but did not receive a scholarship and who were attending public schools in fifth grade (public applicant non-recipients), and those who have never applied for a scholarship but who were attending public schools in fifth grade (public non-applicants). In addition, we have included under this question analyses that examine the comparative academic achievement of students who used a scholarship for one or more years but who exited the program to enroll in public schools (public former recipient-users) and those public school students who were awarded a scholarship at some point between kindergarten and fifth grade, but who remained in public schools (public recipient non-users).

The impact of participation in the scholarship program on students' achievement from first through fifth grade remains unclear. By the end of fifth grade, and after statistically adjusting students' scores on the basis of minority status⁷, there are no differences in five of six achievement areas between students who have used a scholarship from kindergarten through fifth grade and students in the public school comparison groups. However, at various points during the six-year period, differences favoring scholarship students often emerge and recede. Table 2 depicts instances (by grade and subject area) in which scholarship students' adjusted achievement is found to be significantly higher than that of either applicant non-recipients or non-applicants.

⁷ Students' scores were not statistically adjusted for income (eligibility for free lunch) due to the data for public school students being nearly three years old and, by our own analyses, probably underestimating current family income for between 15-30% of public school students in our sample. As a result, we would like to emphasize that there is a potential, but unknown, impact of income on all achievement analyses.

Table 2. Subjects of Significant Pairwise Differences Favoring Scholarship Students over: (a) Applicant Non-Recipients (ANR) and (b) Non-Applicants (NA) by Testing Episode^a

Subject	Testing Episode					
	Fall 1 st Grade	Spring 1 st Grade	Spring 2 nd Grade	Spring 3 rd Grade	Spring 4 th Grade	Spring 5 th Grade
Overall	ANR			ANR	ANR	
	NA*	NA	NA*	NA	NA	NA*
Reading	ANR			ANR	ANR	
	NA*		NA*	NA	NA	NA*
Language	No Significant Differences Indicated					
Mathematics	ANR	ANR				
	NA	NA		NA		
Science	Not Assessed			No Significant Differences Indicated		
Social Studies	Not Assessed				ANR	ANR
	Not Assessed			NA*	NA	NA*

* Indicates comparisons in which non-applicants were found to obtain significantly lower scores than applicant non-recipients

^a Empty cells indicate no significant difference between scholarship students and the particular comparison group.

It is clear that, for the current sample of students and after adjusting for students' minority status, children who had used a scholarship to attend kindergarten in private schools had higher levels of achievement in three areas (overall, reading, and mathematics) when they began first grade than children who had not used a scholarship to attend kindergarten. These early differences are statistically significant and substantial, and they hold both for students whose families applied for but did not receive a scholarship and for students whose families never applied for a scholarship. When compared with each public school group, scholarship students were performing at higher levels on three of the four available measures. It is similarly clear that by the end of that first grade year many, even most, of these initial differences have disappeared, and by the end of second grade, scholarship students outperform only non-applicants and only in the areas of reading and overall score. Thus, in the first two years of the present study, the comparative impact of the scholarship program on students' achievement was less than that of attending public school. However, this pattern appears to change in later grades.

The adjusted academic performance of scholarship students remains higher than that of public school students whose families never applied for a scholarship in reading and overall score throughout third, fourth, and fifth grades. In addition, scholarship students come to achieve at a higher level than non-applicants in mathematics in third grade, although this difference dissipates by fourth grade. Scholarship students were achieving at higher levels than these non-applicant public school students in social studies when it was first assessed in third grade, and continue to do so through fifth grade. Across the five years of the present study, the achievement of scholarship students begins and tends to remain higher than that of public school students who have never applied for a scholarship, even after adjusting for students' minority status.

The pattern of performance when scholarship students are compared with public school students whose families had unsuccessfully applied for a scholarship is somewhat more interesting. As noted, the achievement of these groups was equivalent by the end of second grade in each of the four areas tested. However, scholarship students come to achieve at significantly higher levels than applicant non-recipients in the areas of reading and overall score by the end of third grade. Each of these differences remains through fourth grade, but each is no longer statistically significant by the end of fifth grade. Further, while there were no differences between scholarship and applicant non-recipient students in social studies when it was first assessed in third grade, the achievement of scholarship students is significantly higher in this area in fourth and fifth grade. These results suggest some academic benefit for scholarship students in at least some areas, although the longevity of these benefits is unclear and inconsistent.

Students who chose to exit the program after participating for one or more years, beginning in kindergarten, did not differ significantly in language, science, or social studies, either before or after they left the program, from those who continued. However, overall achievement and to a lesser extent achievement in reading and mathematics was lower for students who would choose to leave the program than for those who would remain. Further, this pattern of relatively lower achievement continued even after students exited the program and entered public schools.

Closing Thoughts

Across these findings, it is difficult to conclude with any degree of confidence that the scholarship program impacts students' academic achievement and it is equally difficult to conclude that it does not. Patterns that emerged in third and fourth grade seem to have changed somewhat in fifth grade, but it is impossible to know whether any of these differences or changes reflect trends or are merely random variation across time. As students continue their schooling, particularly as they move from elementary schools that may be assumed to be generally similar between the public and private sectors to middle schools that may differ substantially, it will be interesting to examine the potential impacts of differential educational choices made by their parents.

Over the years of the present project, we have come to understand much more about the nature of families and the decisions they make about their children's education. Most of the families whose children constitute our longitudinal sample care deeply about their children and their children's schools, and most believe they made intentional choices of their children's schools. Families who choose to use a scholarship differ demographically from families who do not in ways that suggest the program attracts and retains families who are not completely similar to what might be called the broader public school population. Why this is the case cannot yet be answered. Undoubtedly, some portion of this is a result of the processes used to award scholarships. Awards made after the beginning of school are much more likely to be made to families of higher income and whose children were previously enrolled in private schools. Further, a proportionally larger number of low-income and minority families elect to exit the program over time, while higher income and Caucasian families are more likely to remain.⁸ Thus, through differential entry and exit, the demographic characteristics of the scholarship cohort continue to change.

⁸ Again, it should be noted that estimation of eligibility for free lunch for public school students is based upon data that are nearly three years old, and on the basis of our own analyses, probably underestimates current family income for between 15-30% of public school students in our sample.

Also unanswered is the question of whether or not the private school enrollment made possible through a scholarship has long-term impacts on the academic performance of students. The current data suggest that some benefit may accrue in some subjects and at some points in time. However, what is undoubtedly more important than the year-to-year impacts of using a scholarship, even over the critical period from first to fifth grade, is whether or not stable patterns of differential performance emerge as students continue to move through the increasingly varied experiences of middle and high school. In order to understand this issue, it will be critical to continue to collect data on students' academic achievement. In fact, such data have already been collected on the current sample of students in spring of 2004, when students were in sixth grade, and this effort should continue in future years. Equally important, however, will be examination of other indices of students' academic performance, such as class choices, and graduation and dropout rates. Students in the current cohort are just now entering a point in their schooling when they will be allowed increasing freedom to choose from among a range of courses, academic paths, and even whether or not to remain in school. As a result, not only are the intentions and choices of families worthy of continued investigation, but students themselves will become even greater and more directly involved stakeholders in their education. Research in future years must examine the types of choices students make and whether or not these choices differ between students who have used a voucher and those who have not. It also must examine how and why students make these educational choices.