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## Editor's Pick

### Management and Student Achievement: Evidence from a Randomized Field Experiment

By: *Roland G. Fryer, Jr*

**NBER Working Paper No. 23437**

[Published version](#)

[Working paper version \(free\)](#)

In the last couple of years, the role of leadership and management for the purposes of school improvement has become increasingly emphasised in the education debate. Historically, however, there's been [little](#) rigorous research on whether there is in fact a leadership premium – and, if so, what policies could explain it.

Certainly, research that does exist suggests that management practices play an important role for human capital formation. Indeed, management programmes appear to have a causal positive effect on pupil performance in [Brazil](#), while better management practices correlate positively with achievement across countries in two [separate studies](#). Yet more research has been necessary to draw firm conclusions in this respect.

In this paper, the author provides the first randomised experiment on the impact of headteacher management training on pupil outcomes. The experiment encompassed 58 schools in Houston, Texas and randomly assigned 29 of these to receive intensive headteacher management training amounting to about 300 hours over two years to a cost of about \$10 per pupil.

The training focused on three different parts and was based on management practices used in prior research: instructional planning (leaders were supposed to give teachers feedback on lesson plans before classroom teaching); data-driven instruction (children were assessed every 6-8 weeks with the data uploaded and analysed by teachers, who would draft action plans and discuss these with the headteacher, as well as weekly formative testing); and observation and coaching (headteachers and other school leaders received training in lesson observations and coaching to be able to observe teachers in the classroom at least once every other week for 15-20 minutes, followed by face-to-face meetings to discuss and identify action steps to implement).

The results display that providing management training to headteachers and implementing the programme in schools have quite a substantial payoff in terms of

pupil achievement. In the first year, children in treatment schools performed the equivalent of about 10 PISA points better than the pupils in control schools on high-stakes tests in mathematics and reading – and fully 19 PISA points better on low-stakes tests in mathematics, reading, social studies, and natural science.

However, by the second year, the impact had been reduced to zero. The average across both years was positive but quite small. The author investigates what could explain this drop and finds it has to do with the fact that some schools were less likely to implement the programme well and had headteacher who left their posts before the end of the two years. Indeed, schools that were predicted to implement the programme well and have their headteachers remain in the school – based on school and headteacher characteristics *prior* to treatment (which sidesteps potential selection bias in these respects) – saw their pupils' scores improve by the equivalent of fully 24 PISA points in the first year and a remarkable 35 PISA points in the second year.

In other words, teaching management practices to headteachers had a strong positive impact on pupils in those schools that actually implemented those practices and retained the headteachers throughout the programme. In fact, the return to the investment in management skills (the increase in scores relative to the cost) is 79 per cent – one of the largest found in the literature.

Overall, therefore, the paper strongly suggests we should investigate the role of management skills in promoting pupil performance further. Since the impact hinges on implementation and retention of headteachers, it would be especially fruitful to carry out a randomised pilot of a similar programme in England in combination with some form of incentives for full implementation and retention. If successful, such a programme could then be rolled out across the country. Changes to management practices may very well unlock the door to new heights performance wise in education; investments in leadership and management skills should be a priority for raising pupil achievement.

## Effects of Policy and Practice – Developed World

### **Effects of Differentiated School Vouchers: Evidence from a Policy Change and Date of Birth Cut-offs**

*By: Patricia Navarro-Palau*

**Economics of Education Review (June 2017)**

[Published version](#)

[Working paper version \(free\)](#)

This paper studies the effects of an increase in school choice by examining a 2008 reform that made the value of Chile's (previously flat, universal) school voucher a step function of student income. This policy increased the number of private schools that low income children could access free of charge. The author identifies the impact of the policy by combining its introduction with variation from a date of birth enrolment cut-off. She shows that the differentiated voucher lowered, but only slightly, the probability that students used public schools. Students more likely to move to private schools experienced better school characteristics but no increase in test scores. Further analysis suggests a rise in test scores for students most likely to stay in public schools. These results suggest that the effects of the policy on test scores were caused by responses from public schools, instead of by the re-sorting of students into private schools.

### **The Information Value of Central School Exams**

*By: Guido Schwerdt and Ludger Woessmann*

**Economics of Education Review (February 2017)**

[Published version](#)

[Working paper version \(free\)](#)

The central vs. local nature of high-school exit exam systems can have important repercussions on the labour market. By increasing the informational content of grades, central exams may improve the sorting of students by productivity. To test this, the authors exploit the unique German setting where students from states with and without central exams work on the same labour market. Their difference-in-difference model estimates whether the earnings difference between individuals

with high and low grades differs between central and local exams. They find that the earnings premium for a one standard-deviation increase in high-school grades is indeed 6% when obtained on central exams but less than 2% when obtained on local exams. Choices of higher-education programs and of occupations do not appear major channels of this result.

### **Gender Differences in the Benefits of an Influential Early Childhood Program**

*By: Jorge Luis García, James J. Heckman, and Anna L. Ziff*

**IZA Discussion Paper No. 10758**

[Published version \(free\)](#)

This paper estimates gender differences in life-cycle impacts across multiple domains of an influential enriched early childhood program targeted toward disadvantaged children that was evaluated by the method of random assignment. The authors assess the impacts of the program on promoting or alleviating population differences in outcomes by gender. For many outcomes, boys benefit relatively more from high-quality centre childcare programs compared to low-quality programs. For them, home care, even in disadvantaged environments, is more beneficial than lower-quality centre childcare for many outcomes. This phenomenon is not found for girls. The authors investigate the sources of the gender differentials in impacts.

## Effects of Policy and Practice – Developing World

### **The Impact of an Accountability Intervention with Diagnostic Feedback: Evidence from Mexico**

*By: Rafael de Hoyos, Vicente A. Garcia-Moreno, and Harry Anthony Patrinos*

**Economics of Education Review (June 2017)**

[Published version](#)

[Working paper version \(free\)](#)

The Mexican state of Colima implemented a low-stakes accountability intervention with diagnostic feedback among schools with the lowest test scores in the national assessment. A difference-in-difference and a regression discontinuity design are used to identify the effects of the intervention on learning outcomes. The two strategies consistently show that the intervention increased test scores by 0.12 standard deviations only a few months after the program was launched. The results indicate that full and wide dissemination of information detailing school quality is critically important.

### **What Do Teachers Know and Do? Does it Matter? Evidence from Primary Schools in Africa**

*By: Tessa Bold, Deon Filmer, Gayle Martin, Ezequiel Molina, Christophe Rockmore, Brian Stacy, Jakob Svensson, and Waly Wane*

**World Bank Policy Research Working Paper No. 7956**

[Published version \(free\)](#)

School enrolment has universally increased over the past 25 years in low-income countries. However, enrolling in school does not guarantee that children learn. A large share of children in low-income countries learn little, and they complete their primary education lacking even basic reading, writing, and arithmetic skills – the so-called ‘learning crisis’. This paper uses data from nationally representative surveys from seven Sub-Saharan African countries, representing close to 40 percent of the region's total population, to investigate possible answers to this policy failure by quantifying teacher effort, knowledge, and skills. Averaging across countries, the paper finds that students receive two hours and fifty minutes of teaching per day – or just over half the scheduled time. In addition, large shares of teachers do not master the curricula of the students they are teaching; basic pedagogical knowledge

is low; and the use of good teaching practices is rare. Exploiting within-student, within-teacher variation, the analysis finds significant and large positive effects of teacher content and pedagogical knowledge on student achievement. These findings point to an urgent need for improvements in education service delivery in Sub-Saharan Africa. They also provide a lens through which the growing experimental and quasi-experimental literature on education in low-income countries can be interpreted and understood, and point to important gaps in knowledge, with implications for future research and policy design.



## **General Education**

### **The Long Reach of Education: Health, Wealth, and DI Participation**

*By: James M. Poterba, Steven F. Venti, and David A. Wise*

**NBER Working Paper No. 23307**

[Published version \(free\)](#)

Education is strongly related to participation in the Social Security Disability Insurance (DI) program. To explore this relationship, the authors describe the correlation between education and DI participation, and then explore how four factors related to education – health, wealth, occupation, and employment – feature in this correlation. They label these four factors “pathway” variables. They find that a large component of the relationship between education and DI participation – more than one-third for men, and over two-thirds for women – can be attributed to the correlation of education with health, and of health with DI receipt. They use data from the Health and Retirement Study for the 1992-2012 period to explore the corresponding roles for each of the pathway variables, and also to study how changes over time in these variables, such as the widening gap between the health status of those with high and low educational attainment, have affected DI participation.

### **Market Power and Price Discrimination in the U.S. Market for Higher Education**

*By: Dennis Epple, Richard Romano, Sinan Sarpça, Holger Sieg, and Melanie Zaber*

**NBER Working Paper No. 23360**

[Published version \(free\)](#)

The main purpose of this paper is to estimate an equilibrium model of private and public school competition that can generate realistic pricing patterns for private universities in the U.S. The authors show that the parameters of the model are identified and can be estimated using a semi-parametric estimator given data from the NPSAS. They find substantial price discrimination within colleges. They estimate that a \$10,000 increase in family income increases tuition at private schools by on average \$210 to \$510. A one standard deviation increase in ability decreases tuition by approximately \$920 to \$1,960 depending on the selectivity of the college. Discounts for minority students range between \$110 and \$5,750.