Methodological Appendix

Educating
for a Diverse
Democracy

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This methodological appendix is a companion document to the report:

Educating for a Diverse Democracy: The Chilling Role of Political Conflict in Blue, Purple, and Red Communities authored by John Rogers and Joseph Kahne, with Michael Ishimoto, Alexander Kwako, Samuel C. Stern, Cicely Bingener, Leah Raphael, Samia Alkam, and Yvette Conde.

Alexander Kwako and Michael Ishimoto took the lead on developing the methodological appendix.

Study overview

In summer 2022, UCLA's Institute for Democracy, Education and Access (IDEA), in partnership with the Civic Engagement Research Group at UC Riverside, conducted a study exploring the political dynamics impacting public education during the 2021–2022 school year and the efforts of schools to educate for a diverse democracy. We administered a nationally representative survey of 682 U.S. public high school principals and conducted 32 follow-up interviews. The study aimed to document whether public schools experienced political attacks from community members and conflict between students, and how, if at all, school leaders took action to foster curricular opportunities and/or a school culture associated with a diverse democracy. A central concern of the study was whether and how partisan context was related to politically-inspired attacks and conflict and whether it shaped the work of local educators.

Study design

This study employed an embedded mixed methods design (Creswell & Clark, 2017), wherein 32 interviews were conducted with a subsample of a nationally representative survey of 682 U.S. public high school principals. Survey data consisted mostly of multiple choice items, which were used to quantify national trends. The survey also included one open-ended item that asked principals for their summative thoughts on whether and how their school had been affected by the broader political and social climate and how, in turn, they had responded. Interviews were open-ended and emic (Maxwell, 2012).

Survey construction

We designed the survey to explore the political dynamics shaping America's high schools in the 2021–2022 school year and efforts of schools to educate for a diverse democracy. We used the survey platform Qualtrics to program the survey. A draft version of the survey was piloted with five high school assistant principals and one middle school principal. The survey included questions about political attacks targeting their schools, conflict between students, responses to the attacks and the conflict, efforts to prepare students for a diverse democracy, and more. The survey closed by asking principals if they would be willing to participate in a follow-up interview.

Near the end of the survey, we posed an open-ended question: "We have asked a number of questions about whether and how your school has been affected by the broader political and social climate and how you, in turn, have responded. Please use this space to share any further thoughts you have on this topic." A little more than one-third (34%) of the survey participants responded to the open-ended question.

The surveys included questions regarding whether there was hostility between varied groups of students, ways that they are supporting varied kinds of educational practices related to democratic education, and the degree to which parents or other groups have raised concerns. The survey also asked about district priorities. Additionally, the survey inquired about principals' race, gender, years of experience in education, and the degree to which they consider themselves to be civically and politically engaged.

Most principals completed the survey in about 20 minutes. Principals who completed the survey received a $25 gift card. As an additional incentive, we promised the 300th and the 500th principal who completed the survey a $500 gift card.

Sample design

Most of the independent variables used for sample construction and analyses were derived from the 2020–2021 Public School Common Core of Data (NCES, 2021). These variables included (1) region of the U.S., (2) locale of the surrounding area, (3) percentage of students who qualify for Free or Reduced Price Lunch (FRPL), (4) percentage of white students, and (5) student enrollment. In addition, we determined the partisan leaning of the congressional district in which each school was located for all public schools in the United States. These data were derived from percentages of votes for Trump in the 2020 presidential election. Votes at the precinct level were aggregated to congressional districts by Daily Kos (Nir, 2020). The location of schools within congressional districts was provided by Education Demographics and Geographic Estimates (Geverdt, 2018).

High schools were sorted into deciles based on student enrollment and percentage of students who qualify for free or reduced lunch. Student enrollment deciles were created by dividing the total number of public high school students in the United States by ten. Schools were then sorted from smallest to largest student enrollment and placed into the student enrollment deciles. This method creates ten deciles each of which, on aggregate, enroll the same number of high school students. The lower deciles, (made up of smaller schools), include more schools than those in higher deciles (which are made up of larger schools). Schools were randomly selected for our initial survey outreach from each decile combination. For example, 50 schools were randomly selected from the first decile in student enrollment and FRPL, 50 other schools were selected from the first decile in student enrollment and the second decile of FRPL, etc.

We oversampled schools in California as we plan to analyze data separately for California principals. A larger California sample will enable us to draw comparisons across different groups of schools with different student and community demographics. When we analyzed the U.S. sample, we downweighted the California sample to account for this oversampling of the California principals.

Survey response rate

Principals' emails were purchased from Agile Education Marketing. We used Constant Contact, an online email marketing service, to email high school principals in our sample of schools, inviting them to participate in a survey through Qualtrics. The first email invitation was sent on June 29, 2022 to 5,007 principals and a second set of invitations were sent on July 12, 2022 to 3,540 principals. Reminder invitation emails were sent on July 5th, July 12th, July 20th, July 27th, August 3rd, and August 16th. During the week of August 10th, we looked at overall response patterns and did final targeted reminders to particular demographics that had responded to the survey at lower rates. Also, phone calls were made to principals who took the survey in 2018 who were still principals at the same school to encourage them to participate in the 2022 survey. Survey responses were stopped on August 19, 2022.

Emails were sent with subject headers noting that this was a UCLA survey on school leadership. Principals that opened the email were invited "to participate in a UCLA study that examines how the work of U.S. public high school principals relates to social and political life in the United States." The email informed principals that participation in the survey was voluntary, their answers would remain anonymous and confidential, and principals that complete the survey would receive a $25 Amazon gift card as an incentive for participation. As an extra incentive, a $500 Amazon gift card would be given to the 300th and 500th principals who completed the survey.

TABLE 1. Email distribution

	All	Nation	California
Principals Included	8,547	7,314	1,233
Principal Email Bounces (Auto-messages excluded)	762	637	125
Principal Email Bounces (Auto-messages included/initial email only)[1]	1,262	1,030	232
Principals Unsubscribed	166	153	13
Principal Email Bounces Percent (Auto-messages excluded)	8.9%	8.7%	10.1%
Principal Email Bounces Percent (Auto-messages included/initial email only)	14.8%	14.1%	18.8%
Principals Unsubscribed Percent	1.9%	2.1%	1.1%

	All	Nation	California
Emails Sent	52,908	45,459	7,449
Email Opens	15,260	13,118	2,142
Email Clicks	929	734	195
Email Bounces	7,807	6,579	1,228
Email Opens Percent	28.8%	28.9%	28.8%
Email Clicks Percent	1.8%	1.6%	2.6%
Email Bounces Percent	14.8%	14.5%	16.5%

[1] Auto-messages include the following messages: out of office, vacation, no longer with the high school, etc. Only the initial invite email was included in this count.

Of the 15,260 emails that were opened, 925 (or 6%) principals answered the first question asking for consent to take the survey. 683 (or 73.8%) principals agreed to take part and complete the survey. A majority of principals that did not complete the survey stopped after agreeing to participate in the survey. Principals that completed over 80% of the survey were considered to be complete.

Survey weights

To adjust for oversampling California schools (see above) and to correct for potential non-response bias, we weighted survey responses to bring our sample into alignment with the population of U.S. public high schools. Specifically, we generated inverse probability weights using logistic regression (Kalton & Flores-Cervantes, 2003), where inclusion in the sample was regressed on region of the U.S., residing in the state of California, urbanicity of the surrounding area, school size, partisan leaning, percentage of students who qualify for free or reduced price lunch (FRPL), and percentage of white students.

In addition to weighting, we employed a trimming procedure to mitigate the influence of heavily-weighted schools. Similar to the trimming method used by the national Assessment of Educational Progress, we selected 4.5 * ideal weight for schools, which has been shown to reduce bias for common survey designs (Van de Kerckhove et al.,

2014). Survey weighting and analyses were conducted using R 4.0.2 (R Core Team, 2020). Table 2 presents descriptive statistics of the sample both before and after weighting, as compared to the population of 16,028 public high schools in the U.S. that fit our inclusion criteria.

TABLE 2. Descriptive statistics of sample compared to population of U.S. public high schools

		Sample	
	Population	**Unweighted**	**Weighted**
Region of U.S.			
West	19.65	36.66	21.78
Midwest	28.55	26.83	27.25
Northeast	17.54	13.49	16.69
South	34.27	23.02	34.28
Locale			
Rural/town	49.82	36.8	48.84
Suburb	26.14	37.24	27.13
City	24.05	25.95	24.04
Political Orientation			
Blue	34.59	44.57	35.72
Purple	22.2	22.73	22.01
Red	43.21	32.7	42.26
% White Students			
White	32.72	26.54	29.51
Mixed	35.71	43.84	39.51
SoC	31.57	29.62	30.99
% FRPL Students			
Low SES	32.35	24.63	30.66
Mid SES	41.64	40.91	43.51
High SES	26.01	34.46	25.84

Statistical estimation

Estimates of means and confidence intervals were generated using bootstrap estimators (Tibshirani & Efron, 1993). To avoid making assumptions about the distribution of responses, we used nonparametric bootstrap estimators. During the bootstrap sampling procedure, respondents were selected into bootstrap samples by their respective sample weights. In addition, we used model-based resampling (Fox, 2002) to take into account uncertainty associated with the weighting model. Including this additional sources of uncertainty yielded more conservative, but more accurate, margins of error. In aggregate, the average margin of error (here defined as a 95% confidence interval) for survey responses was +/- 3.8%. Disaggregated by partisan leaning (i.e. Blue, Purple, and Red), the average margin of error was +/- 6.5%.

Coding high school communities as Blue, Purple, and Red

Our report compares responses of principals whose schools are located in Blue, Purple, and Red communities. To make these comparisons, we placed each of the 682 high schools whose principals responded to the survey in their unique Congressional District. In order to determine the partisan lean of the community surrounding each principal's high school, we examined the U.S. presidential vote from the 2020 election by the Congressional district in which the school is located. We labeled a context as Blue if less than 45% of the presidential vote in the Congressional District was for Donald Trump. School communities were coded as Purple if 45–54.9% of the vote was for Donald Trump. And school communities were coded as Red if 55% or more of the vote was for Donald Trump. This coding scheme aims to capture broad partisan tendencies. We acknowledge that there is sometimes a good deal of political diversity within particular Congressional Districts and hence the voting patterns of a given high school community do not always mirror the voting patterns of the Congressional district in which it is situated.

Follow-up interviews

The last question on the survey asked principals if they were willing to participate in a 45-minute follow-up interview via Zoom. We promised confidentiality and offered participants an additional $50 gift card as an incentive. 61% of survey respondents agreed to be a part of the follow-up interview pool.

We invited 73 principals to be interviewed based on their school's location (in Blue, Purple, or Red communities) and on their school demographics. These invitations were made during summer vacation and many principals did not respond. 32 principals completed interviews between early July and early September. The interviews were conducted over Zoom by the principal investigators and former school leaders on the research team. The interviewers used a semi-structured interview protocol. The protocol explored whether and how the school had experienced political conflict in the 2021–2022 school year, actions of the school and district in response to such conflict, and efforts of the school to educate for a diverse democracy.

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