

**Student media in U.S. secondary schools:  
Associations with school demographic characteristics**

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Abstract

A survey measured student media availability in a representative sample of U.S. public high schools ( $N = 1,023$ ). Most schools had yearbooks (94%) and newspapers (64%); some had television programs (29%); few had radio programs (3%). Less than a third of newspapers, television programs, and radio programs distributed content online. Logistic regressions showed that large schools were most likely to have each of the media. Findings also reflected some patterns of educational inequality. High-minority large schools, for instance, were less likely than low-minority large schools to have media. Findings can inform and focus outreach efforts to scholastic journalism.

Student media play a beneficial role in the U.S. education system. Student journalists are more engaged in current events, demonstrate better free-expression literacy,<sup>1</sup> and perform better in core subjects than their peers without a journalism or student media background.<sup>2</sup> High school media experiences motivate some students to pursue journalism careers.<sup>3</sup> Individuals who read newspapers in high school classes are more civically engaged as adults than those who don't read newspapers in high school.<sup>4</sup> As the coverage of education in mainstream media decreases,<sup>5</sup> student media provide first-hand reporting on issues pertinent to schools and education.

Despite the positive role that student media can play in American education, research has tended not to examine issues of advantage and disadvantage in the distribution of student media among U.S. secondary schools. Questions such as which schools in the United States offer student media and which don't, and whether differences in the distribution of student media reflect other patterns of disparity in American schooling, have not been addressed in recent work.<sup>6</sup>

To address the need for better baseline data about high school student media, this study measured student media availability in U.S. public high schools, and examined the demographic characteristics of high schools with and without student media. The results of this research may be most informative to organizations that provide outreach programs to secondary school journalists: state and national scholastic media organizations, journalism and media departments in colleges and universities, grant-giving foundations, and media companies. At a time when budget cuts force the scaling back of such outreach initiatives, results presented here may help organizations prioritize their programs to most effectively address the needs of high school journalists.

### *Literature review*

#### *Availability of student media in U.S. high schools*

According to the two most recent national assessments, most U.S. high schools offer student media programs. A 1991 survey of journalism educators in 834 schools reported that 79% of schools had student newspapers, 13% had broadcasting programs, and 93% had yearbooks.<sup>7</sup> A 2004 survey of 327 school principals, meanwhile, reported that 74% of schools had student newspapers, 3% had radio programs, 14% had television broadcasts, and 21% had online news operations.<sup>8</sup>

The accuracy of these findings may be limited, however, by elements of these studies' research designs. When the 1991 survey was mailed to schools, for instance, it was addressed to the "journalism educator." Schools without a journalism educator may have been less likely to respond to this survey, leading to a potential underrepresentation of schools without such teachers and, by extension, student media. The sample used in the more recent survey may have been affected by the requirement that entire school populations participate in this study. Both studies used samples that included public and non-public schools, thus providing estimates of student media among all schools in the United States. Such samples, however, do not lend themselves to assessing potential socioeconomic- and minority-based discrepancies in the distribution of student media. A careful and up-to-date assessment of student media's presence in American public schools is thus warranted.

#### *School demographics*

*Minority students.* Schools serving large ethnic minority populations (e.g., majority Black, Hispanic/Latino schools) have been considered least likely to engage students in media activities. A 1973 study that relied on hearings, consultations, and surveys for its findings,

reported that, “Where minority students constitute a large majority of the school, there tend to be fewer papers or other journalistic media than in predominantly white schools.”<sup>9</sup> Twenty years later, a Freedom Forum report on the state of scholastic media echoed this finding but did not provide supporting data. The report stated that students in majority-white schools “have a greater chance of benefiting from a journalism program than their counterparts graduating from predominantly black or Hispanic schools.”<sup>10</sup>

The data have not always been unequivocally clear about whether minority students are less likely to participate in student media. The 1991 national survey of journalism educators suggested that the rate at which minority students participated in student media did not differ from the rate at which high school students in general participated in these media.<sup>11</sup> Meanwhile, a study of public high schools in Maryland found that schools with higher proportions of black students were less likely to have student newspapers than schools with higher proportions of white students.<sup>12</sup>

A singular focus on minority populations may obscure other pertinent differences between schools with and without student media outlets. In addition to minority population, research in educational sociology has identified students’ socioeconomic backgrounds and school size as two of the characteristics that correspond to the availability and quality of curricular and extracurricular programs in U.S. schools. It is likely that all three of these school characteristics – minority population, socioeconomic, and school size – are associated with the availability of student media in American high schools.

*Poverty and minority students.* The relationship between socioeconomic and the comprehensiveness of a school’s curricular and extracurricular programs is rooted in school funding.<sup>13</sup> U.S. public schools are financed largely with revenues from local property taxes, tying

school finances to the prosperity of the communities in which they are located. Federal and state subsidies tend not to level the funding disparities, which may be further exasperated by poorer schools having to direct more resources than wealthier schools to addressing their students' basic needs (i.e., physical and psychological wellbeing, English proficiency, etc.).<sup>14</sup> As a result, schools that serve poorer populations tend to have less effective curricula,<sup>15</sup> and offer less extensive and less diverse extracurricular programs than schools serving wealthier students.<sup>16</sup> As a specialized content area that demands trained personnel and costly technology, journalism and student media are an unlikely priority in schools that struggle to meet the costs of basic education.

Because racial and ethnic minorities in the United States tend to be poorer, low-income schools are also often high-minority schools.<sup>17</sup> Even though indicators of minority and socioeconomic disadvantage are correlated, these two constitute distinct measures and tend to be treated separately in analyses of school inequality.<sup>18</sup> To our knowledge, research has not assessed the association between minority students and the presence of student media in U.S. schools while accounting for student socioeconomics. The present study aims to address this gap.

*School size.* School size is the third demographic variable that may be related to the availability of student media programs. Larger schools may have an advantage over smaller schools in offering specialized curricular and extracurricular programs such as journalism and student media. The demand for specialized programs is higher in larger schools because their student populations are larger and have more varied interests and talents. Larger schools can meet the demand for specialized programs more efficiently than smaller schools.<sup>19</sup> Research has shown that larger schools offer a wider range of curricular and extracurricular programs (e.g., sports, health programs, special interest clubs) than smaller schools.<sup>20</sup> Scholastic journalism

research has not corroborated an association between school size and student media, however.

The 1991 national survey showed that the distribution of school size among schools with journalism programs matched the distribution school size among U.S. schools in general.<sup>21</sup>

### *Schools and online technology*

As society increasingly uses online and mobile technologies to consume news, some student journalists are also turning to online media to connect with their audiences. The 2004 national survey of principals found that 21% of schools had online publications.<sup>22</sup> The availability of online student media may reflect other patterns of inequality among schools, however. Although considerable strides have been made over the last two decades to connect U.S. public schools to the Internet,<sup>23</sup> disparities persist. As late as 2005, schools with higher proportions of minority students reported more students per Internet-enabled computer than schools with fewer minority students.<sup>24</sup> In a study conducted between 2006 and 2008, teachers in schools eligible for Title I funding (i.e., high-minority, high-poverty schools) reported being less successful in using Internet-enabled technologies in their classrooms, and being less technologically skilled overall, than teachers in non-Title I schools.<sup>25</sup>

### *Summary*

The present study aimed to answer the following research question: To what extent is the availability of student media related to schools' demographic characteristics? The study examined associations between student media availability and the size of schools' minority, low-socioeconomic, and overall populations, controlling for the unique contribution of each variable. Because these characteristics may also be interrelated in the ways they associate with student media (e.g., poor large schools may be more likely to have student media than poor small

schools), the study examined possible interactions between these characteristics and student media availability.

### ***Method***

#### *Sample*

The study used a sample drawn from the National Center for Educational Statistics (NCES) Common Core of Data. Based on data available in fall 2010, all U.S. public schools listed in the database that included a 12th grade (excluding institutional schools and home school associations) constituted the population of interest ( $N = 18,155$ ). In February 2011, surveys were mailed to a state-stratified random sample of 4,000 schools. In April 2011, 354 additional surveys were mailed to a random sample of schools.

To minimize nonresponse from schools without student media or a dedicated journalism teacher, (1) the one-page survey was addressed to the school principal, and (2) the accompanying cover letter and the survey asked that the principal or his/her designee complete and return the survey even if the school had no student media. Altogether, 1,023 schools responded (23.5% response rate), representing all 50 states and the District of Columbia.

#### *Measures*

Independent measures were taken from the NCES dataset. *Minority* indicated the proportion of students in a school who were Black, Hispanic/Latino, and Native American ( $M = .28$ ,  $SD = .30$ ).<sup>26</sup> *Poverty* was assessed by the proportion of the school population that qualified for free or reduced-price lunch ( $M = .38$ ,  $SD = .22$ ). *School size* was measured with a continuous variable ( $M = 853.48$ ,  $SD = 724.58$ ). To facilitate interpretation of the regression models, each measure was recoded into a categorical variable, using 10-percent increments for minority and poverty, and 100-student increments for school size. Minority and poverty were correlated ( $r =$

.61,  $p < .001$ ). To mitigate multicollinearity, the three independent variables were centered prior to estimating the regression models.

This study focused on four student-produced media: newspaper/newsmagazine, radio, television, and yearbook. Eight dichotomous dependent variables were used, four measuring whether the school had each of these media and four measuring whether a medium, if present in the school, was distributed online via a website or email (regardless of whether it was distributed by any other means).<sup>27</sup>

### *Plan of analysis*

The data were analyzed in four steps. First, descriptive statistics were calculated using a weight variable that accounted for systematic nonresponse related to the school's state and demographic characteristics. Second, differences in the means of minority, poverty, and size among schools with and without each of the media were assessed using  $t$  tests. Third, logistic regression models were estimated, showing the independent contributions of minority, poverty, and size on schools having student media. Lastly, interaction terms between the three independent variables were added to the regression models.

### ***Results***

Nearly two-thirds of public high schools (64%) had a student newspaper (or newsmagazine), few schools had a student radio (3%), nearly a third (29%) had television, and most (94%) had a yearbook. Less than a third of the newspapers (27%), radio programs (29%), and television programs (22%) were distributed online. Only 2% of yearbooks were distributed online.

Table 1 shows bivariate comparisons of minority, poverty, and school size means in schools with and without each of the media.<sup>28</sup> Larger schools were more likely to have each of

the media than smaller schools. Larger schools were also more likely to have online newspapers than smaller schools. Poverty differentiated schools with and without newspapers, televisions, yearbooks, and online newspapers: schools with higher proportions of poor students were less likely to have each of these media. The relative size of a school's minority population only differentiated schools with and without yearbooks: schools with higher proportions of minority students were less likely to have yearbooks.

Table 2 presents the logistic regression models.<sup>29</sup> School size was the consistent predictor of schools having each of the four media (Models 1–4). Using odds ratios (OR) to interpret these findings, the models suggest that a 100-student increase in school size was associated with a 15% increase in the likelihood of a school having a newspaper, a 6% increase in the likelihood of a school having a radio program, a 12% increase in the likelihood of a school having a television program, and a 28% increase in the likelihood of a school having a yearbook. In addition, a 10% increase in a school's minority population was associated with a 7% decrease in the likelihood that a school had a student television program, and an 18% decrease in the likelihood that it had a yearbook. The associations between poverty and student media were not significant in the multivariate models, suggesting that the impact of poverty on student media was mediated through student minority and/or school size.

Models 5–8 (Table 2) included the interaction terms between the three independent variables. The minority  $\times$  school size interaction term was significant in all four models. Figure 1 illustrates this interaction for newspaper:<sup>30</sup> Predicted probabilities of schools having newspapers increased as school size increased. The rate of increase, however, appeared suppressed among high-minority schools. Figures 2 and 3 illustrate analogous relationships for television and yearbook, respectively.<sup>31</sup> Figure 4 illustrates the poverty  $\times$  school size interaction for television:

low-poverty small schools were more likely to have television programs than high-poverty small schools, but low-poverty large schools were less likely to have television programs than high-poverty large schools.

### ***Discussion***

#### *Availability of student media*

In line with previous studies, this research affirms that most public high schools in the United States offer their students opportunities to be involved in some form of student media. A school is most likely to have a yearbook, somewhat likely to have a newspaper or newsmagazine, less likely to have a television program, and unlikely to have a radio program. In comparison with earlier research, this study finds a lower proportion of schools having newspapers/newsmagazines, a higher proportion of schools with television programs, and comparable proportions of schools with radio programs and yearbooks.<sup>32</sup> It is inadvisable to infer trends from these data, however. Future studies that replicate the present study's sampling and survey methods will provide reliable comparison data.

The study's findings show that it is uncommon for student media to be distributed online. Despite the fact that high school-aged youth spend more than 90 minutes daily using computers outside school and school-related work,<sup>33</sup> and young people get most of their local, national, and international news from online sources,<sup>34</sup> most student media outlets in spring 2011 were not connecting with their primary audiences online. Establishing and supporting online distribution components should be a priority for all student news media. Organizations supporting scholastic media should focus their outreach efforts in this area.

While some have predicted the yearbook's demise in favor of online venues,<sup>35</sup> present data provide little evidence that schools are forsaking the yearbook, or that the print yearbook is giving way to non-print annuals.

### *School demographics*

School size is the most consistent predictor of a school having student media: the larger the school, the more likely it is to have each of the four media. With the average American high school having fewer than 900 students, there are many small secondary schools in the United States. Although small schools are seldom characterized as needy, this study's findings indicate that students in small schools are among the least likely to benefit from student media opportunities. Students in small schools are less likely than their peers in large schools to receive journalistic training and develop the associated professional skills. They are also less likely to practice readership and news consumption habits. Organizations supporting scholastic journalism should create innovative outreach programs targeted at administrators and teachers in small schools.

Up until now, schools with higher proportions of minority students have been thought less likely than those with fewer minority students to offer student media. The data show some support for this relationship. To a more limited extent, schools with higher proportions of poor students have less student media than schools with fewer poor students. One finding that contradicts this pattern is that large schools with more poor students are more likely than equally large schools with fewer poor students to have television programs (Figure 4). Perhaps large poor schools are more likely than wealthier schools to receive targeted grants to initiate broadcasting programs, or to accept broadcast content and technology from for-profit providers such as Channel One News. Further research is necessary to better understand this finding.

Few markers distinguish schools with and without *online* student media. Poorer and smaller schools are less likely to have online newspapers, although even these differences are barely significant. Factors other than the characteristics assessed in this study clearly play a role in determining which schools have online media outlets and which do not. Research should examine more closely what contributes to student media programs distributing their content online, directly informing timely efforts to increase the number of online student media.

#### *Limitations and future research*

Future research should address a wider range of school attributes that distinguish schools with student media from those without. Contributing factors may include school administrators' support for student media and, more broadly, student free expression; certification requirements and availability of teacher and adviser training; existence and quality of local news outlets; and students' interest in journalism and media professions. Future research should also broaden this study's scope to include the availability of student media in private schools.

This study did not examine the reasons why certain schools are less likely to offer student media. Research in other educational domains suggests that smaller schools, for instance, have less student demand for diverse curricular and extracurricular programs, and fewer personnel and other resources to offer such programs. Future research should examine more precisely what it is about smaller and higher-minority schools that makes them less likely to offer student media.

#### *Summary*

This study provides an up-to-date measurement of student media in U.S. public high schools. The analysis underscores the importance of school demographic characteristics in predicting whether schools offer student media. The disparities identified here should inform how journalism schools, scholastic journalism organizations, funding agencies, and media

companies prioritize their outreach activities to scholastic journalism programs. Precedence should be given to initiatives that address journalism and media programs in smaller schools, and in schools that serve larger minority populations. There is also a need for supporting the establishment of online media outlets. As communication technologies evolve rapidly, outreach initiatives should combine with research evaluations to continually track the changing needs of disadvantaged student media programs and how these needs might best be addressed.

Table 1

*Minority, Poverty, and School Size Means in Schools with and without Media and Online Media (N = 1,015).*

Mean	Newspaper		Radio		Television		Yearbook	
	With	Without	With	Without	With	Without	With	Without
Minority	.33	.34	.38	.33	.31	.34	<b>.32</b>	<b>.53</b>
	$t(1,014) = .48$ $p = .630$		$t(1,014) = .71$ $p = .479$		$t(1,014) = 1.38$ $p = .168$		$t(1,014) = 3.67$ $p < .001$	
Poverty	<b>.39</b>	<b>.46</b>	.41	.41	<b>.36</b>	<b>.44</b>	<b>.41</b>	<b>.53</b>
	$t(996) = 4.20$ $p < .001$		$t(996) = .12$ $p = .901$		$t(996) = 4.26$ $p < .001$		$t(996) = 2.76$ $p = .006$	
School size	<b>1,030</b>	<b>514</b>	<b>1,191</b>	<b>834</b>	<b>1,228</b>	<b>685</b>	<b>879</b>	<b>314</b>
	$t(1,014) = 12.22$ $p < .001$		$t(1,014) = 2.19$ $p = .029$		$t(1,014) = 10.85$ $p < .001$		$t(1,014) = 9.70$ $p < .001$	
Mean	Online Newspaper		Online Radio		Online Television		Online Yearbook	
	With	Without	With	Without	With	Without	With	Without
Minority	.30	.34	.41	.37	.29	.31	.24	.32
	$t(655) = 1.53$ $p = .127$		$t(33) = .27$ $p = .791$		$t(314) = .46$ $p = .647$		$t(966) = 1.04$ $p = .078$	
Poverty	<b>.36</b>	<b>.40</b>	.38	.43	.36	.36	.43	.41
	$t(645) = 2.01$ $p = .045$		$t(33) = .38$ $p = .709$		$t(311) = .08$ $p = .936$		$t(952) = .26$ $p = .792$	
School size	<b>1,116</b>	<b>988</b>	1,204	1,206	1,359	1,193	800	881
	$t(655) = 1.97$ $p = .049$		$t(33) = .01$ $p = .993$		$t(314) = 1.62$ $p = .106$		$t(966) = .47$ $p = .641$	

*Note:* Values in bold indicate statistically significant differences ( $p < .05$ ).

Table 2

*Logistic Regression Estimates for School Minority, Poverty, Size, and Interaction Terms (N = 1,015).*

	Newspaper			Radio			TV			Yearbook		
	B (SE)	OR	p	B (SE)	OR	p	B (SE)	OR	p	B (SE)	OR	p
	Model 1			Model 2			Model 3			Model 4		
Minority	-.02 (.03)	.98	.590	.06 (.08)	1.06	.459	<b>-.08 (.04)</b>	<b>.93</b>	<b>.033</b>	<b>-.20 (.06)</b>	<b>.82</b>	<b>.001</b>
Poverty	-.07 (.04)	.93	.076	-.05 (.11)	.95	.642	-.05 (.04)	.96	.256	-.03 (.08)	.97	.735
School size	<b>.14 (.01)</b>	<b>1.15</b>	<b>&lt; .001</b>	<b>.06 (.02)</b>	<b>1.06</b>	<b>.007</b>	<b>.11 (.01)</b>	<b>1.12</b>	<b>&lt; .001</b>	<b>.25 (.05)</b>	<b>1.28</b>	<b>&lt; .001</b>
LR $\chi^2$ (3)	149.07		< .001	10.87		.013	130.04		< .001	70.26		< .001
Cox-Snell R <sup>2</sup>	.11			.01			.12			.07		
	Model 5			Model 6			Model 7			Model 8		
Minority	-.07 (.04)	.94	.083	.08 (.09)	1.09	.354	-.07 (.04)	.93	.073	-.52 (.11)	.59	< .001
Poverty	-.05 (.04)	.95	.247	-.06 (.12)	.94	.615	-.05 (.04)	.95	.219	-.01 (.13)	.99	.957
School size	.15 (.02)	1.16	< .001	.09 (.03)	1.09	.001	.12 (.01)	1.13	< .001	.41 (.09)	1.51	< .001
Minority $\times$ Poverty	.01 (.01)	1.01	.443	.01 (.03)	1.01	.674	-.00 (.01)	1.00	.951	.02 (.02)	1.02	.266
Minority $\times$ school size	<b>-.01 (.01)</b>	<b>.99</b>	<b>.011</b>	<b>-.02 (.01)</b>	<b>.98</b>	<b>.041</b>	<b>-.01 (.01)</b>	<b>.99</b>	<b>.023</b>	<b>-.05 (.02)</b>	<b>.95</b>	<b>.002</b>
Poverty $\times$ school size	.01 (.01)	1.01	.339	.01 (.01)	1.01	.531	<b>.01 (.01)</b>	<b>1.01</b>	<b>.028</b>	.01 (.02)	1.01	.512
LR $\chi^2$ (6)	157.13		< .001	17.61		.007	136.52		< .001	82.05		< .001
Cox-Snell R <sup>2</sup>	.14			.02			.13			.08		

*Note:* B: unstandardized coefficient; SE: standard error; OR: odds ratio; p: statistical significance. Values in bold indicate statistically significant variables ( $p < .05$ ).

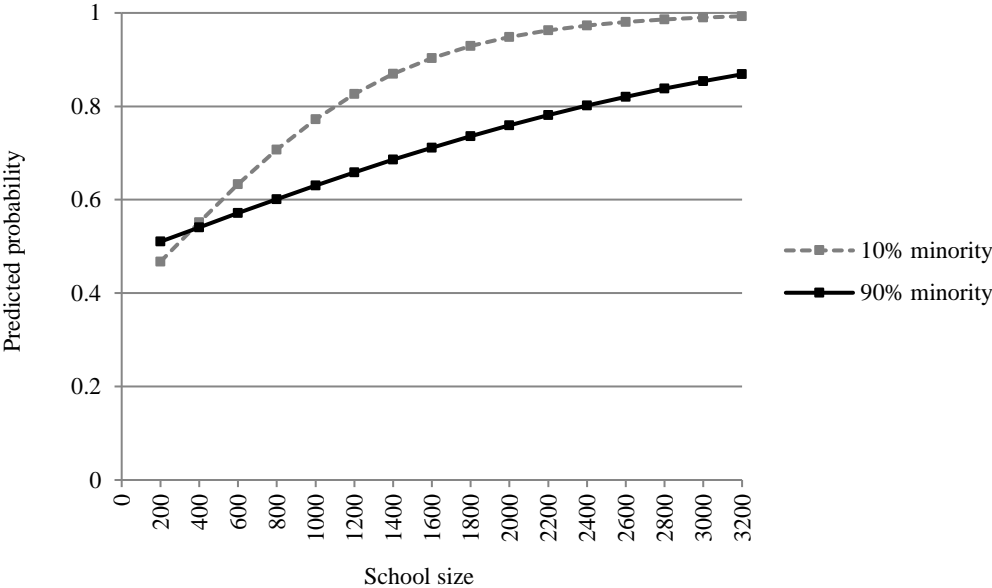


Figure 1. Predicted probability of a school having a student **newspaper** as a factor of school size and minority population.

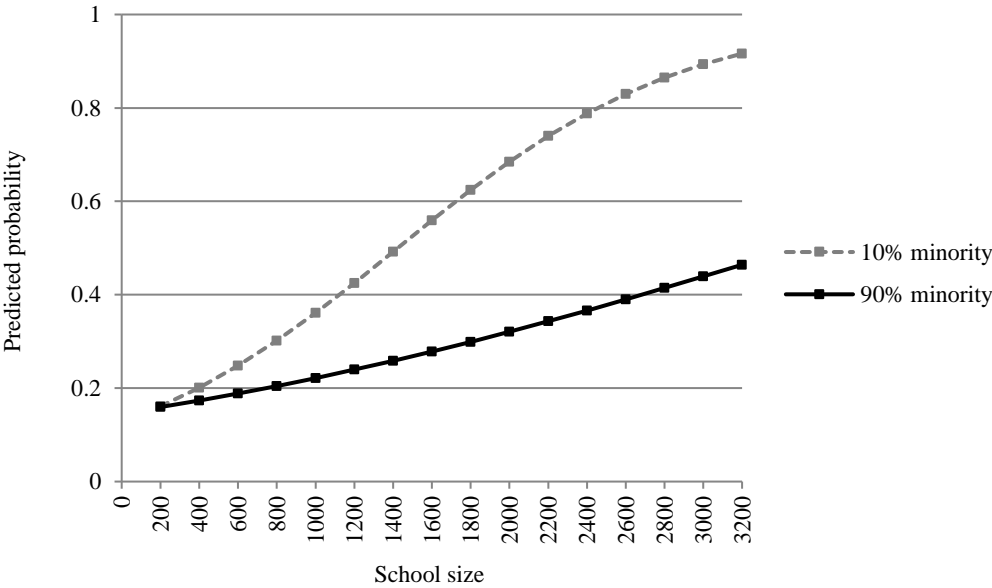


Figure 2. Predicted probability of a school having a student **television program** as a factor of school size and minority population.

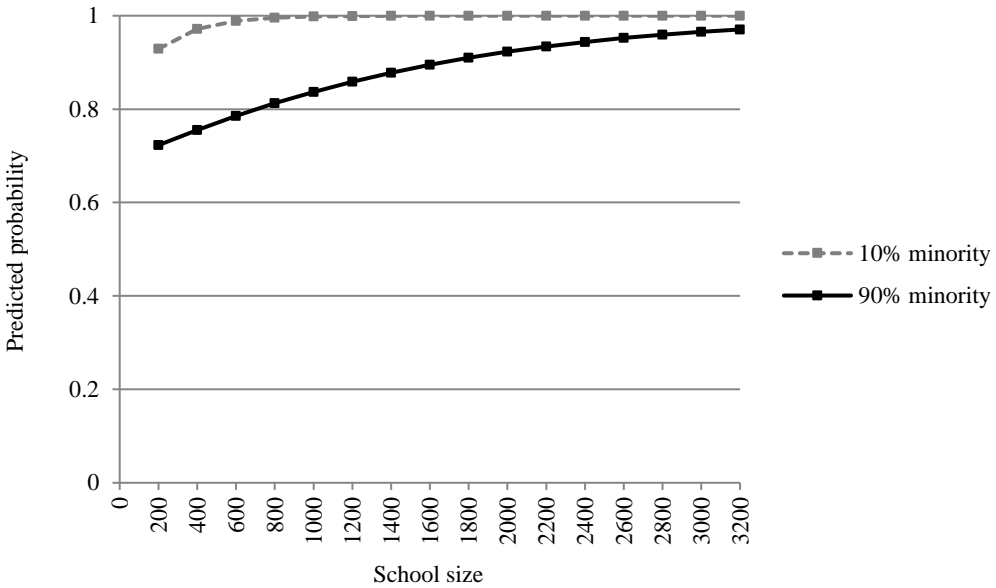


Figure 3. Predicted probability of a school having a student **yearbook** as a factor of school size and minority population.

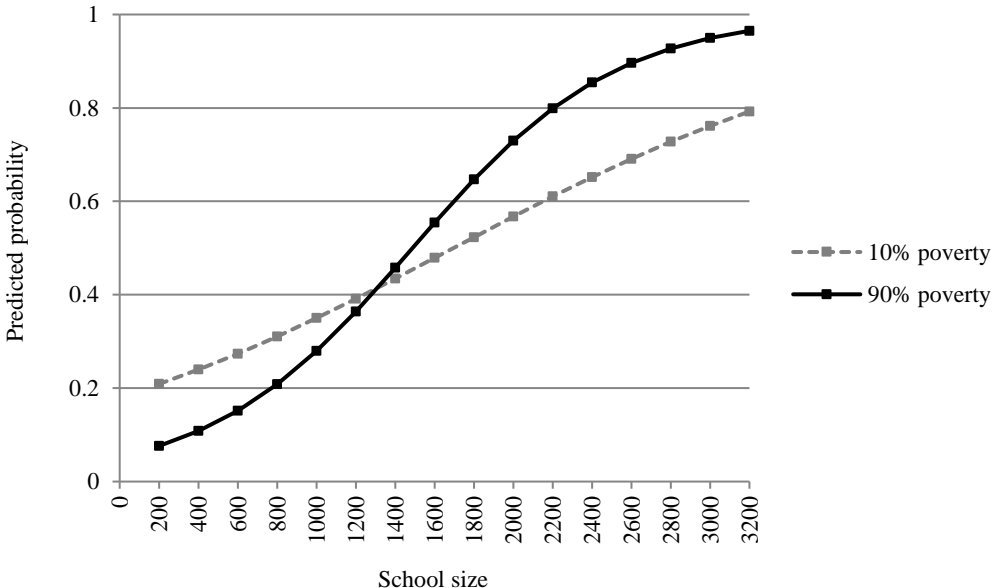


Figure 4. Predicted probability of a school having a student **television program** as a factor of school size and socioeconomic status.

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- <sup>21</sup> Dvorak, Lain, and Dickson, *Journalism Kids Do Better*, 78.
- <sup>22</sup> Dautrich, Yalof, and López, *Future of the First Amendment*, 37.
- <sup>23</sup> John Wells, Laurie Lewis, and Bernard Greene, *Internet Access in U.S. Public Schools and Classrooms: 1994–2005. Highlights* (Washington, DC: National Center for Education Statistics, 2006), 4. [<http://nces.ed.gov/pubs2007/2007020.pdf>] (Nov. 13, 2011).
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- <sup>25</sup> Lauren Chapman, Jessica Masters, and Joseph Pedulla, “Do Digital Divisions Still Persist in Schools? Access to Technology and Technical Skills of Teachers in High Needs Schools in the United States of America,” *Journal of Education for Teaching* 36 (May 2010): 239–249.
- <sup>26</sup> Asian students were grouped with white students in the minority measure because Asian students tend to perform on par with white students. School disadvantage, meanwhile, has been generally documented for schools with large black and Hispanic/Latino populations. Grouping Asian students with the other minority groups did not yield substantially different results from the results presented here. See, Brown-Jeffy, “School Effects;” Everson and Millsap, “Individual Differences;” George Farkas, “Racial Disparities and Discrimination in Education: What Do We Know, How Do We Know It, and What Do we Need to Know?” *Teachers College Record* 105 (Aug. 2003): 1119–1146; Roslyn Arlin Mickelson, “When Are

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- <sup>27</sup> The survey also asked whether the schools had “another news website not connected to the publications/programs mentioned above,” and to identify what it was. Only 10% of the schools indicated having such a website. An examination of the open-ended responses suggested, however, that many of the sites were not related to journalism or were not operated by students (e.g., “theater productions,” “school music video,” “Channel One”). This “web-only” item was therefore not included in the analysis.
- <sup>28</sup> Data for eight schools were omitted from further analyses because of missing values on one or more of the independent variables.
- <sup>29</sup> Fit indexes for logistic regression models predicting online newspaper, radio, television, and yearbook indicated inadequate model fit. These models are omitted.
- <sup>30</sup> Points at the extremes of the minority and poverty variables (10% and 90% of student population) were selected to illustrate each interaction.
- <sup>31</sup> The figure illustrating the minority  $\times$  school size interaction for radio is not included because predicted probabilities were too low to display effectively.
- <sup>32</sup> Dvorak, Lain, and Dickson, *Journalism Kids Do Better*; Dautrich, Yalof, and López, *Future of the First Amendment*.
- <sup>33</sup> Victoria J. Rideout, Ulla G. Foehr, and Donald F. Roberts, *Generation M<sup>2</sup>: Media and the Lives of 8- to 18-year-olds* (Menlo Park, CA: Kaiser Family Foundation), 20.
- <sup>34</sup> Tom Rosenstiel, Amy Mitchell, Kristen Purcell, and Lee Rainie, “How People Learn About Their Local Community,” *Pew Internet and American Life Project*, Sept. 26, 2011 [<http://pewinternet.org/Reports/2011/Local-news.aspx>] (Dec. 31, 2011); Pew Research Center

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