



The Effect of Teachers' Expectation on Students' Academic Achievement From a Global Perspective

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Introduction

Searching for better ways to improve students' academic performance has been a part of worldwide and time consuming effort. There have been many studies that suggested students' background as an important factor in determining their success, while other studies have found school environment and qualities, like financial and material stability of the school, as an important factor in academic achievement. However, it is coming increasingly clear that improving family conditions and school qualities have hit the limit of closing the educational achievement gap. This research aims to provide an alternative way to look at the possibility of increasing children's academic performance by looking at how teachers' expectations effect children's education.

There have been studies that have positively correlated teachers' expectations with children's educational development. During an experiment set in eight different middle schools in California with 440 participating students, it was found that when teachers in music class held high expectations and treated the students' accordingly, there was noticeable increase in student performance in music (Droe, 2008). Furthermore, a study by Ray Rist shows that labeling students have deep implications with teachers' expectations. Teacher's' expectations changed in accordance to factors like students' appearance, their socio-economic status, affecting students' academic performance in response. Labeling a student to how a teacher reacts to him or her (therefore labeling), had a profound effect on how the student would perform in school (Rist 2007).

Data and Variables

The data for this analysis is from PISA (Programme for International Student Assessment) website. Consequently, the survey consists of three different sections, one for school, one for parents, and one for students. The data from the surveys comes from 64 different countries and analysis accounts for 221636 observations.

In order to efficiently discover which factors have close relationship between teachers' expectations and academic achievement, we chose ten factors that would theoretically have sound effect on academic achievement from each survey and included top ten variables that had actual significant effect on math and reading scores from each surveys. Hence, dependent variables were math and reading test scores, and main independent variable was teachers' low expectation. Teachers' low expectation consisted of set of dummy variables that stood for little, some, and a lot respectively. Other top ten theoretical, math score and reading score variables were grouped into blocks based on their similarity of influence.

Method and Model

School control variables and school's educational quality were grouped separately as following:

- School Quality: Computer connected to internet, shortage of educational instruments, shortage of internet, shortage of computers, shortage of computer software, frequency of testing, shortage of library material, shortage of audio and visual aspects in education, student absence, teacher absence, band activity, skipping class, bullying, and lack of respect

Method and Data

- School Control: Transferring due to high test score, transferring because of parents, transferring because of other reasons, quality of school's educational resource, proportion of computer to internet, proportion of certified teachers, school size, index of academic school selectivity, teacher student ratio, school leadership, school responsibility of the curriculum, school responsibility of resources, student behavior, teacher participation, teacher shortage, teacher behavior, and ability grouping between classes

we conducted an OLS regression for our analysis. In order to minimize error from missing data, we performed list-wise deletion to omit missing data from regressions. The models we used for the analysis are as follows:

- Model1: Math or Read = f(teachers' expectation)
Model2: Math or Read = f(teachers' expectation, socio-economic status)
Model3: Math or Read = f(teachers' expectation, socio-economic status, school quality)
Model4: Math or Read = f(teachers' expectation, socio-economic status, school quality, school control)

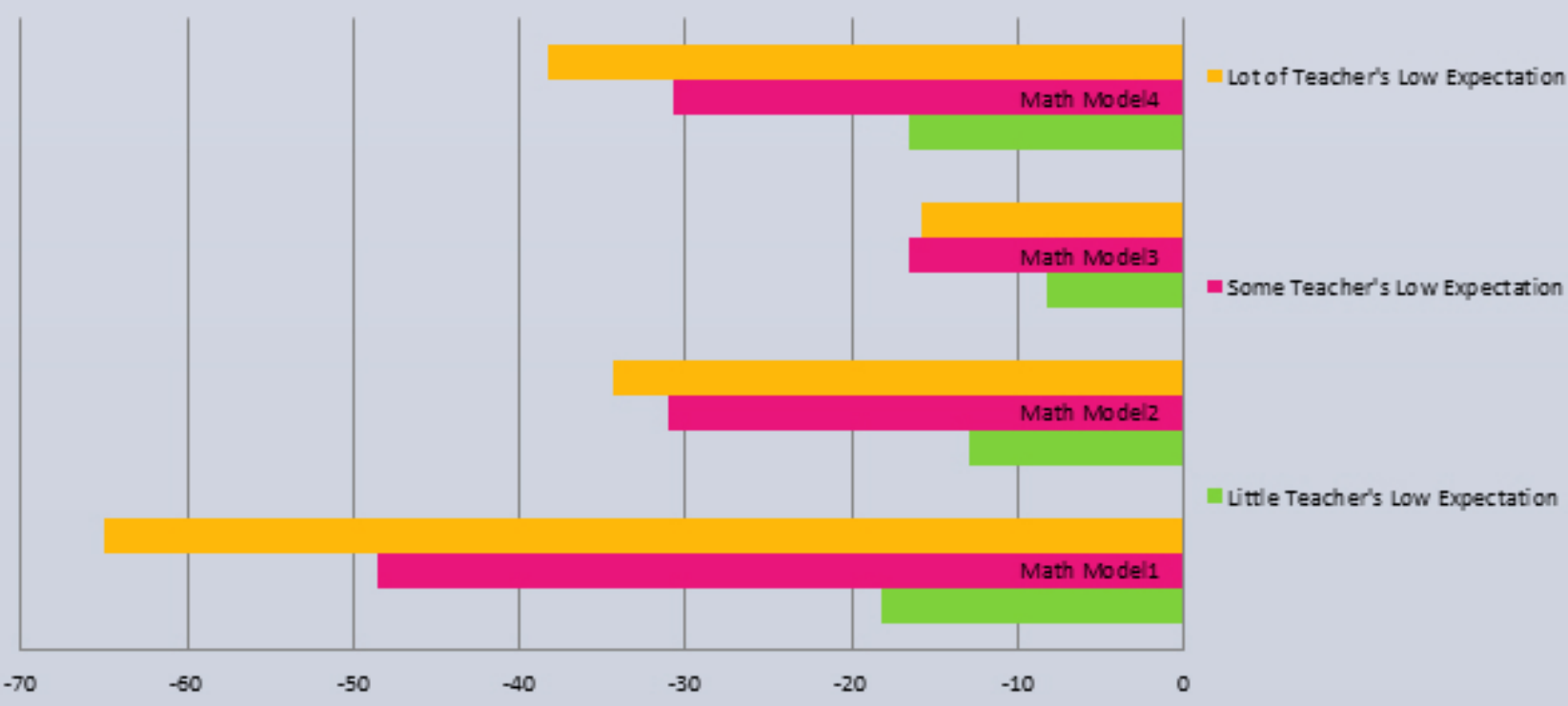
Results

Variable	MATHSCORE1	MATHSCORE2	MATHSCORE3	MATHSCORE4
Little teachers' expectation	-18.24***	-12.98***	-8.28***	-16.55***
Some teachers' expectation	-48.49***	-31.04***	-16.58***	-30.66***
Lots of teachers' expectation	-65.01***	-34.38***	-15.85***	-38.25***
SES		37.62***	30.95***	26.49***
_cons	493.13***	495.70***	489.74***	470.07***
r2	0.04	0.18	0.27	0.33
N	223944	221636	221636	221636
bic	2712497.2	2646852.8	2623598.6	2603920
legend:	*p<0.05;	**p<0.01;	***p<0.001	

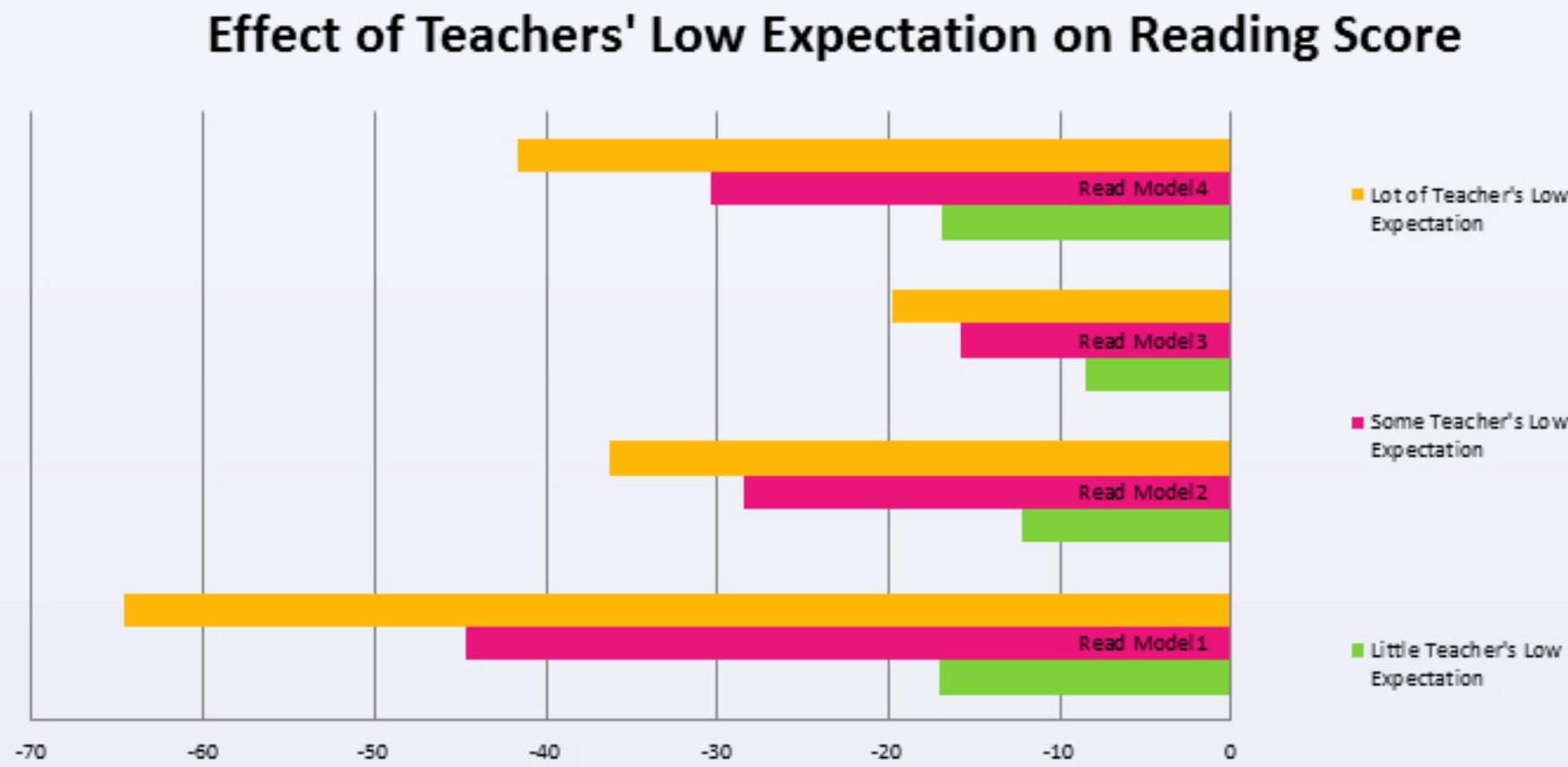
Variable	READSCORE1	READSCORE2	READSCORE3	READSCORE4
Little teachers' expectation	-17.10***	-12.23***	-8.55***	-16.94***
Some teachers' expectation	-44.64***	-28.45***	-15.87***	-30.38***
Lots of teachers' expectation	-64.56***	-36.28***	-19.80***	-41.66***
SES		34.78***	29.11***	25.49***
_cons	488.76***	491.35***	480.84***	453.24***
r2	0.03	0.17	0.23	0.28
N	223944	221636	221636	221636
bic	2702351.1	2639728.6	2621544.2	2606392.4
legend:	*p<0.05;	**p<0.01;	***p<0.001	

***In model MATHSCORE3 AND READSCORE3, school quality variables are added after SES has been included
***In model MATHSCORE4 AND READSCORE4, school control variables are added on top of school quality variables

Effect of Teachers' Low Expectation on Math Score



Results (Cont.)



Discussion

In the first model, the result showed that teachers' expectation had a significant influence on both math score and reading score. Although all forms of low expectations showed stark decrease in test scores, most notable was the effect of lots of teacher's low expectation. It lowered student's math scores by -65.00 points and reading scores by -64.56 points. In the second model, we added socio-economic status of the student in addition to teachers' education. Socio economic status of the student seemed to have a sound effect in relation to teachers' low expectations, decreasing teachers' effect on math and reading by -34.37 and by -36.28 respectively. In the third model, we added school quality variables like shortage of instruments and other school related qualities. The result also showed lots of teachers' low expectations further decreasing by -15.85 in math and -19.80 in reading. Little, and some of teachers' expectations also decreased proportionally (by about half) in respect to lots of teachers' expectation. In the last model, we added school control variables like school type and school size. However, the results showed increased negative effect on teachers' effect and on math and read scores. Lots of low expectation on math rose to -38.25 and rose to -41.66 on reading.

In conclusion, we can see that low teachers' expectations have significant impact on student's performance on reading and math. However, socio-economic status of the students accounts for half of teachers' low expectation effect. In addition, school qualities like school material have significant impact on teachers' expectation by lowering its' effect. However, school control variable were shown to have adverse effect on achievement by increasing the negative effect of low expectation. In order to provide better and higher efficient education to students, it is equally as important to provide motivating and high expecting teachers to ensure students to achieve as to providing good environment.

Reference and Acknowledgements

Droe, Kevin. 2008. "The Effect of Teacher Approval and Disapproval of Music Performed in a Rehearsal Setting on Music Preferences." *Journal of Research in Music Education* 56(3): 267-278.

Rist, Ray. 2007. "On Understanding the Processes of Schooling: The Contributions of Labeling Theory." Pp.71-82 in *Sociology of Education : A Critical Reader*, edited by A. R. Sadovnik. New York. NY: Taylor & Francis Group.

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