



January 10, 2017

EDUCATION POLICY

Unfair Advantage? School Fundraising Capabilities and Student Results

by

Huijie Guo and David R. Johnson

- Does better fundraising at some schools lead to higher student grades? Do schools where parents have deeper pockets have an unfair advantage over other schools? These questions have frequently raised issues of equity across schools.
- In this E-Brief, we measure the association of funds raised in Toronto District School Board (TDSB) elementary schools with educational outcomes. We compare academic outcomes as measured by the Education Quality and Accountability Office (EQAO) primary and junior assessments, taking into account school fundraising and controlling for student background.
- The data show the average funds raised per student per year totaled \$161. The maximum amount was about \$1,000. The next largest amount was \$786. Only 10 schools raised more than \$500 per student per year.
- Our results show that moving between two schools with students from similar backgrounds, one with zero funds raised to a school with \$300 raised per student (a huge movement in funds raised) would predict only a 3.0 to 4.5 percentage point increase in student results. In 2011-2012, operating spending per student in the TDSB was about \$11,000 per student per year, so \$300 is, relatively speaking, a tiny amount. It is hard to see how such a small amount of funds could ever substantially change results, particularly when they are generally not spent on additional staff. We speculate that the funds raised serve as proxy variables for parent and teacher effort.

Passionate discussions are taking place about whether differing fundraising capabilities across public schools have a direct impact on education outcomes. Prevailing opinion is that they do.

The authors thank Colin Busby, Janet Ecker, Bill Greenhalgh, Heather Stockton, Munir Sheikh and anonymous reviewers for comments on an earlier draft. The authors retain responsibility for any remaining errors and the views expressed here.



Lesley Johnston (2011) states, “school fees and fundraising activities create unequal opportunities for students in schools and between schools.” People for Education (2015) claims that “47 per cent of elementary schools fundraise for learning resources eg., classroom technology, online resources and textbooks.” Vana Pistiolis (2011, 55) writes that “all principals agree that many of the items purchased through extra funds increase student achievement.” And a prominent Ontario website suggests that “fundraising covers the basics” and “money from school-based fundraising is being used to purchase items such as textbooks and classroom supplies” (Elementary Teachers Federation of Ontario 2016).¹

Does fundraising in fact substantially increase the inequality of the academic experience across schools? The usual list of items associated with fundraising – field trips, speakers, guest artists, playground equipment, athletic equipment, etc. – clearly enhance the student experience but would not obviously improve student academic outcomes or increase the variation in academic outcomes.

In this E-Brief, we measure the association of funds raised in Toronto District School Board (TDSB) elementary schools with educational outcomes. We compare academic outcomes as measured by the Education Quality and Accountability Office (EQAO) primary and junior assessments, taking into account school fundraising and controlling for student background. In this way, we explore whether the variation in funds raised has a measurable and important effect on academic outcomes.

There are two fairly clear paths by which funds could affect outcomes: 1) The extra educational resources may be directly helpful as additional books in the library and additional classroom resources could increase outcomes; and, 2) The other uses of funds – speakers, a better playground, trips, etc. – may increase teacher efficacy and through student engagement, perhaps improve outcomes indirectly. This E-Brief does not and cannot distinguish between these two paths or conclude which path is more important. Other paths for school effectiveness must also exist for outcomes to change. This E-Brief does, however, investigate the effects attributable to fundraising on the inequality of educational outcomes and finds that the effects are relatively small.

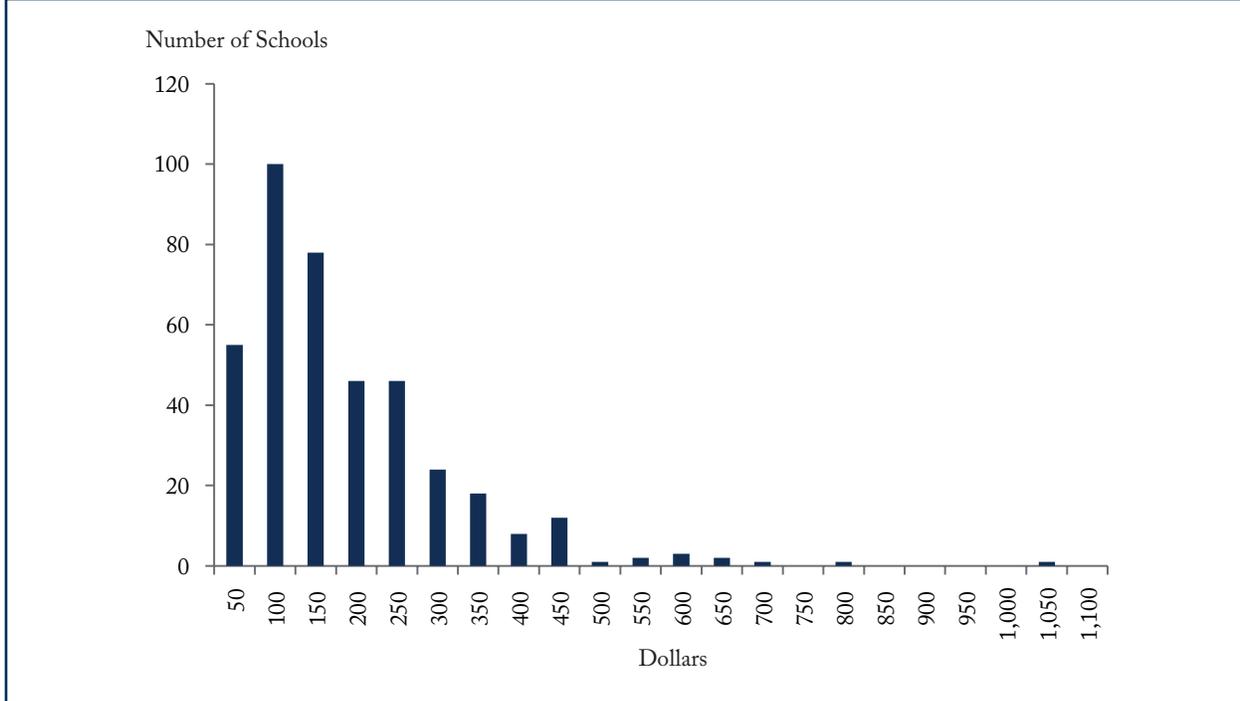
There are two parts in our analysis. First, we compare funds raised at similar schools – schools similar in the structure of grades taught and similar in terms of the background of their students – and we discover that the apparent fundraising disparity diminishes substantially. Students at schools where lots of funds are raised are, on average, already schools where students arrive with other advantages. We also discover that schools with students in Grades 6, 7 and 8 raise more funds per student than schools without higher grade elementary students, suggesting some of the variation in funds raised is simply a function of the activities taken on by students at different ages. The variation in funds raised associated with grade-structure at a school is not of any policy or educational concern.

The second part of our analysis shows that the association between fundraising and better student outcomes is weak when we control for student backgrounds. Given the very small amounts of money involved, we question the strength of any association of funds raised and EQAO results. We conclude that the small variation in fundraising efforts may be an indirect indicator of variation in parental engagement across schools where parents come from similar backgrounds. It is variation in parental background that explains about half the variation in school outcomes.²

1 Pistiolis (2011) provides an explicit list of how funds are spent at the eight schools she investigated in detail, but we are unaware of any aggregate data describing how funds raised at schools are spent across the province.

2 This is a hypothesis that could be explored with some direct measure of parental involvement, if such a measure existed.

Figure 1: Funds Raised per Student per Year in TDSB Elementary Schools



Source: Calculated by the authors from data provided by the Toronto District School Board.

Most importantly, we conclude that fundraising is part of the social and economic dispersion across schools, but fundraising disparities are not a key mechanism for increasing that inequality.³ Many earlier analyses of Ontario elementary school results showed that EQAO results vary substantially between elementary schools where students come from similar social and economic backgrounds. This variation is much larger than any outcome variation associated with fundraising, and it ought to be the focus of more penetrating investigations in education policy.⁴

Fundraising in TDSB Elementary Schools

Figure 1 illustrates the large differences in funds raised per student per year at TDSB elementary schools. The average value over the three years from 2009-2010 to 2011-2012 is \$161 per student per year. It is zero or close to zero at some schools. The maximum amount is about \$1,000 per student in the group of schools studied.⁵

3 See “As fundraising gap grows, Toronto’s wealthy schools leaving poor schools behind” *Toronto Star*, April 11, 2015 or “Toronto school fundraising raises questions about equity in public-education system” *Globe and Mail*, November 3, 2014. More recently, “Toronto schools raise less money than rest of region” *Toronto Star*, Saturday September 3, 2016.

4 One key restriction on external funds is that extra professional staff cannot be hired with external funds. If this restriction were lifted, the situation might change. There are various limitations on how funds can be spent as outlined in Johnston (2011). Enforcement of such regulations is unclear.

5 See the online Appendix for details on the source of the fundraising and other data.

Table 1 shows that schools that have Grade 6 raise more funds than schools that do not. Middle schools in the TDSB – defined as schools that begin in Grade 6 – raised almost twice as much per student as schools with only younger students. Older students presumably do more expensive activities than younger ones and funds come from outside the school board to pay for those activities. The three school structures are derived from the reported EQAO assessments at each school in the sample.⁶

Beyond the grade structure of schools, much of the apparent inequity in funds raised reflects the fact that schools are already partly sorted by family background. There are schools where the unemployment rate is low, the percentage of persons with university degrees is high, and a large percentage of homes are detached. There are schools where students already arrive with advantages and such schools raise significant funds each year. A regression analysis shows that about half of the variation in funds raised per student is associated with the variation in school structure when combined with the makeup of the social and economic background of students (see [online Appendix](#)).

Regression analysis also allows us to examine how strongly additional funds raised affect school outcomes.⁷

Measuring the Relationship between Funds Raised and School Outcomes

We focus on the percentage of students who meet or exceed the provincial standard on the EQAO assessments over the three academic years from 2009-2010 to 2011-2012.⁸ For convenience, we call this percentage of students at the school the standard “pass rate” – although we recognize that the provincial standard is higher

Table 1: Average Funds Raised per Student per Year by School Structure

Type of School	Number of Schools	Average Funds (Dollars)
Only a Grade 3 Assessment	94	118
Both a Grade 3 and a Grade 6 Assessment	270	167
Only a Grade 6 Assessment	34	230

Source: Authors' calculations.

-
- 6 If we go to the TDSB webpage in 2016-2017, we discover a quite wide variety of school structures. About half the schools with both Grade 3 and Grade 6 assessments end in Grade 6 and half end in Grade 8. There is no obvious difference in funds raised per student per year across these two categories of schools. There are also a few schools with unconventional grade structures, say running from Grade 4 to Grade 8. Such a school would only have a Grade 6 assessment. Results are not sensitive to using school structures as reported in 2016-2017 in the analysis for the schools operating from 2009-2010 to 2011-2012.
- 7 The only available outcome data relate to academic outcomes. This type of analysis could be extended to absenteeism of either students or teachers. If the analysis were extended to high schools, high-school completion rates could be used as an outcome measure.
- 8 This follows Johnson and Brydon (2012) and earlier work by Johnson (2005). To have an accurate picture of student performance at a school, it is critical to have a large number of students. In many cases, there are large annual fluctuations in the pass rate when a school has a small number of students in each year. These three years matched the three years of fundraising data and exclude 2012-13 as a year where a work-to-rule was in place for part of the year. Johnson (2011) showed that work-to-rule campaigns reduce EQAO results. Work-to-rule campaigns clearly reduce the need to raise funds since many extra-curricular activities are cancelled. Funds raised in the work-to-rule years were considerably lower.

than the conventional use of a passing grade (greater than 50 per cent).⁹ EQAO assessment results are only useful as a measure of school quality when schools with children of similar backgrounds are compared (Johnson 2005). Hence, we take into account a number of these background variables before adding fundraising variables to the analysis.¹⁰ These variables allow us to predict a pass rate for each school, which can be subtracted from actual pass rates to measure if one school outperformed another school with the same social and economic characteristics (Johnson and Brydon 2012). These background variables explain more than half of the variation in actual pass rates across schools (see online Appendix). The effects of fundraising on school outcomes is examined by adding the funds per student per year variable to the regression analysis that relates school results to the social and economic background of students, as well as the structure of the schools.

Do Fundraising Efforts Help Students Make the Grade?

The results show that for Grade 3 and Grade 6, reading and mathematics as well as Grade 6 writing, there is, controlling for the other variables, a small but statistically significant relationship between fundraising and outcomes (see online Appendix). Specifically, a \$100 increase in funds raised is associated with about a 1.0 percentage point increase in the pass rate in Grade 3 and a 1.5 percentage point increase in the pass rate in Grade 6.¹¹

On the surface, this result suggests that an extra \$100 of funds per student has a quite powerful association with school outcomes, but the size of this effect in practical terms is quite small. School pass rates vary routinely by 20 to 30 percentage points. Even comparing schools where students come from similar backgrounds, school pass rates vary by 20 percentage points across schools with similar social and economic characteristics. The regression results show that moving from a school with zero funds raised to a school with \$300 raised per student (a huge movement in funds raised) would predict only a 3.0 to 4.5 percentage point increase in results. This is a small change in results for a large change in funds raised.

It is highly unlikely that such an effect on pass rates is the simple result of additional resources from the funds themselves. In 2011-2012, operating spending per student in the TDSB was about \$11,000 per student per year, so \$300 is, relatively speaking, a tiny amount.¹² It is hard to see how such a small amount of funds could substantially change results, particularly when they are generally not spent on additional staff. What, then, might explain the statistical significance of fundraising on school outcomes?

-
- 9 The EQAO indicates a Level 3, the provincial standard, is roughly a B- and that a Level 1 is a pass. However nearly all students attain a Level 1 (all but 4 percent) so, in a sense, all students pass.
 - 10 Three social and economic characteristics have already been mentioned: the percentage of adults at the school with a completed university degree; the percentage of students at the school who live in a detached home; and the unemployment rate of adults associated with the school. School structure also plays an interesting role in the pattern of school pass rates. The EQAO collects a limited set of social and economic information on the students writing the assessment, making it possible to calculate the percentage of students who are female; born outside Canada; in English as a Second Language; have been at the board less than two years; and who are in Special Education.
 - 11 There is no effect on writing assessment pass rates.
 - 12 Hanushek (2006) did an exhaustive study of the relationships between outcomes and expenditure at schools and found that such relationships were weak. Finding any response to an additional \$100 in spending would be very unusual in the context of this very large literature.

We suggest that a school with more fundraising dollars relative to a similar school with lower funds raised is an indicator of parents (or possibly teachers) with a higher than average commitment to the school: they raise more funds as a result of the higher commitment. Hence, we infer that additional parental effort or resources from parents of the same social and economic background are not the main source of variation in school results. It is not that parental effort is not important, but once the social and economic variables that reflect parental resources – such as levels of education, jobs and housing – are included in the regression, additional parental effort (proxied by fundraising) does not play a major role in predicting better student outcomes.¹³

Conclusion

This E-Brief shows that a large part of the variation in funds raised across TDSB elementary schools is associated with the grade structure of these schools and the social and economic background of students. Although concern has been expressed that this variation in funds raised increases the inequality of education, when comparing similar schools there is only a weak association between funds raised and academic outcomes once the background of students is considered. We conclude that fundraising plays only a minor role in making schools more unequal. Thus, because fundraising is not central to understanding what drives variation in school academic outcomes, other sources of the variation in school results beyond social and economic background and fundraising should be the focus of policymakers' investigative efforts.

13 The regressions were all re-estimated for the set of Grade 3 schools that raised less than \$100 (142 schools) and less than \$200 for Grade 6 schools (189 schools). For this set of schools, additional funds do not affect results in either a statistical or educational significant way.

References

- Dhuey, Elizabeth. 2012. "Middle School or Junior High? How Grade Level Configurations Affect Academic Achievement." University of Toronto Working Paper.
- Elementary Teachers Federation of Ontario. 2016. "Fundraising" <http://www.etfo.ca/issuesineducation/fundraising/pages/default.aspx> (accessed September 2016).
- Hanushek, Eric A. 2006. "School Resources" in *Handbook of Economics of Education*, Volume 2. Eds. Eric A. Hanushek, Finis Welch. Amsterdam: North Holland.
- Johnson, David R. 2005. *Signposts of Success – Interpreting Ontario's Elementary School Test Scores*. Policy Study 40. Toronto: C.D. Howe Institute.
- Johnson, David R. 2005. Do Strikes and Work-to-Rule Campaigns Change Elementary School Assessment Results? *Canadian Public Policy*, 37(4): 479-494.
- Johnson, David R., and Robbie Brydon. 2012. "Ontario's Best Public Schools: 2009-2011." E-Brief 134. Toronto: C.D. Howe Institute.
- Johnson, David R. 2012. "Are Middle Schools Good for Student Academic Achievement? Evidence from Ontario." E-Brief 134. Toronto: C.D. Howe Institute.
- Johnston, Lesley (Principal Author). 2011. "Public Money, Private Money: Fees, Fundraising and Equity in the Toronto District School Board." Toronto: Social Planning Council.
- People for Education. 2015. "Fundraising and Fees.": This report is an excerpt from the 2015 Annual Report on Ontario's Publicly Funded Schools. Toronto: People for Education. <http://www.peopleforeducation.ca/wp-content/uploads/2015/07/fundraising-and-fees-2015.pdf> (accessed September 2016)
- Pistiolis, Vana. 2011. "The Results and Implications of Fundraising in Elementary Public Schools: Interviews with Ontario Principals." Master of Arts thesis, Ontario Institute for Studies in Education of the University of Toronto.

This E-Brief is a publication of the C.D. Howe Institute.

Huijie (Jenny) Guo has a Master of Business Economics degree from Wilfrid Laurier University.

David R. Johnson is Professor of Economics at Wilfrid Laurier University.

This E-Brief is available at www.cdhowe.org.

Permission is granted to reprint this text if the content is not altered and proper attribution is provided.