

Appendix

Do Introductory Political Science Courses Contribute to a Racial 'Political Efficacy Gap'?

Findings from a Panel Survey of a Flagship University

Published in *PS: Political Science & Politics*

Miguel Centellas, *University of Mississippi*¹

Cy Rosenblatt, *University of Mississippi*²

Our study involved a panel survey administered across introductory political science courses at the University of Mississippi, a flagship public university in the South. The survey was administered during Fall 2011 in two waves, during the first and last weeks of the semester. The surveys were *not anonymous*, allowing us to match individual responses across waves, as well as with individual students' final grades in the course. Students had the option to participate in the survey, and filled out a consent form, which we retained on file. Because of the sensitive nature of the survey, we embargoed responses until all final grades were submitted.³ To ensure strict confidentiality, individual student responses have never been shared with anyone other than the co-authors. A replication data set, with all student and faculty identification markers removed, is available by request.

The survey was distributed in all but two sections of three introductory courses: POL 101 Introduction to American Politics (AP), POL 102 Introduction to Comparative Politics (CP), and POL 103 Introduction to International Relations (IR). In total, 1,219 students enrolled in these courses during the semester, slightly less than 10 percent of the undergraduate student body. Both survey waves were distributed in paper form, using a standard "purple" Scantron (N^o 16485) sheet.⁴ The participation rate for the first survey wave was 50.3 percent. By end-of-semester, total enrollment dropped to 1,112 and the participation rate in the second wave of the survey was 39.9 percent.⁵ None of these courses are required for graduation, although all undergraduate students at our institution must take at least two social science courses. Introduction to American Politics (AP) is one of the most common courses taken by students to fulfill the social science requirement. By itself, AP was offered in 11 sections with a combined start-of-semester enrollment of 918 students.

¹ Miguel Centellas is Croft Instructional Assistant Professor of Sociology & International Studies at the University of Mississippi. He can be reached at mcentell@olemiss.edu.

² Cy Rosenblatt is Lecturer (Retired) at the University of Mississippi. He can be reached at crosenblatt@gmail.com.

³ Our study was approved by the university's Institutional Review Board (Protocol 12-031).

⁴ We thank the department chair, John Bruce, for supporting this research project by providing the nearly 2,000 Scantron sheets needed, as well as the substantial copying cost for the survey questionnaires.

⁵ Participation rates vary based on whether students answer specific questions on the survey, which affects the *N* for various statistical models.

Table 1 presents a snapshot of our survey population along the three demographic variables for which we have university-wide data for the same year: gender, race/ethnicity, and class standing. The table also shows the results of two-sided binomial probability between sample and population (university) measures using dummy variables for gender (“female”), race (“white,” “black,” and “Hispanic”),⁶ and class standing (“first-year,” “sophomore,” “junior,” and “senior”). We are confident that our sample reflects the racial/ethnic composition at the university, although our sample is disproportionately male (except in IR) and does not reflect the class composition of the university (not surprising given that these are 100-level, introductory courses). Thus, while we are less confident about the representativeness of our sample as it relates to gender and class standing, we are very confident that we have a representative sample along racial and ethnic composition. However, because the non-white and non-black samples were small, we dropped these from analysis using race/ethnicity and focused exclusively on the “black” and “white” subsamples.

Table 1. Gender and racial composition of survey and university student population (percent) at start-of-semester

	University	All Sections Surveyed	Individual Course Subsamples		
			American Government	Comparative Politics	International Relations
Female	54.6	*** 41.6	*** 41.6	** 40.2	44.2
Race/Ethnicity					
<i>White</i>	75.4	78.1	77.4	76.7	83.0
<i>Black</i>	16.6	15.2	16.2	14.7	11.6
<i>Hispanic</i>	2.5	3.5	3.0	4.7	4.5
Class standing					
<i>First-year</i>	31.7	*** 47.0	*** 61.1	*** 19.5	*** 19.6
<i>Sophomore</i>	19.5	*** 30.7	* 25.7	*** 36.2	*** 46.7
<i>Junior</i>	20.5	** 15.2	*** 9.2	* 26.2	* 28.0
<i>Senior</i>	28.3	*** 7.0	*** 4.0	* 18.1	*** 5.6
Total enrolled	15,346	1,316	997	170	149

Asterisks denote results of two-sided binomial probability tests between sample and university parameters (* $p < 0.01$, ** $p < 0.05$, *** $p < 0.001$). University demographic data comes from the 2011-2012 enrollment data from the Office of Institutional Research.

In addition to gender, race/ethnicity, and class standing, we asked students a battery of questions related to their socioeconomic background, attitudes, and behavior. Table 2 presents a snapshot of our sample characteristics across the three courses. The level of education for students’ parents varied, but skewed towards highly educated parents (61.6 percent of fathers and 59.9 percent of mothers had bachelor’s degrees or higher). Type of hometowns was distributed around the middle of our rural-urban scale. Our students leaned conservative, with

⁶ Our survey asked offered a large number of race/ethnic identification option, but most of these were very small (the four additional categories for “Asian,” “Native American,” and “Other” together combined to only 4.4 percent of the sample population) and were dropped from analysis involving race/ethnicity.

50.3 percent describing themselves as “conservative” or “highly conservative” compared to only 14.4 percent describing themselves as “liberal” or “very liberal.” Although there were differences between the classes, most of these differences were not statistically significant. We asked a series of questions about students’ television viewing, news media consumption, and Internet and social media use. Our students were infrequent consumers of news media, and were more likely to consume news online, in newspapers, or on television than other formats. Our students also reported spending more time online than watching television. Interestingly, students were less likely to post a news item to Facebook, Twitter, or other social media during a week than they were likely to receive a post from someone else. As with the other background characteristic variables, differences across classes were not statistically significant.

In addition to asking about background characteristics, we also asked students about their news media consumption and social media usage. We used multi-optioned surveys to ask students about overall media consumption:

- On an average day, about how many hours do you personally watch television (for any purpose)?
- On an average day, about how many hours do you personally spend online (for any purpose)?

Next, we used multi-optioned questions to ask specifically about news media consumption:

- How often do you read a traditional (print) newspaper?
- How often do you watch news programs on television?
- How often do you read a news or current events magazine?
- How often do you listen to news or current events on the radio?
- How often do you read national or world news online?

We used the following yes/no questions to ask about social media usage:

- In the past week, have you posted a news or current events story through Facebook, Twitter, or other social media?
- In the past week, has someone you know sent you a news or current events story through email, Facebook, Twitter, or other social media?

Table 2 reports the median responses to each of the news consumption and social media questions. There were no significant differences in news media consumption or social media usage across any of the different courses. After using factor analysis to confirm that our five news media items loaded on a single factor (Cronbach’s $\alpha = 0.72$), we constructed a news media consumption index using the arithmetic mean of the five questions. Then, we reduced this into four categories (to match the four-point scale used in the five questions), creating a “news media index” that ranged from 0 (low media consumption) to 3 (very high media consumption). For social media usage, we constructed a cumulative index that added the responses to the two questions, creating three-point social media usage scale.

Table 2. Social characteristics of sample populations

	All Sections	Individual Courses		
		American Government	Comparative Politics	International Relations
Father's level of education				
<i>Did not complete high school</i>	3.3	2.2	6.7	* 3.6
<i>High school or GED</i>	16.1	17.1	16.0	* 11.6
<i>Some college</i>	19.1	18.9	24.7	* 12.5
<i>Bachelor's degree</i>	33.2	33.9	26.0	* 39.3
<i>Graduate degree</i>	28.4	27.9	26.7	* 33.0
Mother's level of education				
<i>Did not complete high school</i>	2.9	2.4	6.0	* 0.9
<i>High school or GED</i>	12.7	12.2	16.7	* 9.8
<i>Some college</i>	24.4	25.8	22.0	* 21.4
<i>Bachelor's degree</i>	37.1	37.4	34.7	* 39.3
<i>Graduate degree</i>	22.8	22.2	20.7	* 28.6
Hometown				
<i>Rural area</i>	6.3	6.0	8.7	4.5
<i>Small town</i>	28.1	26.2	32.7	30.4
<i>Small city</i>	22.4	22.4	20.7	25.0
<i>Suburb of a large city</i>	26.9	28.2	22.7	26.8
<i>Large city</i>	16.3	17.2	15.3	13.4
Political ideology				
<i>Very liberal</i>	2.6	1.5	7.2	1.1
<i>Liberal</i>	11.8	10.4	15.2	12.9
<i>Moderate</i>	35.3	37.1	28.8	36.6
<i>Conservative</i>	41.5	42.1	40.0	40.9
<i>Very conservative</i>	8.8	8.9	8.8	8.6
Media consumption (medians)				
<i>Television watching (daily)</i>	1-2 hours	1-2 hours	1-2 hours	1-2 hours
<i>Time online (daily)</i>	2-4 hours	2-4 hours	2-4 hours	2-4 hours
News media consumption (medians)				
<i>Print newspaper reading</i>	Weekly	Monthly	Weekly	Weekly
<i>Television news</i>	Weekly	Weekly	Weekly	Weekly
<i>Newsmagazine</i>	Monthly	Monthly	Monthly	Monthly
<i>News radio</i>	Monthly	Monthly	Monthly	Monthly
<i>Online news</i>	Weekly	Weekly	Weekly	Weekly
Social media usage (last week)				
<i>Posted news item</i>	29.9	28.8	33.1	30.2
<i>Received news item</i>	65.6	66.2	59.8	70.3

Asterisks report results of Wilcoxon rank-sum tests: *p<0.01, **p<0.05, ***p< 0.001.

There were important differences between subpopulations. The level of parents' education for students in the IR subsample was significantly higher than for the rest of the sample.⁷ There were no significant differences in parents' level of education across gender. But there were highly significant differences in parents' level of education across race.⁸ We found a modest but highly significant correlation between the level of education between mothers and fathers ($r = 0.52$, $p < 0.001$). We constructed a "parents' education" index by averaging the two variables and then dividing them into the same five-category structure.

Table 3. Self-reported internal and external political efficacy scores at start-of-semester

	Mean	St. dev.	Min.	Max.	N. obs.
Internal Efficacy	1.89	0.901	0	3	608
Male	1.98	0.920	0	3	268
Female	* 1.82	0.895	0	3	201
White	1.90	0.908	0	3	470
Black	1.74	0.890	0	3	95
First-year students	1.83	0.873	0	3	274
Social science major	*** 2.13	0.819	0	3	205
POL 101 (AP)	*** 1.72	0.889	0	3	394
POL 102 (CP)	*** 2.15	0.893	0	3	124
POL 103 (IR)	*** 2.23	0.780	0	3	90
External Efficacy	1.47	1.091	0	3	596
Male	1.45	1.109	0	3	264
Female	1.52	1.100	0	3	195
White	1.50	1.088	0	3	462
Black	1.35	1.352	0	3	91
First-year students	1.55	1.094	0	3	271
Social science major	* 1.62	1.074	0	3	197
POL 101 (AP)	1.44	1.087	0	3	388
POL 102 (CP)	1.44	1.132	0	3	119
POL 103 (IR)	1.65	1.046	0	3	89

Subpopulation means were compared using two-sample Wilcoxon rank-sum tests. Those significantly different from the overall sample mean are identified by asterisk: * < 0.05 , ** < 0.01 , *** < 0.001 .

There was also a statistically significant difference in ideological identification between white and non-white students, but not between genders.⁹ There were also significant differences in rural/urban background across race (but not gender).¹⁰ Finally, there were gender differences across race: White students in our sample were disproportionately male (61.9 percent to 38.1

⁷ Wilcoxon rank-sum tests showed that fathers and mothers of students in IR sections were better educated than the overall sample ($z = -2.029$, $p < .05$ and $z = -2.155$, $p < .05$).

⁸ Wilcoxon rank-sum tests showed that fathers and mothers of white students had higher levels of education ($z = -8.478$, $p < 0.001$ and $z = -6.993$, $p < 0.001$).

⁹ Wilcoxon rank-sum tests showed that white students were significantly more conservative ($z = -7.469$, $p < 0.001$).

¹⁰ Wilcoxon rank-sum tests showed that black students were slightly more likely to come from rural areas than white students ($z = -2.150$, $p < 0.05$).

percent) and black students were disproportionately female (43.9 percent to 56.1 percent). Binomial tests showed no significant gender difference between white students and the overall sample, though the gender difference was highly significant for black students ($p < 0.001$). Because of the large size of our white sample, it is important to note that the black subpopulation closely reflected the university gender parameters, while the white subpopulation did not ($p < 0.001$). There were no discernable differences in class standing, media consumption, or social media use across gender or race.

Table 3 and Table 4 present descriptive statistics of self-reported internal and external political efficacy scores at start-of-semester and end-of-semester, respectively. There were no significant differences in self-reported internal or external efficacy across gender or race. Students in AP reported much lower start-of-semester internal political efficacy than did students in CP or IR. At end-of-semester, we did observe a significant difference in efficacy gap across race. We also saw a surprising, significant increase in external political efficacy for students in IR.

Table 4. Self-reported internal and external political efficacy scores at end-of-semester

	Mean	St. dev.	Min.	Max.	N. obs.
Internal Efficacy	1.93	0.906	0	3	438
Male	2.04	0.916	0	3	196
Female	1.89	0.858	0	3	147
White	1.96	0.891	0	3	358
Black	* 1.68	0.929	0	3	57
First-year students	1.93	0.916	0	3	199
Social science major	*** 2.16	0.828	0	3	146
POL 101 (AP)	1.88	0.915	0	3	278
POL 102 (CP)	2.03	0.878	0	3	93
POL 103 (IR)	2.03	0.904	0	3	67
External Efficacy	1.54	1.099	0	3	414
Male	1.54	1.113	0	3	185
Female	1.61	1.100	0	3	137
White	** 1.61	1.101	0	3	347
Black	* 1.20	1.016	0	3	53
First-year students	* 1.64	1.056	0	3	191
Social science major	1.66	1.051	0	3	140
POL 101 (AP)	1.49	1.057	0	3	264
POL 102 (CP)	1.48	1.198	0	3	89
POL 103 (IR)	* 1.84	1.098	0	3	61

Subpopulation means were compared using two-sample Wilcoxon rank-sum tests. Those significantly different from the overall sample mean are identified by asterisk: * < 0.05 , ** < 0.01 , *** < 0.001 .

Lastly, Table 5 presents descriptive statistics for *change* in self-reported political efficacy between start-of-semester and end-of-semester using individual-level, matched data. Again, we saw a significant difference in *external* efficacy between white and black students. Across

difference classes, AP students saw a significant increase in *internal* efficacy, while IR students saw a significant decrease.

Table 5. Changes in self-reported internal and external political efficacy scores

	Mean	St. dev.	Min.	Max.	N. obs.
Internal Efficacy	0.097	0.857	-3	2	289
<i>Male</i>	0.073	0.857	-3	2	151
<i>Female</i>	0.128	0.870	-2	2	125
<i>White</i>	0.105	0.861	-3	2	239
<i>Black</i>	0.000	0.862	-2	2	36
<i>First-year students</i>	0.142	0.863	-2	2	120
<i>Social science major</i>	0.020	0.696	-2	2	100
<i>POL 101 (AP)</i>	** 0.210	0.911	-3	2	176
<i>POL 102 (CP)</i>	-0.045	0.806	-2	2	67
<i>POL 103 (IR)</i>	* -0.130	0.619	-1	2	46
External Efficacy	0.111	1.066	-3	3	271
<i>Male</i>	0.139	1.101	-2	3	144
<i>Female</i>	0.087	1.039	-3	3	115
<i>White</i>	*** 0.212	1.083	-3	3	226
<i>Black</i>	** -0.455	0.869	-2	2	33
<i>First-year students</i>	0.244	1.081	-2	3	115
<i>Social science major</i>	-0.011	0.955	-3	3	92
<i>POL 101 (AP)</i>	0.958	1.099	-3	3	167
<i>POL 102 (CP)</i>	0.078	0.997	-2	3	64
<i>POL 103 (IR)</i>	0.225	1.050	-2	3	4**0

Subpopulation means were compared using two-sample Wilcoxon rank-sum tests. Those significantly different from the overall sample mean are identified by asterisks: * < 0.05, ** < 0.01, *** < 0.001.

Table x. Differences in self-reported internal and external political efficacy across subpopulations at start of semester

	Internal Efficacy		External Efficacy	
	Start of Semester	End of Semester	Start of Semester	End of Semester
Male	1.97	2.04	1.45	1.53
Female	1.82 (z=1.991, p < 0.05)	1.90	1.52	1.61
White	1.91	1.97	1.48	1.61
Black	1.73	1.66 (z=2.392, p < 0.05)	1.34	1.21 (z=2.471, p < 0.05)