Abstract Body
Limit 4 pages single spaced.

Background / Context:
Description of prior research and its intellectual context.

The Program for International Student Assessment (PISA), an international assessment of 15-year-olds taken by students in 60 countries, is coordinated by the Organization of Economic Cooperation and Development (OECD) and is more-or-less intended to measure the outcome of compulsory education. The latest results show that US students have moved up to average on the science scale score, an improvement over 2006 but still leaving the US lagging behind 18 countries and effectively tied with 13 others. This study uses existing data to investigate the relationship between PISA 2009 results and economic factors, namely education expenditure as a percentage of GDP, teacher salaries and the Gini Coefficient of Inequality.

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

President Obama has repeatedly warned that the nation which "out-educates us today will out-compete us tomorrow," and the latest round of international test results, released in late 2010, elicited a predictable outcry. “I don’t think that’s much to celebrate,” said U.S. Secretary of Education Arne Duncan in response to the 2009 results. “Being average in science is a mantle of mediocrity.” Dr. Francis Eberle, executive director of the National Science Teachers Association (NSTA), released a statement noting that “we are cautiously optimistic in that average science scores are up from 2006; however, this growth only puts the U.S. from the lower middle to the middle of the pack. We are still behind 18 countries and only 29 percent of students tested showed proficiency in science.” Dr. Eberle adds, “test scores for our students could be significantly improved if schools, states, and the federal government would commit to a larger investment in science teaching and learning.” Meanwhile, the US spends about a third more per student than Finland, which ranks second from the top in science. And it’s not just the Fins who accomplish more with less—of the 18 countries that scored higher in science on PISA 2009, only Switzerland spends more per student than the US (de Rugy, 2011). The question seems obvious, would a greater “investment” in science education bring up US science test scores?

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.
For Track 2, this may include the use of existing datasets.

The present analysis uses data from PISA 2009 as well as statistical data provided by the OECD. The study focuses on the 30 countries that make up the OECD. Complete data sets were not available in all instances. Teacher salary data was not available through the OECD for Canada, Chile, the Slovak Republic and Turkey. Educational expenditure data was not available for Greece and Turkey. The Gini Coefficient of Inequality was used as a measure of egalitarianism within each country (Condron, 2011). The Gini index measures a nation’s inequality based on the distribution of income. The more equal a nation’s income, the closer the index is to 1—the more unequal, the closer the index comes to 100. The Gini Coefficient for each nation was obtained from The Worldfact Book 2009, produced by the CIA. Linear regression analyses were
conducted to determine whether educational expenditures, teacher salaries and the Gini Coefficient were significant predictors of PISA 2009 science scale scores.

Findings / Results:
Description of the main findings with specific details.

Educational Expenditure
Expenditure on educational institutions (primary and lower secondary education, Ages 5-14) as a percentage of GDP (2007) was not a statistically significant predictor of the science scale score on the PISA 2009 assessment, $\beta = -0.017$, $t(27) = -0.087$, $p = .932$.

Teacher Salary
Teacher salary was not a statistically significant predictor of the science scale score on the PISA 2009 assessment, $\beta = .194$, $t(25) = .990$, $p = .332$.

Gini Coefficient of Inequality
The Gini Coefficient of Inequality was a statistically significant predictor of the science scale score on the PISA 2009 assessment, $\beta = -.476$, $t(29) = -2.912$, $p = .007$. A nation’s Gini Coefficient explained a significant proportion of variance in PISA 2009 science scale scores, $R^2 = .226$, $F(1,29) = 8.479$, $p = .007$.

Conclusions:
Description of conclusions, recommendations, and limitations based on findings.

Most strikingly, educational expenditures did not significantly predict a nation’s score on the PISA 2009 science scale score. Likewise, teacher salaries also did not significantly predict a nations outcome on the international assessment.

However, the Gini Coefficient of Inequality did significantly predict a nation’s PISA outcome, explaining almost 23% of the variance in science scale scores.

An important implication of these conclusions is that the real problem with science education in the US may have nothing to do with a lack of “investment” in education, at least not from a financial standpoint. In fact, based on the results of this analysis, it may be inaccurate to infer that there even is a “problem” with science education in the US. Moreover, the remedy for any observed deficiencies in science performance may lie outside the classroom, somewhere in the realm of social policy, and continuing to blame poor performance on a lack of funding may prevent the US from focusing on more relevant factors.
Appendices
Not included in page count.

Appendix A. References
References are to be in APA version 6 format.