

Demonstrating Exceptionalism: School Resources and Debate Success

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ABSTRACT

This paper investigates the impact of school resources and school peer effects on the likelihood of debaters reaching the final rounds of the Washington State debate tournament. Debate is an example of an elite extracurricular activity in which there is the opportunity to demonstrate exceptionalism. Evidence of exceptionalism provides an advantage in admissions to elite colleges and universities, attendance at which significantly increases the likelihood of entering or remaining at the top of the U.S. income distribution. Although some research has investigated the impact of extracurriculars on adult outcomes, almost no research has examined the impact of school resources on the ability of students to excel in extracurricular activities. To test the hypothesis that school resources and school peer effects provide a statistically significant impact on the probability of making it to elimination rounds of a state debate tournament, students' 2024 competition records and Washington State tournament results from the Tabroom database were combined with their schools' per-pupil expenditures and percentage of students meeting English Language Arts standards. Logistic regression, commonly used to understand the impact of independent variables on the probability of a binary event, was used to analyze this data. The analysis suggests that school resources and school peer effects do not have a statistically significant positive impact on the likelihood of debaters making it to state tournament final rounds. The research outcome is surprising given the evidence that affluent families have been increasing spending on extracurriculars. Additional analysis with more comprehensive data may offer clarification.

Introduction

Affluent parents are more likely to invest in extracurricular activities for their children, which gives them an advantage in acquiring non-academic human capital such as leadership skills and collecting awards and honors (Snellman et al., 2014; Park et al., 2023). These leadership skills, awards, and honors give their children an advantage in admission to elite colleges and universities (Chetty et al., 2023; Park et al., 2023). Attendance at elite colleges and universities provides a significant increase in the likelihood of entering or remaining in the top 1% or .1% of the U.S. income distribution or holding an elite position such as Senator or Supreme Court justice, especially if their children continue to participate in extracurricular activities in college or university (Chetty et al., 2023). For this reason, a growing gap between affluent and disadvantaged students in extracurricular participation may be a contributing factor to the growth in inequality in the United State (U.S.) (Snellman et al., 2014; Kornrich and Fustenberg, 2012; Buckley and Lee (2018). Although some research has investigated the impact of extracurriculars on student outcomes, almost no research has investigated the impact of school and family resources on the ability of students to demonstrate exceptionalism in extracurricular activities (Lleras, 2008; Kosteas, 2010; Kuhn and Weinburger, 2005; Covay and Carbonaro, 2010). Debate is an example of the type of elite extracurricular which is not available to many U.S. students and in which affluent students demonstrate exceptionalism (Park et al., 2023; Jayakumar and Page, 2021). In this paper I investigate whether school resources, namely per-student funding, and student peer effects in the form of the percent of students at the school

who have met English Language Arts (ELA) standards, have a positive impact on the likelihood of debaters from the school reaching the final rounds of a state Lincoln Douglas tournament. This analysis suggests that school resources and school peer effects do not have a statistically significant positive impact on the likelihood of debaters achieving tournament awards. In fact, the only variable that has a significant impact on the likelihood of making it to the final rounds of a state tournament is the debater's level of preparation.

Literature Review

When predicting adult success, academic measures such as achievement tests have historically been considered the most relevant measure. The economists who find school has a positive impact on labor market outcomes use the economic theory of human capital to understand and explain this impact. As Goldin and Katz (2020) state, "Human capital theory is the notion that an investment in human beings today has a payoff in the future." In recent years, researchers have begun to evaluate the importance of adult outcome predictors other than academic achievement. Anything that impacts income or productivity in the future can be thought of as human capital investment. The investment that receives the most attention is education, but others include social and emotional skills, health, migration, etc. (Goldin and Katz, 2020). Heckman and Kautz (2013) state that only a small portion of adult success can be predicted by achievement tests. They point out that character skills such as conscientiousness, curiosity, and empathy are not fully captured by achievement tests and that, "Until recently these skills have been largely ignored" in studies predicting adult outcomes. In fact, a pioneer of achievement testing, Ralph Tyler, suggested using measures of behavior such as participation in school activities alongside achievement tests when evaluating students (Heckman and Kautz, 2013).

According to Lleras (2008), participation in extracurriculars, such as chess club and soccer, is as important as test scores in predicting accumulated earnings ten years later, and Kostea (2010) finds that participation in academic clubs has a positive earnings impact in line with an additional half year of education. Extracurriculars offer an even larger benefit for student leaders. Kuhn and Weinburger (2005) find that club leaders and team captains are more likely than other students to become managers and, as managers, to earn more than other managers. Participation in extracurricular activities gives students access to mentors and is an important proxy for qualities valued by the labor market that are hard to measure such as leadership, grit, persistence, ambition, curiosity, willingness to learn new skills, time management, teamwork, communication, and perseverance (Covay and Carbonaro, 2010; Snellman et al., 2014). Furthermore, participation in elite extracurricular activities such as lacrosse or golf signals cultural capital that allows a student to thrive at elite institutions (Rivera, 2016).

The preceding research demonstrating the positive impact of extracurriculars on adult outcomes indicates that extracurricular activities may be a driver of income inequality as well as a decline in the number of children who earn more than their parents in the United States. Furthermore, as income inequality has grown in the U.S., the gap in spending between high- and low-income families on enrichment activities has grown. Since the 1970s, the time and resources affluent parents invest in extracurriculars has grown significantly (Snellman et al. 2014). According to Kornrich and Fustenberg (2012) wealthy parents spent approximately \$2,700 more per child on enrichment activities than low-income parents in the early 1970s. By the early 21st century the difference was \$7,500. Buckley and Lee (2018) found that cost is a reason affluent students participate in more extracurricular activities.

Since 1980 nearly all economic growth in the United States has gone to earners at the top of the income distribution (Mandery, 2022). In their article in the *Quarterly Journal of Economics*, Piketty et al. (2017) describe how the income share of the bottom 50% of earners dropped from approximately 20% in 1980 to 12% in 2014 and the income share of the top 1% of earners increased from about 12% in the early 1980s to 20% in 2014. By 2014 the top 1% earned 81 times more, on average, than the bottom 50% of workers. Today these top earners are largely graduates of elite colleges and the top one percent of the income distribution is dominated

by graduates of Ivy-Plus colleges - the eight Ivys, University of Chicago, Duke University, Massachusetts Institute of Technology, and Stanford University (Chetty et al., 2023; Mandery, 2022). Chetty et al. (2023) point out that less than half of one percent of Americans attend an Ivy-Plus colleges, yet “these twelve colleges account for more than 10% of Fortune 500 CEOs, a quarter of U.S. Senators, half of all Rhodes scholars, and three-fourths of Supreme Court justices.”

Chetty et al.’s (2023) results align with findings by Hoxby (2016) and Hoekstra (2009) that there is a considerable payoff in lifetime earnings for graduates of selective U.S. colleges. Zimmerman (2019) finds there is a similarly positive impact of attending an elite college in Chile. At first glance, this appears to contrast with a large and established body of economic and educational research, beginning with the 1966 Coleman report, asserting that the differences in outcomes between students at schools with more versus fewer resources or greater versus less selectivity are eliminated when controlling for family background such as parental education and income, individual characteristics, and socioeconomic diversity (U.S. Department of Education, 1966; Lichter, 1997; Pianta and Ansari, 2018; Reardon and Bischoff, 2011; Dale and Krueger, 1999; Dale and Kreuger, 2011; Mandery, 2022; Hoxby, 2000). In the specific case of college selectivity, these results suggest that if a student is admitted to both Washington State University and Duke University, his earnings will be the same, on average, no matter which of these universities he attends (Tough, 2021). The reasoning is that high-ability students will do well no matter what college they attend. These students tend to choose an elite university because it offers an efficient way to signal their high ability to the market (Ehrmantraut, Pinger, and Stans, 2020).

Chetty et al. (2023) discovered that the large income brackets often used in previous studies left out an important part of the picture. For example, Dale and Krueger (1999, 2011) placed everyone making \$200,000 or more in the top income group. In contrast, Chetty et al. (2023) looked at incomes in brackets of one percent or less, which is where the impact of the Ivy-Plus colleges becomes evident. They found that while previous studies were mostly right, going to an Ivy-Plus college didn’t have a large impact on average income, it did greatly increase the chance of entering the top one or 0.1 percent of the income distribution. Chetty et al.’s (2023) contribution to the literature is to prove, using a new data set and research design, that attendance at an elite university offers a significant boost in reaching the extreme upper tail of the earnings distribution.

Hoxby (2009) provides a possible explanation for the positive impact of attending a selective college on graduate earnings: the most elite colleges are getting much more selective, resulting in positive externalities due to peer effects, and at those colleges the resources per student are also increasing significantly. Hoxby (2009) explains that “the market for college education has re-sorted students among schools as the costs of distance and information have fallen.” At the time of her working paper, resources per student at low-selectivity schools were approximately \$12,000, and at the highest selectivity schools, they were approximately \$92,000. In addition, students at more selective colleges benefit from subsidies that are about ten times the amount for students at less selective colleges. Hoxby (2009) points out that the “very high aptitude students” attending elite colleges “who pay tuition that covers only a small share of the resources dedicated to their education” are therefore able “to make massive human capital investments.”

Chetty et al. (2017) demonstrate that growing income inequality in recent decades has been an important factor in the significant decline in “absolute income mobility,” the fraction of children who earn more than their parents. Using data from U.S. Census and Current Population Survey cross sections combined with panel data from de-identified tax records, the authors find that the “rate of absolute income mobility fell from approximately 90% for children born in 1950 to 50% for children born in the 1980s.” A similar decline in intergenerational mobility has emerged for education. Not only are earners in the top one percent more likely to have graduated from elite colleges, children from families in the top one percent of the income distribution are more than twice as likely as children from middle-class families with comparable SAT/ACT scores to attend one of the twelve elite Ivy-Plus colleges which offer access to the most elite positions in the U.S. (Chetty et al., 2023)

There is reason to be concerned about a system in which the wealthy control the most powerful positions in society. U.S. leaders make decisions that impact the lives of large numbers of people. As Acemoglu et al. (2022), Washington (2008), Feng et al. (2021), and McGuirk et al. (2017) point out, the backgrounds and experiences of leaders influence their decisions. For example, Feng et al. (2021) found that innovators create products that are likely to be purchased by people of similar socioeconomic status and age. McGuirk et al. (2017) found that congressional legislators were seven to eleven percent less likely to vote for conscription if they had a draft-age son and that once their son was no longer eligible for the draft, they became more likely to vote for pro-conscription legislation. Using a large dataset of surveys of public opinion and subsequent policy outcomes, Princeton professor Gilens (2015) demonstrates that the U.S. government is strongly responsive to the wishes of its most affluent citizens while being almost entirely unresponsive to the policy preference of most Americans. In addition, inequality may lead to political unrest such as Occupy Wall Street and Black Lives Matter as well as the rise of populist politicians (Gerstle, 2022).

In their recent National Bureau of Economic Research working paper, Chetty et al. (2023) found that there are three sources of admissions advantage for children of wealthy families: having a parent who attended the college, being a recruited athlete, and having stronger non-academic credentials. Wealthy parents are more likely to have attended an elite college and being a child of affluent parents who attended the college increases the legacy advantage even further than other legacy students, accounting for 46% of the admissions advantage of affluent applicants. Legacy students from families in the top one percent are five times as likely to be admitted than a similar student whereas legacy students from families below the 90th percentile are only three times more likely to be admitted than a similar student. 24% of the admissions advantage is due to the recruitment of athletes, largely in elite sports such as lacrosse and rowing, who tend to come from affluent families.

The remainder of the admissions advantage, 31%, is from being judged as having “stronger non-academic credentials” – extracurriculars, leadership traits, letters of recommendation, etc. Students who attend non-religious private schools have a benefit in non-academic credentialing over public school students (Chetty et al., 2023). Chetty et al. (2023) find that after conditioning on SAT/ACT scores, students from private high schools with high admissions rates do not have higher academic ratings than public school students but do benefit from much higher non-academic ratings. As a result, students who attend non-religious private schools are twice as likely to be admitted to Ivy-Plus colleges as students attending public high schools in affluent neighborhoods. In contrast, there is no admissions advantage for wealthy students at highly selective public universities. Once SAT/ACT scores have been accounted for, high- and low-income students have similar admissions rates.

In an examination of 5,967,920 college application submitted through the Common Application platform, Park et al. (2023) found that “White, Asian American, high-SES, and private school students reported substantially more activities, more activities with top-level leadership roles, and more activities with distinctive accomplishments (e.g. honors, awards).” Park et al. (2023) note that, until their study, the impact of extracurriculars on elite admissions has suffered from lack of access to applicant data. Their study demonstrated that affluent and white students are more likely to participate in elite extracurriculars, such as debate, which have limited access and allow the demonstration of specialization. This aligns with the contention by Jayakumar and Page (2021) that elite colleges and universities recruit students demonstrating “exceptionalism” but that opportunities to specialize and receive support in a drive for exceptionalism are not widely available. In an analysis of 11 sports offered at 40 elite colleges or universities, Jayakumar and Page (2021) found that wealthy and white students were seven to 20 times more likely to achieve exceptional performance.

Debate is an example of an elite extracurricular activity more likely to be offered at private and affluent public schools. According to Park et al. (2023) and Jayakumar and Page (2021), participation in debate reflects specialization, which is supported by family and school resources, and offers the opportunity collect awards.

The cognitive and non-cognitive benefits of debate were demonstrated in research studies of urban debate programs in Boston, Houston, and Chicago. Schueler and Larned (2023), in a study in the Boston Public School district, found that students who participated in debate were “three times less likely to drop out of high

school,” and “70% more likely to score at or above ACT college readiness benchmarks.” Debaters were more likely to graduate, had higher attendance rates, fewer days of suspension, and higher GPAs. In a study in the Houston Independent School district, Ko and Mezuk (2021) demonstrated debaters had a 0.66 point higher GPA and scored 52.42 and 57.05 points higher on the math and English sections of the SAT, respectively. Anderson and Mezuk et al. (2015) had similar results and an increase in science readiness on the ACT in a study in the Chicago Public School district.

Method

Because most debate tournaments that are run as part of the National Speech & Debate Association offer a public record of results, I have the opportunity to better understand the relative impact of school resources, school peer effects, and personal characteristics such as conscientiousness and experience in winning debate rounds in tournaments and thereby demonstrating the specialization and exceptionalism, as well as implied characteristics such as curiosity, time management, and persistence, that elite colleges and employers seek. Given the research by Chetty et al. (2023) demonstrating that non-academic credentials of private school students offer a significant advantage in admission to elite colleges and universities and the evidence offered by Park et al (2023) that family and school resources offer an advantage in demonstrating exceptionalism, my hypothesis is that school resources provide a statistically significant impact on the probability of making it to the elimination rounds of the Washington State Lincoln Douglas Debate Tournament.

Data for most National Speech and Debate Association tournaments are collected by a software program called Tabroom and stored in a database. Through Tabroom one can access debate round and tournament results and students’ competition records (Giella, 2023). To keep the data collection effort manageable, debate competition records were collected from Tabroom for the students who participated in the Washington State Lincoln Douglas Debate Tournament in March 2024. In addition, for each of the public schools debaters attended, the per-pupil expenditure for the 2022-23 school year and the percent of students who met English Language Arts standards in the spring of 2023 were collected from the Washington Office of Superintendent of Public Instruction. For the 2 private schools, 2024 tuition was used as a proxy for per-pupil expenditure and the percent of students who met English Language Arts (ELA) standards was considered missing.

Data

Debater ID	Debater Made it to Elimination Rounds	Wiki Page	Number of Tournaments Attended 2023-24	Type of School Attended	Percent Students Meeting ELA Standards in Spring 2023	2022-23 Per-Pupil Expenditures or 2024 Tuition at Debater's School in USD
1	No	Yes	14	Public	87.90%	19,122
2	No	No	5	Public	92.10%	16,766
3	No	Yes	13	Public	71.80%	17,240
4	No	No	6	Public	54.30%	15,852
5	No	No	3	Public	48.40%	17,795
6	No	No	7	Public		
7	No	No	6	Public	64.40%	17,738
8	No	No	10	Public	68.80%	15,641
9	No	No	4	Public	68.80%	15,641

10	Yes	Yes	12	Public	68.80%	16,091
11	No	No	6	Public	69.80%	17,359
12	Yes	Yes	6	Public	73.50%	15,128
13	No	No	7	Public	73.50%	15,128
14	No	Yes	13	Public	82.50%	18,408
15	Yes	Yes	10	Public	82.50%	18,408
16	Yes	No	9	Public	83.10%	16,681
17	Yes	Yes	11	Public	46.60%	17,430
18	Yes	Yes	9	Public	88%	18,173
19	Yes	Yes	8	Public	88%	18,173
20	No	No	4	Public	41.90%	15,931
21	Yes	No	8	Private		45,530
22	Yes	No	13	Private		45,530
23	No	No	5	Public	70.70%	16,892
24	Yes	Yes	3	Public	79.60%	15,775
25	No	No	3	Public	79.60%	15,775
26	Yes	Yes	8	Public	69.00%	17,434
27	Yes	Yes	13	Public	69.00%	17,434
28	No	No	8	Public	81.90%	16,233
29	No	No	2	Public	60.80%	15,689
30	No	No	2	Public	60.80%	15,689
31	No	No	6	Public	64.80%	16,360

The mean number of tournaments attended by debaters, a measure of experience and commitment to debate, was 7.5 with a standard deviation of 3.5. The minimum was 2 and the maximum was 14. A wiki page is used to disclose one's case to an opponent in a debate round. Preparing a wiki for a round requires notable debate experience as well as conscientiousness. Having a wiki page is treated as a proxy for a debater's level of preparation for a debate topic. 39% of debaters at the Washington State Lincoln Douglas debate tournament had a wiki page.

Although there are selective private schools in Washington state, only one had debaters who qualified for the state tournament. Therefore, the percentage of private school debaters at the Washington State Lincoln Douglas debate tournament was 6%. The average per-pupil spending at the schools attended by debaters was \$18,701.53 with a standard deviation of \$7,247.54. There was not a large difference in the per-pupil spending of public schools, and the large standard deviation was driven by private school tuition 2.5 times larger than the maximum per-pupil spending of the public schools. On average, the percentage of students achieving ELA standards was 71% in the public schools attended by debaters with a standard deviation of 13%.

A correlation analysis was run between all fields in the dataset constructed for this research. The strongest correlations in the data were between having a wiki page and making it to the elimination rounds in the Washington State Lincoln Douglas Tournament (0.59) and having a wiki page and the number of tournaments attended (0.55).

Empirical Strategy

Logistic regression is a common statistical technique used to try to understand the probability of an event when there are only two possible outcomes such as winning a sports game, winning a debate round, or clicking an on-line ad. Logistic regression is used to model the relationship between a set of independent variables and a binary dependent variable (Bouzianis, 2019). For example, Gifford and Bayak (2023) used logistic regression to predict the outcome of NFL games and Prasetio and Harlili (2016) used logistic regression to predict outcomes of English Premier League (soccer) matches.

In this study I used logistic regression to understand the impact of several independent variables on the probability of a debater making it to the elimination rounds of the Washington State Lincoln Douglas Debate tournament. Making it to the elimination rounds of the Washington State Lincoln Douglas Tournament is a yes/no binary dependent variable. The independent (predictor) variables are whether the debater has a wiki debate page, the number of tournaments the debater has attended, the per-pupil expenditure at the debater's school, and the percent of students at the debater's school meeting ELA standards. The analysis was done using the python programming language. Binary fields were converted from yes/no or private/public to 1/0 for analysis. Records with missing values for any of the fields were dropped for the logistic regression analysis.

Results

Independent Variable	Coefficient	P> z
const	9.55	0.477
wiki_page	6.21	0.0018
number_tournaments	-0.23	0.417
per_pupil_expenditure	-0.0008	0.398
ela_standards	2.49	0.648

The only significant independent variable, at a 5% significance level, is whether the debater has a wiki page. The statistical analysis suggests that school resources and school peer effects (proportion of students meeting ELA standards) have no impact on whether a debater makes it to elimination rounds at the Washington State Lincoln Douglas Debate Tournament. Instead, what matters is whether a debater has a debate wiki page, which we are treating as a measure of how well-prepared the debater is for the tournament. This result suggests that demonstrations of exceptionalism in debate are the result of individual characteristics, such as conscientiousness and debate topic preparation, rather than school resources or school peer effects.

Implications and Significance

The outcome of this research is surprising given that the spending of affluent families on extracurriculars has been increasing and the evidence that exceptional performance in extracurriculars can increase the probably of admission to elite colleges and universities. One possible explanation is that the required spending to achieve exceptionalism is greater than that captured by differences in public school per-pupil funding. Better and more complete data would help resolve this question.

Limitations and Future Research

This study was very limited in scale and there were some missing values for important fields. Future research should construct a database from Tabroom that encompasses a full set of results of state and national tournaments. To supplement the tournament data, a survey should be conducted which collects more detailed school-specific information about debate programs such as debate program resources, number of coaches, whether debaters travel more than 20 miles to attend debates, and whether the school has debate classes. A separate survey should collect information from debaters about socioeconomic status, the use of individual debate tutors, attendance at debate camps, and the amount of debate experience within the debater's family. With this database a more complete set of regressions could be run examining the impact of school resources and debater family resources on debate success.

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