

PISA 2009 Reading Test Results: The US does quite well, controlling for SES. And maybe American scores are “just right.”

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In a recent article in the Wall Street Journal, Arthur Levine discusses the performance of high socio-economic status (SES) students on the PISA math examination, thus controlling for the effect of poverty (the PISA is an exam given to 15 year olds in countries throughout the world). Levine concludes that high social class American students fall in “the middle of the pack” in PISA mathematics.

Levine’s definition of high social class was having at least one parent with a college education. After reading Levine’s article, I decided to do my own analysis. I used a different measure of SES: the PISA index of economics, social and cultural status, and I looked at reading scores for students in 66 countries who were at the 75th percentile of this measure, in other words the upper quarter of socio-economic status.

According to my calculations, students in only 12 “countries and economies” scored significantly higher than American students on PISA reading and students in 44 “countries and economies” had significantly lower scores. Levine says the US scored in the “middle of pack” in math. Controlling for poverty, they certainly did not score in the middle of the pack in reading but were well within the upper quarter. (See note 1 below; I was unable to find the data necessary to do an analysis of mathematics scores controlling for SES in this way.)

Yong Zhao of the University of Oregon has reported that countries that score high on international tests score low on measures of “perceived entrepreneurial capabilities.” This result is consistent with research cited by D. K. Simonton in his book *Genius, Creativity and Leadership*: an optimal amount of formal education is best for creative accomplishment in science and the arts and humanities - not too much and not too little. Simonton also concludes that those who achieve high scholastic honors do not always attain eminence in their work.

Maybe US scores are just right.

Note 1: American students scored 569 on the PISA reading test, with a standard error of 4.6. As mentioned, 12 “countries and economies” scored significantly higher (i.e. their scores fell outside the 95% confidence interval around the US’ score, 560 to 578).

Of the 12 scoring higher than the US, several were not countries. Shanghai is a city, with 23 million people, about 1.5% of the population of China and is a clear outlier: Even Shanghai students in the lowest quartile in socio-economic status scored 500, close to the overall average for all OECD countries.

Singapore is considered a “city-state” and has a population of five million. Hong Kong is a “special administrative region (SAR)” of China with a population of seven million. Both Singapore and Hong Kong have fewer people than Los Angeles County, states of Michigan or Georgia, all around 10 million.

Thus, only nine actual countries did better than the US. Note also that other countries doing better than the US also have small populations: Finland, 5.5 million, New Zealand, 4.5 million, and Belgium, 11 million.

Sources:

Levine, A. 2012. The Suburban Education Gap. Wall Street Journal, November 14, 2012.

Simonton, D.K. 1984. Genius, Creativity and Leadership. Cambridge: Harvard University Press.

PISA 2009. Overcoming Social Background. Programme for International Student Assessment.
<http://www.oecd.org/pisa/pisaproducts/pisa2009/pisa2009resultsovercomingsocialbackgroundequalityinlearningopportunitiesandoutcomesvolumeii.htm>

Zhao, Y. 2012. Flunking innovation and creativity. Phi Delta Kappan 94 (1): 56-60.

The scores: (from: Table 11.1.1, PISA 2009, p. 152).

Shanghai	613 (2.8)
Finland	597 (2.2)
Singapore	597 (2.1)
New Zealand	595 (2.8)
Korea	595 (3.4)
Hong Kong	592 (2.5)
Japan	590 (3.0)
Canada	588 (1.7)
Australia	584 (2.7)
Belgium	583 (2.2)
Netherlands	575 (5.4)
France	572 (4.0)
Switzerland	569 (3.0)
USA	569 (4.6)
Norway	568 (2.9)
Germany	567 (2.8)
Iceland	567 (2.0)
Poland	565 (3.2)
Sweden	565 (3.2)
Ireland	562 (2.8)
UK	561 (3.2)
Liechtenstein	560 (4.5)
Estonia	559 (2.8)
Hungary	559 (3.6)
Italy	556 (1.7)
Taipei	555 (2.9)
Israel	554 (3.4)

Denmark	554 (2.8)
Portugal	551 (3.4)
Greece	550 (3.1)
Slovenia	550 (1.7)
Luxembourg	547 (1,7)
Austria	545 (3.3)
Czech Rep	545 (3.3)
Austria	545 (3.3)
Czech Rep	545 (3.3)
Slovak Rep	543 (2.7)
Spain	543.(2.0)
Latvia	541 (3.3)
Leichtenstein	541 (3.3)
Macao-China	540 (1.4)
Croatia	539 (3.1)
Dubai	536 (2.4)
Lithuania	530 (3.1)
Turkey	522 (4.5)
Russian Fed.	519 (3.2)
Bulgaria	512 (6.5)
Serbia	501 (2.5)
Trinidad/Tobango	496 (2.3)
Uruguay	495 (3.1)
Romania	488 (4.7)
Mexico	485 (1.9)
Brazil	474 (3.9)
Argentina	473 (7.1)
Columbia	473 (3.9)
Thailand	469 (2.6)
Indonesia	468 (3.5)
Tunisia	462 (3.4)
Albania	458 (4.8)
Kazakstan	452 (4.2)
Qatar	450 (1.4)
Indonesia	447 (4.6)
Peru	437 (5.2)
Panama	436 (7.7)
Azerbaijan	413 (4.0)
Kyrgystan	377 (4.2)

