

Research in Social Sciences and Technology

A MULTIPLE REGRESSION OF CIVIC EDUCATION SCORES

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Abstract

Social studies teachers instruct their students through a variety of instructional pedagogies. Social science education researchers have called for K-12 teachers to transition away from a traditional lecture format and move towards a format that encourages critical thinking. Classroom debates of controversial issues are a common method by which teachers engage students in higher-order thinking. This research study utilizes the 2010 National Assessment of Educational Progress (NAEP) 12th grade civics assessment ($n = 9,800$) to identify instructional techniques that improve student's score. Utilizing the NAEP Data Explorer online statistical analysis tool, a linear regression was conducted examining the effects of race, socio-economic status, instructional pedagogies, and access to newspapers and computers on student performance. Results show that discussing current events, at any frequency, increases student performance. Students who participated in classroom debates once or twice a month or less also improved. African-American and Hispanic students scored lower, as did students who qualified for free and reduced lunches. This study suggests that the inclusion of current events should be encouraged civics classes.

Keywords: Civics education, social studies education, national assessment of educational progress

Introduction

When the National Assessment of Educational Progress (NAEP) released its Nation's Report Card for Civics in 2011, it became apparent U.S. students made few gains when answering questions of America's constitutional democracy (National Center for Educational Statistics, 2011). The average score in 2010 was statistically significantly lower for 12th grade students than in 2006, with students in 2006 scoring on average 151 and in 2010 at 148 CITE (National Center for Educational Statistics, 2011). On the 2010 Nation's Report Card on civics education, only 67% of twelfth-graders reported studying the U.S. Constitution, students of color made no gains, and female students scored significantly lower than male students as

compared with 2006. Thus, it appears high school graduates in the U.S. lack basic knowledge of civic life, politics, and government institutions.

Civic knowledge is necessary to support democratic values, to continue the core values of the American democracy (Galston, 2004). In the early 1970's, about 50% of 18-29 year olds in the United States voted in presidential elections, while less than one fifth voted in the 2002 general election (Galston, 2004). Political knowledge "has frequently been considered one of the most important qualifications for self-governance" (Niemi & Junn, 1998, p. 1). In fact, Delli Carpini and Keeter (1996) found that U.S. citizens with the most political knowledge voted 90% of the time, while those with the least amount of knowledge voted 20% of the time. Knowledge of the political system allows individuals to understand their place, as an individual and as a part of a group, and effect change within said system. Therefore, the current lack of participation by young people in the U.S. is reflective of the current political focus towards older U.S. citizens (Galston, 2004).

Purpose

Research shows that a young adults' civic education effects future political behavior, and the gap between white and minority young adults goes beyond academics and is reflected in the political environment (Neundorf, Niemi, & Smets, 2016). The purpose of this quantitative research study was to determine if classroom pedagogies, demographics, and home environments influence American students' civic knowledge on the National Assessment of Educational Progress. Higher civic scale scores were expected of white students not considered poor who discussed current events, participated in debates, and had newspapers and computers at home.

H1: Civics scale scores on the National Assessment of Educational Progress can be predicted from demographics, classroom pedagogy, and home environment

Literature Review

Political scientists have bemoaned the lack of youth participation in voting for decades (Putnam, 1995; Dalton, 2013). The decline in youth voting rates has been blamed on the advent of television, increases in inequalities, or a lack of interest in politics by young people (Putnam, 1995, 2000; Skocpol & Fiorina, 1999; Mondak, 1995). Putnam (1995) argues that U.S. citizens are turning away from social groups as a result of television taking up more and more time within their typical day. This decline is occurring in a world where technology has the opportunity to bring people together online into new virtual interactions (Kittilson & Dalton, 2011; Dostie-Goulet, 2009). With today's youth growing up in a new digital age, new ways of developing political efficacy could be driving young U.S. citizens into new forms of political participation (Johnson & Kaye, 2003; Wellman, et al., 2001).

Young adults with higher self-efficacy are more willing to participate in politically driven activities and vote, leading to a positive effect on voter turnout (Condon & Holleque, 2013). Civics education improves students' understanding of the political processes and their participation in democratic activities; however, the continuing existence of the achievement gap has troubling implications for the democratic process and representation for racial and socioeconomic minorities (U.S. Department of Education, 2012). Students' motivation and opportunities to gain political knowledge is dependent on the social and ideological nature of education (Ichilov, 2008). Schools act as agents of political socialization, shaping student's knowledge of politics and helping to establish ideals. However, within schools, discourse concerning politics and controversial issues is avoided for fear of offending classmates, the teacher, or other stakeholders (Washington & Humphries, 2011).

In 1994, the National Council for the Social Studies (NCSS) changed the definition of social studies education to "the integrated study of the social sciences and humanities to promote civic competence" (NCSS, 1992). The renewed focus on civics education is a vital

component to democracy as a result of the changing global environments (Waters & Russell, 2011). Worldwide, the rise in technology and access to the internet has made it easier for social studies teachers to prepare students for the challenges associated with globalization in the 21st century (Merryfield, 2011). Unfortunately, on average, black and Hispanic students scored lower on the 1999 IEA (International Association for the Evaluation of Educational Achievement) Civic Education Study than white students, but when the quality of schools is controlled, Latino students score comparably with white students (Wilkenfeld & Tourney-Purta, 2012; Humphries, Muller, & Schiller, 2013; Wicks, et al., 2014). Civics education should be grounded not just in content and standards, but also in discourse and inclusion in the classroom to ensure minorities are represented within the democratic system (Santora, 2011). In order to be competitive within the global marketplace, students need to be prepared to confront controversial issues and analyze different points of view, as required by participatory democracies (Ehman, 1969).

As an agent of socialization, teachers need to be aware of the influence classrooms have on developing political attitudes. Political socialization, defined by Jones (1971) as the process that both fosters the acceptance of traditional political norms and values and encourages the development of skills and abilities that enable one to adapt to a rapidly changing society, occurs through agents, including but not limited to parents, religious beliefs, socioeconomic level, and educational systems (Neimi & Sobieszek, 1977). As students' progress through their education, secondary classrooms become more significant as agents of political socialization when compared to the socialization process in elementary education. Several pedagogical techniques are effective in transmitting differences in political attitudes to learners (Ehman, 1980; Kahne, Crow, & Lee, 2013; Campbell, 2008). Kahne, et al., (2013) found that "open and informed discussion of societal issues" encourages students to become more aware of the larger political arena, particularly elections and current issues (p. 435). Poorly managed discussions, however,

can discourage students from participation and learning, particularly if the student perceives the teacher's political attitude as different from their own (Kelly-Woessner & Woessner, 2008; Martins & Gainous, 2013).

The inclusion of current events into the classroom environment can be difficult for teachers who often fear backlash from parents, administrators, and students when discussing controversial issues with their students (Washington & Humphries, 2011). Including current events into the classroom occurs more often when teachers have a higher awareness of the news (Passe, 1988). In a study examining 8th graders in Europe, Knowles and McCafferty-Wright (2015) found that an open classroom climate increased civic knowledge, civic self-efficacy and political efficacy. Their multilevel regression and path analysis study indicated a direct relationship between social movement citizenship scores and an open classroom climate. The literature shows creating an environment where students feel comfortable discussing controversial issues and current events improves students' civic knowledge.

Although teachers can improve civic knowledge through an open classroom environment, racial and socioeconomic minority students continue to score lower on standardized tests (U.S. Department of Education, 2012). The 2010 National Assessment for Educational Progress found that Black ($M = 127$), American Indian/Alaska Native ($M = 134$) and Hispanic ($M = 137$) U.S. 10th graders continue to score lower than their White ($M = 156$), Asian/Pacific Islander ($M = 153$) counterparts concerning civic knowledge (National Center for Education Statistics, 2011). Examining European civic knowledge, the IEA Civic Education Study (2000) found both gender ($\beta = -.09$) and home literacy resources ($\beta = .13$) explained some variance in civic knowledge scores. The inclusion of both race and socioeconomic status in this study has been justified through previous research.

Voter participation is low and has been for decades. The National Council for the Social Studies has shifted focus towards citizenship education in an attempt to increase the number of

young Americans who vote in state and national elections. The role teachers play in democratic education can influence political efficacy and increase awareness of political topics. However, students who are a racial minority or from a low socioeconomic status fall behind their peers on national and international civic exams. This study will examine the effects of teacher instructional strategies on civic knowledge, controlling for race/ethnicity and socioeconomic status.

Data and Methodology

This analysis employed the 2010 National Assessment of Educational Progress (NAEP) 12th grade civics assessment. The NAEP civics test was administered to a nationally represented sample of 12th grade students in the United States. The public schools and subsequent student participants were selected randomly, and the full sample includes 9,800 (rounded to the nearest 10) students (National Center for Education Statistics, 2011).

The dependent variable was the student's civics scale score, measured on a scale from 0-300 (National Center for Education Statistics, 2011). The NAEP civics assessment measures civic knowledge in five areas; (1) What are civic life, politics, and government? (2) What are the foundations of the American political system? (3) How does the government established by the Constitution embody the purposes, values, and principles of American democracy?, (4) What is the relationship of the United States to other nations and world affairs?, and (5) What are the roles of citizens in American democracy?. The NAEP civics assessment included 153 questions that were divided into eight sections containing a mixture of multiple choice and short answer questions. Each student responded to questions in two 25-minute sections, but were not tested on every section.

The independent variables that were included measured race, poverty, classroom pedagogy, and home environment. Race was a school-reported variable, categorized as white, black, Hispanic, Asian/Pacific islander, American Indian/Alaska native, or two or more races.

Poverty was measured through the National School Lunch Program (NSLP) and school reported. Students were considered eligible for NSLP if the family income was below 130% of the poverty level. Current events and debate/panel discussions were also student-reported, and students were asked on a 5-point scale “how often do you do each of the following when you study social studies or civics or government in school (Never, A few times a year, Once or twice a month, Once or twice a week, Almost every day). While the NAEP includes a number of instructional methods students report on, this study focused on the inclusion of current events and debate discussions in the classroom. Home regulatory environment questions, like the classroom instruction questions, were also student-reported. Students were asked “Is there a computer at home that you use?” with yes or no responses, and “Does your family get a newspaper at least four times a week?” with yes, no, and I don’t know responses.

The restricted nature of the data, considering the sensitive data collected of minors, required the researchers to utilize statistical software provided by the National Center for Education Statistics. A multiple linear regression was deemed appropriate considering the dependent variable was interval data and all assumptions were met. Furthermore, the use of a regression model allowed the researcher to identify the effect of independent variables on the dependent variable. In other words, the inclusion of characteristics such as race, poverty, instructional strategies, and home environment were included to examine how much variance in student civics scores could be explained. The null hypothesis is that civics scale scores cannot be predicted from demographics, classroom pedagogy, or home environments, tested at $p = 0.05$. Normality was not able to be tested and was assumed through random sampling.

Results

The purpose of this research study was to understand the effect of instructional methods on student’s civic knowledge, controlling for race and socioeconomic status. Civics scale scores for 12th graders in 2010 were influenced by demographics, classroom instructional strategies,

and home environment ($F_{18} = 53.816$, $p < 0.05$). About 21% of the variance in civic scale scores were accounted for by the model ($r^2 = 0.214$), a low percentage. Independent variables descriptive statistics are reported in Table 1. Most students, over 62%, report discussing current events a minimum of once a week or more. Student participation in debates, however, is much lower, with 44% of students reporting debate in the classroom once/twice a month in class or less. 54% of students do not have newspaper in the home, and 94% report they have a computer.

Table 1
Independent Variables Descriptive Statistics

<u>Variables (12th Grade)</u>	<u>Percentage</u>	<u>SD</u>
<i>Race/Ethnicity</i>		
Black	14.01	34.71
Hispanic	16.49	37.11
Asian/Pacific Islander	6.07	23.88
American Indian/Alaska Native	1.18	10.83
Two or More Races	0.83	9.09
<i>Discuss Current Events</i>		
A few times a year	10.32	30.42
Once or twice a month	19.41	39.55
Once or twice a week	32.07	46.67
Almost every day	30.44	46.01
<i>Take part in debate or panel discussions</i>		
A few times a year	21.56	41.12
Once or twice a month	23.03	42.10
Once or twice a week	16.21	36.85
Almost every day	7.89	29.96
<i>Computer at home</i>		
No	6.00	23.76
<i>Newspaper in home</i>		
No	54.30	49.81
I don't know	8.18	27.40
<i>National School Lunch Program eligibility</i>		
Not eligible	66.11	47.33
Information not available	0.59	7.67

Demographic Characteristics

Both Black and Hispanic students scored lower on the civics test than white or Asian students, even controlling for poverty. Looking at NSLP eligibility, students who are not eligible for free or reduced lunches score higher on the civics test. These results are reflective of the achievement gap common in the American educational system. Students without

computers in the home, although a very small proportion of students, scored lower at a statistically significant level. Furthermore, the inclusion of poverty in the model indicates students who do not qualify for the National School Lunch Program score significantly higher than students who do qualify.

Instructional Strategies

Instructional techniques did impact students' scores. A closer examination of current events illustrated that talking about current events at any time in class lead to a significant positive relationship on the assessment. Students who experienced debates or panel discussions in class a few times a year or once or twice a month had significant gains on the NAEP, but not when they were held once or twice a week or every day. Concerning debates or discussion in class, this model suggested that more is not necessarily better.

Home Environment

Home environment does effect students' scores on the civics assessment. If students do not have a computer at home, they score lower on the civics test. Considering the amount of research conducted regarding newspapers in the home and the resulting decline in civic awareness, the results within Table 2 challenged prevailing assumptions. Students who do not know if they have newspapers in the home were the only statistically significant relationship, accounting for only 8% of the total responses. There is no significant difference between students whose home received newspapers and those whose home do not. This challenges the prevailing theory that the decline in newspapers caused the decrease in political knowledge in young people.

Table 2

Summary of Linear Regression Analyses Predicting Civic Scale Scores

	<i>β</i>	<i>SE</i>
Race/Ethnicity		
Black	-0.192*	0.016
Hispanic	-0.104*	0.017
Asian/Pacific Islander	0.010	0.017
American Indian/Alaska Native	-0.036	0.038
Two or More Races	0.008	0.012
Discuss Current Events		
A few times a year	0.036*	0.017
Once or twice a month	0.153*	0.012
Once or twice a week	0.262*	0.023
Almost every day	0.282*	0.022
Take part in debate or panel discussions		
A few times a year	0.066*	0.014
Once or twice a month	0.039*	0.014
Once or twice a week	0.019	0.012
Almost every day	0.012	0.011
Computer at home		
No	-0.112*	0.015
Newspaper in home		
No	0.009	0.009
I don't know	-0.083*	0.011
National School Lunch Program eligibility		
Not eligible	0.199*	0.013
Information not available	0.021*	0.012

Note: Cell entries are standardized regression coefficients; standard errors are given in parentheses.

* $p < 0.05$

Discussion

The results of this study offer some interesting conclusions. First, the achievement gap between minority students and white students continues to persist, even controlling for extreme poverty. A lack of background knowledge, cultural causes, persistent socio-economic inequalities have all been blamed for the discrepancy, but the causes are beyond the scope of this paper. Furthermore, students in extreme poverty also score significantly lower than other races on the NAEP assessment, and the resulting gap must be addressed by educators, policymakers, and other stakeholders to ensure that poor students develop the skills required to participate in the democratic process. That participation could lead to policy changes necessary

to fully close the economic, political, and social differences so engrained in the American society.

Second, the results of this study suggest that discussion in class in the form of debates or panel discussion, is not a true panacea. The results from a multiple regression of civic scale scores from the National Assessment of Educational Progress (NAEP) found that discussion or debate in the classroom does not increase civic scores significantly. Rather, regular discussion of current events significantly improves students' civic scale scores. Research regarding the discussion of controversial issues in social science is mostly qualitative in nature, calling for teachers to create classroom environments reflective of the democratic process (Hess, 2004; Hess & McAvoy, 2015; Parker, 2003). Nevertheless, increasing the frequency that teachers discuss current events does equate increases in civic knowledge. As a citizen and educator, it is necessary to champion instructional strategies that promote civic knowledge in younger generation. This conclusion is limited however, measuring two different types of discussion could confound the results. Further research on the subjects discussed in class needs to be conducted to identify the specific impact of discussion within the classroom.

Third, the decreasing prominence of newspapers in U.S. citizens' lives has no significant effect on civic knowledge. Although a majority of students' report that they do not get the newspaper delivered most of the week, there is no difference in civics scores between those that do and those that do not. The mythical stature of newspapers in U.S. citizens' lives is declining, and these results suggest that it will have little to no effect on the political knowledge of future generation.

Limitations

There were limitations with this study. Foremost is the inability of the researchers to analyze the data beyond the tool provided by NAEP. Multicollinearity was not able to be tested, and considering the similarities between debate/panel discussions and discussions concerning

current events, may influence the results. Furthermore, the data concerning instructional methods was self-reported by the student and may not accurately represent classroom pedagogy. Further quantitative research is necessary to understand the impact debates and current event discussion have on student achievement.

Conclusion

In this study, the achievement gap between races and socio-economic levels is persistent within the U.S. educational system. Discussing current events has a positive effect on U.S. student's knowledge that continues to increase as the frequency escalates, but holding debates and panel discussion only improves student scores so much. Having a computer in the house increases students' scores, but the results could be a reflection of poverty. Lastly, having a newspaper in the house four times or more a week does not increase students' political knowledge.

Within social science education research, quantitative studies are not as common as qualitative. This study provides another perspective of U.S. student civics knowledge, and offers one instructional method that could increase student achievement. If America's democracy is to regain its vigor, socioeconomic and racial disparities could be addressed through a careful analysis and application of instructional techniques. To improve the current political climate in the U.S. and begin addressing some of the pressing political problems, educators must focus on improving poor and minority student's knowledge so that the marginalized can speak for themselves.

References

- Campbell, D. E. (2008). Voice in the classroom: How an open classroom climate fosters political engagement among adolescents. *Political Behavior*, 30(4), 437-454.
- Condon, M., & Holleque, M. (2013). Entering politics: General self-efficacy and voting behavior among young people. *Political Psychology*, 34(2), 167-181, doi:10.1111/pops.12019
- Dalton, R. J. (2013). *The partisan American*. Los Angeles, CA: Sage Publishing.
- Delli Carpini, M. X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven, CN: Yale University Press.
- Dostie-Goulet, E. (2009). Social networks and the development of political interest. *Journal of Youth Studies*, 12(4), 405-421, doi:10.1080/13676260902866512
- Ehman, L. H. (1980). The American school in the political socialization process. *Review of Educational Research*, 50(1), 99-119. Retrieved from <http://www.jstor.org/stable/1170032>
- Galston, W. A. (2004). Civic education and political participation. *PS: Political Science and Politics*, 37(2), 263-266.
- Hess, D. (2004). Discussion in the social studies: Is it worth the trouble? *Social Education*, 68(2), 206-212.
- Hess, D. E., & McAvoy, P. (2015). *The political classroom*. New York, NY: Routledge.
- Humphries, M., Muller, C., & Schiller, K. S. (2013). The political socialization of adolescent immigrant youth. *Social Science Quarterly*, 94(5), 1261-1282, doi:10.1111/ssqu.12025
- Ichilov, O. (2007). Civic knowledge of high school students in Israel: Personal and contextual determinants. *International Society of Political Psychology*, 28(4), 417-440.

Johnson, T., & Kaye, B. (2003). A boost or bust for democracy? How the web influences political attitudes and behaviors in the 1996 and 2000 presidential elections. *Press/Politics*, 8, 9–34.

Kahn, J., Crow, D., & Lee, N-J. (2013). Different pedagogy, different politics: High school learning opportunities and youth political engagement. *Political Psychology*, 34(3), 419-441, doi:10.1111/j.1467-9221.2012.00936.x

Kelly-Woessner, A., & Woessner, M. (2008). Conflict in the classroom: Considering the effects of partisan difference on political education. *Journal of Political Science Education*, 4(3), 265-285, doi:10.1080/15512160802202789

Kittilson, M. C., & Dalton, R. J. (2011). Virtual civil society: The new frontier of social capital? *Political Behavior*, 33, 625-644, doi:10.1007/s11109-010-9143-8

Knowles, R. T., & McCafferty-Wright, J. (2015). Connecting an open classroom climate to social movement citizenship: A study of 8th graders in Europe using IEA ICSS data. *Journal of Social Studies Research*, 39, 255-269,
<http://dx.doi.org/10.1016/j.jssr.2015.03.002>

Martens, A. M., & Gainous, J. (2013). Civic education and democratic capacity: How to teachers teach and what works. *Social Science Quarterly*, 94(4), 956-976, doi: 10.1111/j.1540-6237.2012.00864.x

Merryfield, M. M. (2011). Global Education: Responding to a Changing World. In W. B. Russell III (Ed.), *Contemporary social studies: An essential reader* (pp. 97-116). Charlotte, SC: Information Age Publishing, Inc.

Mondak, J. J. (1995). Newspapers and political awareness. *American Journal of Political Science*, 39(2), 513-527.

National Center for Education Statistics. (2011). The nation's report card: Civics 2010. National Assessment of Educational Progress at Grades 4, 8, and 12. NCES 2011-

466. *National Center For Education Statistics*. Retrieved from
<http://files.eric.ed.gov/fulltext/ED519208.pdf>
- National Council for the Social Studies. (1992). National curriculum standards for social studies: Executive summary. Washington, D.C.: NCSS. Retrieved from
<http://www.socialstudies.org/standards/execsummary>
- Niemi, R. G., & Junn, J. (1998). *Civic education: What makes students learn*. New Haven, CN: Yale University Press.
- Niemi, R. G., & Sobieszek, B. I. (1977). Political socialization. *Annual Review of Sociology*, 3(1), 209-233.
- Neudorf, A., Niemi, R. G., & Smets, K. (2016). The compensation effect on civic education on political engagement: How civics classes make up for missing parental socialization. *Political Behavior*, doi: 10.1007/s11109-016-9341-0
- Parker, W. C. (2003). *Teaching democracy: Unity and diversity in public life*. New York, NY: Teachers College Press.
- Passe, J. (1988). The role of internal factors in the teaching of current events. *Theory & Research in Social Education*, 16(1), 83-89.
- Putnam, R. (2000). *Bowling alone: The collapse and renewal of American community*. New York: Simon & Schuster.
- Putnam, R. D. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political Science and Politics*, 28(4), 664-683.
- Santora, E. D. (2011). 21st Century Democratic Social and Citizenship Education: A Hybrid Perspective. In W. B. Russell III (Ed.), *Contemporary social studies: An essential reader* (pp. 97-116). Charlotte, SC: Information Age Publishing, Inc.
- Skocpol, T., & Fiorina, M. P. (Eds.). (1999). *Civic engagement in American democracy*. Washington, DC: Brookings Institution Press.

U.S. Department of Education. (2012). *Advancing civic learning and engagement in democracy: A road map and call to action*. Retrieved from
<http://files.eric.ed.gov/fulltext/ED528611.pdf>

Washington, E. Y., & Humphries, E. K. (2011). A social studies teacher's sense making of controversial issues discussions of race in a predominantly White, rural high school classroom. *Theory & Research in Social Education*, 39(1), 92-114.

Waters, S., & Russell, W. B. III. (2011). Character, Moral, and Values Education: The Foundation of Effective Citizenship. In W. B. Russell III (Ed.), *Contemporary social studies: An essential reader* (pp. 97-116). Charlotte, SC: Information Age Publishing, Inc.

Wellman, B., et al. (2001). Does the Internet increase, decrease or supplement social capital? Social networks, participation and community involvement. *American Behavioral Scientist*, 45, 436–455.

Wicks, R. H., Wicks, J. L., Morimoto, S. A., Maxwell, A., & Schulte, S. R. (2014). Correlates of political and civic engagement among youth during the 2012 presidential campaign. *American Behavioral Scientist*, 58(5), 622-644,
doi:10.1177/0002764213515226

Wilkenfeld, B. & Tourney-Purta, J. (2012). A cross-context analysis of civic engagement linking CIVED and U.S. census data. *Journal of Social Science Education*, 11(1), 64-80.