

Civic implications of secondary school journalism:
Associations with voting propensity and community volunteering

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Abstract

This study examines the association between high school journalism and civic engagement in early adulthood, independent of other civic activities. Nationally representative data show that taking high school journalism classes is related positively to voting in the years following high school, to a similar degree that taking debate classes or participating in student government is related to voting. High school journalism also moderates the association between family socioeconomics and civic engagement. Underprivileged student journalists tend to vote and volunteer more than their non-journalism peers. The study theorizes journalism education's unique contributions to civic development and civic communication competence.

Civic implications of secondary school journalism:

Associations with voting propensity and community volunteering

Recent studies show that school-based and non-school journalism programs support civic engagement among young journalists (Clark & Monserrate, 2011; Greybeal & Sindik, 2011; Marchi, 2011; Neeley, 2013). Students in these programs report that they follow and engage with important community issues, and that by informing their audiences about these issues they perform civic service and learn to effectively contribute to the civic process. In an era when effective citizenship increasingly requires digital media proficiency (Jenkins, 2009; Levine, 2008), youth journalism may serve not only as a conduit to concurrent and subsequent civic engagement, but also as a blueprint for programs that train youth to use digital communication tools for civic action.

This study presents an empirical analysis of the link between journalism participation in secondary school and civic engagement in young adulthood. Although past studies established an association between civic activities in adolescence—including journalism—and civic engagement in early adulthood, these studies tended to bundle journalism with various other curricular and extracurricular activities (Beck & Jennings, 1982; Campbell, 2006; Hanks, 1981; Shah, McLeod, & Lee, 2009; Smith, 1999; Verba, Scholzman, & Brady, 1995). The civic implications that stem from journalism may be different than those that result from students' involvement in debate or student government, for instance, and appear worthy of analysis independent of other civic activities.

The study is framed by a theoretical discussion of high school journalism's potentially distinct contribution to civic development and, more precisely, to civic communication competence (McLeod, Shah, Hess, & Lee, 2010; Shah et al., 2009; Lee, Shah, & McLeod, 2013).

Using nationally representative survey data, the analysis focuses on two indicators of civic engagement, namely, voting propensity and community volunteering. It also examines the capacity of journalism education to attenuate the civic development gap between socioeconomically advantaged and disadvantaged youth. The study contributes to theory development by articulating and demonstrating journalism education's independent role in fostering civic engagement. From an applied perspective, educators may use the study's findings to expand journalism offerings and to incorporate journalism practices into civic education curricula and out-of-school programs.

Because researchers do not apply consistently the terms that describe citizen action, it is important at the outset to clarify that we understand civic engagement as a broad term, encompassing various practices with which citizens participate in and contribute to society. These practices include, among others, voting in elections, engaging in discussions about public affairs, and contributing time or other resources to organizations that support civic causes. This conceptualization of civic engagement reflects the term's use in the literature (e.g., Lee et al., 2013; Sherrod & Lauckhardt, 2008). We also acknowledge that for some researchers civic engagement encompasses a narrower subset of citizen practices (Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2005).

Literature Review

High School Journalism in Prior Civics Research

Most secondary schools in the United States offer elective journalism classes (88%), or opportunities to produce journalistic content for the student newspaper (64%), a news website (27%), or the annual yearbook (94%) (Bobkowski, Goodman, & Bowen, 2012; Goodman, Bowen, & Bobkowski, 2011). Journalism tends to be a curricular activity, not an extracurricular

one, with students earning academic credit for completing classes held during the regular school day (Goodman et al., 2011).

Individuals who participate in various civic activities in secondary school, including journalism, are more likely than their less-active peers to engage civically during young adulthood, as measured by voting, political campaign participation, political discussion, community engagement, and combinations of these behaviors (Beck & Jennings, 1982; Campbell, 2006; Hanks, 1981; Shah et al., 2009; Smith, 1999; Verba et al., 1995). Researchers have theorized that school activities promote later civic engagement through two conduits: instrumental knowledge and identity development (Youniss, McLellan, & Yates, 1997). On a practical level, youth who are active in school groups learn to navigate the discourse, structures and conventions of civic organizations, and they rehearse for adult civic roles (Shah et al., 2009; Verba et al., 1995). In terms of identity, participation provides youth with the material for constructing adult civic selves by informing their civic norms (Campbell, 2006), contributing to their civic efficacy (Beaumont, 2011), and surrounding them with social networks that model how to collectively address social problems (Smith, 1999). Because communication is central within the process of civic development, when young people hone communication-oriented civic skills and identity characteristics, they are developing their civic communication competence, which is a suite of proficiencies and habits that sustain their civic engagement into adulthood (McLeod et al., 2010; Shah et al., 2009; Lee et al., 2013).

Conceptually and empirically, prior research linking school involvement with subsequent civic participation confounded journalism with various other activities. Youniss et al. (1997), for instance, wrote about the civically beneficial sense of collective action stemming from “[p]articipating in school government, producing a yearbook, being involved in community

service projects, and the like” (p. 624). Measures of participation in school activities used in prior studies similarly illustrated an indifference toward the specific civic profile of journalism among the other activities. One measure, for instance, combined student government and voting in school elections with various group memberships: “school publications groups; hobby, subject and occupation clubs, neighborhood, religious, and service organizations; and organizations of any other type” (Beck & Jennings, 1982, pp. 101–102). In another study, an extracurricular involvement measure was derived from participation in varsity sports, cheerleading, band, newspaper or yearbook, student council, math club, and vocational clubs (Smith, 1999). Verba et al. (1995) measured participation in “other school activities—such as school clubs or the student newspaper” (p. 563). Shah et al. (2009) combined involvement in “student council/government,” “student media,” and “debate/forensics” (p. 105). In all, while these studies have documented that participation in school activities may form a pathway to adult civic engagement, they have discounted the potentially distinct civic implications of journalism.

Journalism’s Civic Practices

In contrast to prior work, our thesis is that high school journalism contributes uniquely to civic development. We measure the civic value of high school journalism in this study against four other civic education activities: social studies classes, debate, service learning, and student government. These correspond to educational practices that, according to an expert panel, best promote civic engagement (i.e., civics instruction, issue deliberation, community service, and school leadership) (Gibson & Levine, 2003). While the civic attributes that stem from journalism and from these other activities likely overlap in part, each civic activity also likely cultivates distinct civic skills and dispositions. To justify our empirical analysis, we theorize what may be

civically unique about being a student journalist, focusing on the practices of newsgathering and producing the news, and on the immersion into the contested territory of free expression.

School journalism can attune students—perhaps more than other activities—to what is happening locally, nationally, and globally, and how such news affects the students and their peers. Analyses of student journalists’ work demonstrate their engagement with significant civic, political, economic, and cultural issues (Childers, 2012; Malone, Wenger, & Bero, 2002). High school journalists themselves report that journalism prompts them to identify issues that are important to their communities and their audiences (Graybeal & Sindik, 2012). Journalism classrooms can serve as civic “safe settings,” that is, spaces in which students learn to discover and deliberate timely and controversial issues (Hess, 2009; Östman, 2013). The practice of producing the news, which is also unique to journalism, can stimulate the development of public communication skills. When young journalists perceive that the news they produce can contribute effectively to their communities, they likely strengthen their sense of civic efficacy (Beaumont, 2011). Experience in journalism may contribute uniquely to civic communication competence as the systematic surveillance, deliberation, and communication about public affairs can become habitual and serve as the foundation for subsequent civic engagement (Fishkin & Farrar, 2005; Lee et al., 2013; Shah et al., 2009).

Unlike other civic education activities, journalism also immerses students in a legally charged environment that demands from them a fluency in student expression rights and responsibilities. While advocates champion the free expression rights of students (LoMonte, 2013), many student journalists nonetheless contend with the specter of administrative censorship (Amster, 2006; Kopenhaver & Click, 2001). Such disenfranchisement, however, may have constructive civic consequences. It may prompt individuals to learn about and critically

evaluate their rights, and to adapt to or challenge the prevailing system (Watts, Williams, & Jagers, 2003). Indeed, students who contribute to school newspapers are more knowledgeable and more supportive of the First Amendment's free expression protections than their peers who are not journalists (Dautrich, Yalof, & López, 2008). Rather than role-play democratic processes, which is a best practice that experts advocate for civics classrooms (Gibson & Levine, 2003), student journalists engage in real-life negotiations over their journalistic rights, an experience that may promote their long-term civic engagement.

In sum, the practices of newsgathering and news production, and student journalists' immersion in issues of free expression rights, suggest that the constellation of civic skills and dispositions that students develop in journalism may be distinct from the outcomes of other civic activities. Whereas prior research showed that various school-based civic activities, when combined, predict subsequent civic engagement, it is likely that journalism relates independently to civic engagement.

Forms of Civic Engagement

Consistent with our conceptualization of civic engagement as a range of citizen practices, political scientists have distinguished between duty-based engagement in the form of voting and paying taxes, for instance, and activist-like engagement such as participation in political organizations, making politically based consumer decisions, and protesting (Dalton, 2008; Nie & Verba, 1987; Skocpol & Fiorina, 1999; Verba et al., 1995; Zukin et al., 2005). Indeed, research suggests that the distinction between these two types of civic engagement may be important for understanding the nature of modern democratic citizenship. Our analysis reflects this conceptual distinction, operationalizing civic engagement with two outcome variables that correspond to its two manifestations: voting propensity and community volunteering.

Journalism education likely promotes both forms of civic engagement, and there is little to suggest that journalism relates differently to voting than to community volunteering. Voting is a relatively easy and low-effort form of civic engagement, highly driven by habit and commitment to partisanship (Aldrich, Montgomery, & Wood, 2010; Rolfe, 2013; Verba et al., 1995). Conversely, duty-driven forms of engagement like volunteering in community groups are comparatively more demanding in terms of effort and individual resources (Rosenstone & Hansen, 1993; Verba et al., 1995). This is partially why voting is typically more common than volunteering in the general population (Verba et al., 1995), and student journalism experience may strengthen young adults' resolve to vote. Young people today also appear to value activist civic engagement more than the traditional, duty-driven forms of citizen expression, however (Dalton, 2008; Leighly, 2013; Zukin et al., 2005). It is possible, therefore, that journalism experiences instigate greater civic engagement through community group participation.

Given journalism's distinct civic profile and the two forms of civic engagement, we propose that:

H1 There is an independent positive association between taking journalism in secondary school and civic engagement in early adulthood, as manifested by (a) voting, and (b) community volunteering.

Civic Engagement and Socioeconomics

Socioeconomic status is a consistent predictor of civic engagement. Population segments with lower incomes and less schooling—income and education tending to be correlated—are generally less civically engaged than the more educated and affluent (Rosenstone & Hansen, 1993; Wolfinger & Rosenstone, 1980; Verba et al., 1995). More affluent individuals have more resources to participate in civic life, they tend to understand civic processes better, and they tend

to have a greater sense of civic efficacy than their less affluent counterparts (Rosenstone & Hansen, 1993). Disparities in civic engagement tend to be hereditary, with the children of parents who do not participate in civic life growing up to be similarly disengaged (Verba et al., 1995; Warren & Wicks, 2011).

Some educational programs, however, can reduce civic deficiencies among youth who are socioeconomically and civically disadvantaged. Participants in an electoral engagement curriculum (i.e., Kids Voting USA) increased their news consumption and election knowledge, with socioeconomically disadvantaged students registering greatest gains on these election-oriented outcomes (McDevitt & Chaffee, 2000). In another study, the least politically knowledgeable youth gained more political knowledge from Kids Voting USA than those who began the program already knowing more about politics (Meirick & Wackman, 2004). These studies suggest that educational programs can narrow socioeconomically grounded civic disparities. Disadvantaged youth may find civic curricula to be more novel and engaging than their affluent counterparts, leading to more pronounced increases in these students' civic knowledge and activities.

Journalism education similarly may contribute disproportionately to the civic engagement of socioeconomically disadvantaged youth. Students from socioeconomically and civically modest backgrounds may find the skills and dispositions that journalism promotes to be more novel and stimulating than students from richer civic backgrounds. Indeed, research shows that journalism programs empower urban and minority youth to use media to address key community issues, thus increasing their self-perception as actors of civic change and full participants in the civic process (Marchi, 2011). Journalism may help educate youth from poor backgrounds about the civic process and instill in them a sense of civic efficacy, thus helping to reduce the civic

engagement gap between the affluent and the underprivileged. Because evidence for this relationship is limited, we pose the following research question:

RQ1 Does secondary school journalism moderate the association between socioeconomics and civic engagement, such that socioeconomically disadvantaged youth with journalism experience (a) vote more and (b) volunteer more for community groups in young adulthood than those without journalism experience?

Methods

Sample and Data

The study's objectives were addressed with data from the Educational Longitudinal Study of 2002 (ELS:2002), a project of the U.S. Department of Education's National Center for Education Statistics. ELS:2002 began as a survey of a stratified random sample of 15,360 students attending 10th grade in spring 2002, in 750 public and private U.S. schools. Three subsequent surveys of the base-year sample were conducted: spring 2004 first follow-up, when most of the respondents were completing 12th grade; the second follow-up, conducted in 2006 when most respondents were approximately 20 years old; and the third follow-up, conducted in 2012–13, when most respondents were approximately 26. High school transcripts were collected for most respondents. For further sampling and response rate details, see Ingels et al. (2014), and Lauff, Ingels, and Christopher (2014).

Access to the restricted datasets, including transcripts, was licensed by the Institute of Education Sciences. Respondents from schools with available curriculum data who participated in all four waves of the survey and whose transcript information had been collected, were included in the analysis. The resulting sample comprised 9,680 respondents from 690 schools. While any single individual-level variable used in this study contained fewer than .50% missing

cases, listwise deletion in statistical analyses would have compounded this missiness and resulted in the elimination of 1,850 cases. Such non-trivial levels of systematic missingness can bias the results of statistical analyses on random survey samples. To address this possibility, Amelia II, a multiple imputation program, was used to impute iterations of the dataset for final analysis (Honaker & King, 2010; King, Honaker, Joseph, & Scheve, 2001).

Measures

Dependent variables. Civic engagement in young adulthood was examined with indicators of voting propensity and community volunteering. “Voting propensity” was the sum of four dichotomous items from the second and third follow-up surveys, measuring whether respondents (1) voted in the 2004 presidential election, (2) voted in a local or state election in the two years prior to the second follow-up, (3) voted in the 2008 presidential election, and (4) voted in any local, state or national election between 2009 and 2011. This measure reflected similar voting propensity measures in previous research (Alvarez, Hopkins, & Sinclair, 2010; Fowler, 2006). “Community volunteering” was the sum of 12 dichotomous variables indicating whether, in the two years prior to the second and third follow-ups, respondents volunteered for organizations focused on youth, service, politics, community, education, environment, international aid, and food. Table 1 presents descriptive statistics for all measures used in the study, with means adjusted for missing respondents using an ELS:2002-supplied weight.

[Insert Table 1]

Civic education variables. High school civic education experiences were quantified with five dichotomous variables, four constructed from transcript data. ELS:2002 personnel coded all courses listed in grade 9–12 transcripts using school course catalogs and the Classification of Secondary School Courses (CSSC) (Bozick et al., 2006). Table 2 shows weighted categorical

distributions of Carnegie units for journalism, social studies, debate, and community service. A Carnegie unit represents “a course taken every day, one period per day, for a full school year” (Bozick et al., 2006, p. 2). Variables were dichotomized to facilitate comparisons between the five indicators in the multivariate analyses.

[Insert Table 2]

Reflecting journalism’s curricular nature in most U.S. schools (Goodman et al., 2011), the “journalism” variable indicated that a student earned credit in a journalism or publications course. The remaining variables corresponded to civic education’s best practices (Gibson & Levine, 2003). “Social studies” indicated more than three Carnegie units in history, civics, government, economics, or related courses. Three credits in social studies was the threshold for classifying a student as having an academic concentration, as opposed to an occupational or general curriculum concentration (Planty, Bozick, Ingels, & Wirt, 2006). “Debate” indicated credit in debate or forensics. “Community service” indicated credit for volunteering, working in community agencies, or engaging in experiential learning. In addition to these curricular measures, an extracurricular “student government” measure indicated participation at either the base year (10th grade) or the first follow-up year (12th grade).

Control variables: Individual level. We aimed to account statistically for the well-established constellation of demographic factors that predict civic engagement, controlling for gender (1 = *female*), dichotomized ethnicity (1 = white, non-Hispanic), and family socioeconomic status. “Family SES” was a standardized, composite variable constructed by ELS:2002 personnel from base-year indicators of parents’ education, occupations, and family income.

Because parents model civic attitudes and behaviors for their children (Smith, 1999; Verba et al., 1995), a base-year question measuring how often respondents discussed current events with parents (1 = “never,” 2 = “sometimes,” 3 = “often”) was used as a proxy of civic socialization at home (labeled “parent discussion” in tables).

Two variables controlled for respondents’ civic attitudes and values in high school. In the first follow-up survey students indicated the importance of being an “informed/active citizen,” and the importance of being patriotic (1 = “not important,” 2 = “somewhat important,” 3 = “very important”).

Because education is an important predictor of civic engagement (Wolfinger & Rosenstone, 1980), two variables controlled for educational attainment in and after high school. “Total h.s. units” measured the total number of Carnegie units earned in high school. “Education attained” measured eventual level of education at the third follow-up, using a 9-point scale (1 = “no high school credential and no post-secondary institution attendance” ... 9 = “doctoral degree”).

To account for potential effects of lifecourse transitions (e.g., transferring schools, dropping out), a dichotomous variable labeled “transferred” indicated not attending the base-year school at the first follow-up.

Control variables: School level. Because ELS:2002 used a clustered random sample, three school-level controls accounted for the potential influence of the school context on civic engagement (Kahne & Middaugh, 2009). A dichotomous variable indicated whether the school was public or private (1 = public school). A “school SES” variable was the aggregate mean SES among each school’s respondents (e.g., Engberg & Wolniak, 2010). The dichotomous

“journalism offered” variable indicated whether there was a journalism or publications class in the school’s curriculum.

Analytic Procedure

The count distributions of the dependent variables (i.e., consisting of zeroes and positive integers) suggested the use of Poisson or negative binomial regression (Coxe, West, & Aiken, 2009). For voting, the likelihood-ratio test indicated that negative binomial regression did not model the data better than Poisson regression ($LR \chi^2(1) = .003, p = .50$), so a Poisson model was used to fit these data. For volunteering, the likelihood-ratio test indicated that negative binomial was the preferred model ($LR \chi^2(1) = 1595, p < .001$).

The hierarchical nature of the data (i.e., students nested within schools) suggested the use of multilevel models (Hayes, 2006). The appropriateness of this approach with count models is determined from the estimate of between-group variance. Null models (outcome variables estimated from the grouping variable) showed that the between-school variance was significant for voting propensity, $\sigma^2 = .06$ (CI: .05 – .07); and for volunteering, $\sigma^2 = .09$ (CI: .06 – .12). With the individual-level variables in the models, the between-school variance component was lower but statistically significant for voting propensity, $\sigma^2 = .03$ (CI: .02 – .04), and for volunteering, $\sigma^2 = .03$ (CI: .02 – .05). These statistically significant between-school variances supported the use of multilevel regression models.

Results

Students with journalism credit made up a minority (11.39%) of U.S. high school students (see Table 2). Most of those who did earn credit in journalism—8.52% of all students—earned one journalism credit or less, meaning that they took the class for no more than one academic year. Another 1.86% of U.S. students earned more than one but no more than two

journalism credits. In comparison, 15.88% of the students participated in student government, 4.20% received credit for community service, and 2.27% received credit for debate or forensics. More than half of the students (56.48%) received credit for more than three units in social studies.

There was little correlation between journalism and the other civic education experiences. Journalism was weakly correlated with student government ($r = .08$), with earning more than three social studies units ($r = .04$), debate ($r = .03$), and with community service ($r = .01$). The largest inter-correlation among these experiences was between student government and earning more than three units in social studies ($r = .05$). Combining these civic educational experiences into a single measure was not warranted.

In terms of civic engagement in young adulthood, 73.27% of students voted at least once and 22.67% reported voting all four times that the voting questions were asked. Volunteering for community groups was relatively less common. Only 44.58% participated in one or more groups, with most participating in one (20.05%) or two (11.65%) groups.

Table 3 presents the regression models estimating voting propensity and community volunteering from indicators of civic education, background, and school variables. Of the civic education experiences, journalism, debate, and student government were associated positively with voting. On average, high school journalism increased a student's voting rate by 9%. Debate credit was associated with an 8% increase in voting rate. Participating in student government was associated with a 5% increase. However, because the confidence intervals of these three ratios overlapped (journalism: 1.05–1.14; debate: 1.02–1.22; student government: 1.02–1.09), these effects did not differ statistically from one another. Earning more than three units in social studies and for-credit community service were not directly associated with voting.

There was no evidence of a direct link between high school journalism and community volunteering in adulthood. Earning credit in debate and participating in student government were associated respectively with 19% and 36% increases in volunteering rates. Higher credit in social studies was associated with 11% lower volunteering rate.

[Insert Table 3]

In all, H1a was supported. Journalism education was uniquely associated with voting propensity, and this relationship was as substantial as that between voting and other civic education activities championed in prior civics literature (i.e., debate, student government). H1b was not supported, however. There was no evidence of a direct association between journalism education and volunteering.

Control variables generally supported the previously documented associations between civic engagement and individual characteristics (Verba et al., 1995). Being female, higher family SES, the habit of discussing current events with parents, higher number of high school credits, and higher overall education, all were associated positively with voting and with community volunteering. Being white was associated with increased voting propensity but with a decreased rate of volunteering. Respondents who in high school affirmed informed and active citizenship and patriotism tended to vote more frequently and to volunteer for more community groups than those who affirmed citizenship and patriotism less strongly. Disrupted schooling, that is, leaving the original school before graduation, was associated with lower rates of voting and volunteering. At the school level, public school students were less likely to vote than their private school counterparts. Higher school-level SES was associated with increased volunteering but not with voting. Having journalism in the curriculum was associated with a lower voting rate but with a higher volunteering rate.

To address the study's research questions, we first estimated ten models, each containing one interaction term between family SES and an indicator of a civic education experience. Interaction terms that were statistically significant in one of the models were retained and combined in two final models, presented in Table 4. The relationship between family SES and voting was moderated by journalism, social studies, and student government. The relationship between family SES and volunteering was moderated by journalism and student government. Debate and service did not function as moderators between family SES and either outcome.

[Insert Table 4]

Figures 1 and 2 illustrate the interactions between family SES and journalism for voting propensity and community volunteering, respectively. The pattern shown in these figures reflects the results for the other significant interactions in the models (student government for voting and volunteering; social studies for voting), which are not shown. The gray line in each figure represents the predicted count of voting (out of four) and of community volunteering (out of twelve) for students without any journalism credits in high school. These lines have a positive slope, illustrating that as family SES rises, the propensity to engage in the respective civic activity also increases. This reiterates the well-documented association between higher socioeconomics and civic participation (e.g., Wolfinger & Rosenstone, 1980), and the significant positive family SES coefficients in the first set of models.

[Insert Figures 1 and 2]

The black line in each figure represents the predicted rate of the respective civic activity for students with journalism credit. At the lower end of the family SES scale, former journalism students are more likely to vote and volunteer than their counterparts without journalism education. Confidence intervals show that these differences are statistically significant when

family SES is less than 1 SD above the mean for voting, and approximately 1 SD below the mean for volunteering. To answer RQ1, there is evidence that journalism education can reduce the negative impact of low family SES on civic engagement. Socioeconomically disadvantaged youth who take journalism are likely to (a) vote more frequently and to (b) volunteer for more groups in early adulthood than their peers who do not take journalism.

Discussion

Participation in high school journalism can contribute positively and independently to the development of civic skills and identities because of journalism's civically distinct practices. Young journalists engage in unique, civically stimulating practices such as newsgathering and news production, and learn first-hand about issues of free expression. They thus may become proficient at identifying and researching important issues and events, master the tools and conventions of public communication, develop a sense of civic efficacy, and become well-versed in their own and others' expression rights. Skills and dispositions such as these can sustain student journalists' civic engagement in adulthood independent of other civic activities in which they participate.

Against this theoretical backdrop, this study provides empirical evidence linking high school journalism with civic engagement in young adulthood. To our knowledge, it is the first study to model this association independent of other civic education experiences, that is, controlling for rather than confounding journalism with the potential influences of social studies, debate, community service, and student government. The study shows that students who earn journalism credit in high school tend to vote more frequently than their peers who do not take journalism. While debate and student government also relate to more frequent voting, the

relationships between these educational experiences and voting are empirically discrete. Each of the civic experiences appears to produce a distinct enduring civic impact.

Differences in how journalism and the other civic activities relate to the study's two civic outcomes underscore further the idiosyncratic implications of these activities. There is something about students who take journalism, compared to students who participate in other civic activities, and about journalism education itself, that translate into a specific combination of civic outcomes—increased voting but not volunteering—in young adulthood. Volunteering is a relatively more demanding civic activity than voting, generally requiring a greater commitment of time and other resources (Rosenstone & Hansen, 1993; Verba et al., 1995). Perhaps the civic outcomes of journalism like issue awareness and civic efficacy, only instill in students a commitment to the less burdensome practice of voting but not to the more taxing practice of volunteering. It also may be that student journalists do engage civically through activist practices (Dalton, 2008; Nie & Verba, 1987; Zukin et al., 2005), and do so more than non-journalists, but that the community volunteering variable used in this study does not reflect these experiences. Future research may examine further whether student journalists engage in civic activism, focusing perhaps on practices like using social media to share political news or promote civic causes within their social networks, which reflect more directly the newsgathering and communication-related civic skills that journalists likely develop and practice in journalism class.

Although the findings show no direct association between journalism and volunteering, moderation effects suggest that journalism education can narrow socioeconomically based disparities in voting and volunteering. Socioeconomically disadvantaged students who take journalism are more likely to vote and to volunteer with community groups than similarly

disadvantaged youth who do not take journalism. These moderation effects again function independently, with student government and having more than three units of social studies offering comparable benefits for voting, and student government appearing to narrow the gap in volunteering. The mechanisms by which journalism, student government, and social studies benefit socioeconomically disadvantaged students deserve closer scrutiny. It is possible that the skills and dispositions fostered by journalism and the other educational experiences are more novel to students who come from poorer backgrounds, and that these experiences have a greater long-term impact on the less-affluent than on more affluent and, presumably, more civically aware students (McDevitt & Chaffee, 2000). It also may be that civic empowerment—applying the civic lessons of journalism to affect civic change through the electoral process or volunteering—is more important for young people from disadvantaged backgrounds than for those from more affluent ones (Watts et al., 2003). Given the potential of these educational experiences to advance civic engagement among traditionally disenfranchised groups, further research is needed to more precisely explicate the contribution of these experiences to civic development.

Further research also is necessary to clarify how elements of civic communication competence mediate the link between journalism and civic engagement. The media- and interpersonal communication-focused civic skills and habits that journalism stimulates, including news surveillance and issue deliberation, comprise practices that contribute to civic communication competence (Lee et al., 2013; McLeod et al. 2010; Shah et al., 2009). There may be other channels through which journalism also contributes to civic communication competence. Student journalists who research civic issues and present them publicly may experience a lasting commitment to these issues. Articulating a message for a media audience

can be transformative for the message sender because of the cognitive processing involved (e.g., self-persuasion), and because the sender may feel publicly committed to the message (Pingree, 2014). Such issue commitment may promote civic communication competence. Students who view journalism as service (Clark & Monserrate, 2011), meanwhile, may advance civic communication competence through the civic benefits of service learning, including critical self-reflection, a sense of responsibility for others' wellbeing, and a shared civic identity (Campbell, 2006; Gibson & Levine, 2003; Yates, 1999). In order to better understand the interplay between journalism, communication competence, and civic engagement, future research first may establish direct measures of civic communication competence and the practices, skills, and attitudes that contribute to it. Research then may examine the extent to which each of the channels presented here contributes to communication competence and, in turn, to sustained civic engagement.

Three aspects of the dataset introduced empirical limitations. First, the ELS:2002 does not contain suitable mediating measures that would allow evaluating the theoretical conduits linking high school journalism to civic engagement in young adulthood. We are unable to determine, among other things, whether journalism students vote more because they are more aware of current events and issues than their peers, because they use digital media for civic purposes more proficiently than students with no journalism training, or because being in journalism is related to increased civic efficacy. We leave these questions for future research to explore but recommend an analytical focus on the civic outcomes that accrue from the production of journalistic content.

Second, survey-reported election turnout rates are generally higher than actual voting rates. This discrepancy derives from a combination of social desirability, that is, respondents

lying about voting to look like better citizens; and sample selection bias, with individuals who are more likely to vote also being more likely to complete surveys (Bernstein, Chadha, & Montjoy, 2001; Burden, 2000). Although measures such as this study's voting propensity likely do not fully represent a sample's electoral participation, such self-reported voter data continue to be used in political science and related fields to measure electoral participation (Bernstein, et al., 2001).

The third limitation concerns our inability to eliminate self-selection as a potential explanation for why high school journalists are more civically engaged as young adults (Van der Meer & Van Ingen, 2009). While the analysis accounts for the potential civic influence of parents and how much the respondents valued citizenship and patriotism at the first follow-up, the ELS:2002 does not contain a measure like civic interest, civic motivation, or civic predisposition. We were thus unable to control statistically for the possibility that students who are inherently interested in civics and who therefore may be more drawn than their peers to journalism also may be more motivated to vote and volunteer as adults regardless of their high school journalism experience. The absence of such a control, however, is a common limitation of civic engagement research (e.g., Hanks, 1981; Lee et al., 2013).

In all, this study's results justify supporting school journalism programs as a means of promoting students' long-term civic engagement. While civics experts have proposed enhanced social studies curricula and after-school programs to help students develop digital civic competencies (Levine, 2008; Rheingold, 2008), established journalism programs in secondary schools across the United States already are providing the digital civic education these experts champion. High school journalism may be the "participatory media education" that Rheingold (2008) envisioned: a setting where students use digital tools "to inform publics, advocate

positions, contest claims, and organize action around issues that they truly care about” (p. 102).

It may be advisable, therefore, to widen journalism education’s accessibility to more than the 11% of students who are benefiting from it. Precepts of journalism education may be adapted in educational non-journalism settings, or in non-school settings, extending the benefits of journalism’s civic skills and dispositions to a broader range of young people.

References

- Aldrich, J. H., Montgomery, J. M., & Wood, W. (2010). Turnout as a habit. *Political Behavior*, 33(4), 535–563. doi:10.1007/s11109-010-9148-3
- Alvarez, R. M., Hopkins, A., & Sinclair, B. (2010). Mobilizing Pasadena Democrats: Measuring the effects of partisan campaign contacts. *Journal of Politics* 72: 31–44. doi: 10.1017/S0022381609990454
- Amster, S.-E. (2006). *Seeds of cynicism: The undermining of journalistic education*. New York, NY: University Press of America.
- Beaumont, E. (2011). Promoting political agency, addressing political inequality: A multilevel model of internal political efficacy. *The Journal of Politics*, 73(1), 216–231. doi:10.1017/S0022381610000976
- Beck, P. A., & Jennings, M. K. (1982). Pathways to participation. *The American Political Science Review*, 76(1), 94–108. Stable URL: jstor.org/stable/1960445
- Bernstein, R., Chadha, A., & Montjoy, R. (2001). Overreporting voting: Why it happens and why it matters. *Public Opinion Quarterly*, 65(1), 22–44. doi:10.1086/320036
- Bobkowski, P. S., Goodman, M., & Bowen, C. P. (2012). Student media in U.S. secondary schools: Associations with school demographic characteristics. *Journalism & Mass Communication Educator*, 67, 252–266. doi:10.1177/1077695812444699
- Bozick, R., et al. (2006). *Education Longitudinal Study of 2002: First follow-up transcript component data file documentation* (NCES 2006–338). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

- Burden, B. C. (2000). Voter turnout and the National Election Studies. *Political Analysis*, 8, 389–398. Stable URL: jstor.org/stable/25791621
- Campbell, D. E. (2006). *Why we vote: How schools and communities shape our public life*. Princeton, NJ: Princeton University Press.
- Childers, J. P. (2012). *The evolving citizen: American youth and the changing norms of democratic engagement*. University Park, PA: Pennsylvania University Press.
- Clark, L. S., & Monserrate, R. (2011). High school journalism and the making of young citizens. *Journalism*, 12(4), 417–432. doi: 10.1177/1464884910388225
- Coxe, S., West, S. G., & Aiken, L. S. (2009). The analysis of count data: A gentle introduction to Poisson regression and its alternatives. *Journal of Personality Assessment*, 91, 121–136. doi:10.1080/00223890802634175
- Dalton, R. J. (2008). *The good citizen: How a younger generation is reshaping American politics*. Washington, DC: CQ Press.
- Dautrich, K., Yalof, D. A., & López, M. H. (2008). *The future of the First Amendment: The digital media, civic education, and free expression rights in America's high schools*. Lanham, MD: Rowman & Littlefield.
- Engberg, M. E., & Wolniak, G. C. (2010). Examining the effects of high school contexts on postsecondary enrollment. *Research in Higher Education*, 51, 132–153. doi:10.1007/s11162-009-9150-y
- Fishkin, J., & Farrar, C. (2005). Deliberative polling: From experiment to community resource. In J. Gastil & P. Levine (Eds.), *The deliberative democracy handbook: Strategies for effective civic engagement in the twenty-first century* (pp. 68–79). San Francisco, CA: Jossey-Bass.

Fowler, J. H. (2006). Habitual voting and behavioral turnout. *Journal of Politics*, 68(2), 335–344. doi:10.1111/j.1468-2508.2006.00410.x

Gibson, C. & Levine, P. (2003). *The civic mission of schools*. Retrieved from the the Center for Information and Research on Civic Learning and Engagement (CIRCLE) website: civicyouth.org/PopUps/CivicMissionofSchools.pdf

Goodman, M., Bowen, C. P., & Bobkowski. (2011). *The scholastic journalism census*. Kent, OH: Center for Scholastic Journalism.

Graybeal, G., & Sindik, A. (2012). Journalism students and civic engagement: Is there still a connection? *Community Journalism*, 1(1), 29–46. Retrieved from: journal.community-journalism.net/articles/journalism-students-and-civic-engagement-there-still-connection

Hanks, M. (1981). Youth, voluntary associations and political socialization. *Social Forces*, 60(1), 211–223. doi:10.2307/2577941

Hayes, A. F. (2006). A primer on multilevel modeling. *Human Communication Research*, 32(4), 385–410. doi: 10.1111/j.1468-2958.2006.00281.x

Hess, D. E. (2009). *Controversy in the classroom: The democratic power of discussion*. New York: Routledge.

Honaker, J., & King, G. (2010). What to do about missing values in time series cross-section data. *American Journal of Political Science*, 54(2), 561–581. doi:10.1111/j.1540-5907.2010.00447.x

Ingels, S., J. Pratt, D. J., Alexander, C. P., Jewell, D. M., Lauff, E., Mattox, T. L., et al. (2014). Education Longitudinal Study of 2002 (ELS:2002) Third Follow-Up Data File Documentation (NCES 2014-364). Retrieved from: nces.ed.gov/pubs2014/2014364.pdf

Jenkins, H. (with Purushotma, R., Weigel, M., Clinton, K., & Robison, A.). (2009). *Confronting*

- the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: MIT Press.
- Kahne, J., & Middaugh, E. (2009). Democracy for some: The civic opportunity gap in high school. In J. Youniss & P. Levine (Eds.), *Engaging young people in civic life* (pp. 29–58). Nashville, TN: Vanderbilt University Press.
- King, G., Honaker, J., Joseph, A., & Scheve, K. (2001). Analyzing incomplete political science data: An alternative algorithm for multiple imputation. *American Political Science Review*, 95, 49–69. Stable URL: jstor.org/stable/3117628
- Kopenhaver, L. L., & Click, J. W. (2001). High school newspapers still censored thirty years after Tinker. *Journalism & Mass Communication Quarterly*, 78(2), 321–339. doi: 10.1177/107769900107800208
- Lauff, E., Ingels, S. J., & Christopher, E. M. (2014). *Education Longitudinal Study of 2002 (ELS:2002): A first look at 2002 high school sophomores 10 years later* (NCES 2014–363). Retrieved from: nces.ed.gov/pubs2014/2014363.pdf
- Lee, N.-J., Shah, D. V., & McLeod, J. M. (2013). Processes of political socialization: A communication mediation approach to youth civic engagement. *Communication Research*, 40(5), 669–697. doi:10.1177/0093650212436712
- Leighley, J. E. (2013). *Who Votes Now?: Demographics, Issues, Inequality, and Turnout in the United States*. Princeton, NJ: Princeton University Press.
- Levine, P. (2008). A public voice for youth: The audience problem in digital media and civic education. In W. L. Bennett (Ed.), *Civic life online: Learning how digital media can engage youth* (pp. 119–138). Cambridge, MA: MIT Press.
- LoMonte, F. (2013, Feb. 6). A muzzled generation. *Education Week*, 32(20), p. 31.

- Malone, R. E., Wenger, L. D., & Bero, L. A. (2002). High school journalists' perspectives on tobacco. *Journal of Health Communication, 7*, 139–156. doi: 10.1080/1081073029008801 2
- Marchi, R. (2011). From disillusion to engagement: Minority teen journalists and the news media. *Journalism, 13*(6), 750–765. doi: 10.1177/1464884911431379
- McDevitt, M., & Chaffee, S. (2000). Closing gaps in political communication and knowledge: Effects of a school intervention. *Communication Research, 27*(3), 259–292. doi: 10.1177/009365000027003001
- McLeod, J., Shah, D., Hess, D., & Lee, N.-L. (2010). Communication and education: Creating competence for socialization into public life. In L. R. Sherrod, J. Torney-Purta, & C. A. Flanagan (Eds.), *Handbook of research on civic engagement in youth* (pp. 363–392). Hoboken, NJ: John Wiley & Sons.
- Meirick, P. C., & Wackman, D. B. (2004). Kids voting and political knowledge: Narrowing gaps, informing votes. *Social Science Quarterly, 85*(5), 1161–1177. doi:10.1111/j.0038-4941.2004.00269.x
- Neeley, J. C. (2013). Plugging in: Possibilities for connecting teens and communities through scholastic and nonscholastic youth media websites. *Youth & Society*. Advance online publication. doi: 10.1177/0044118X13483776
- Nie, N. H., & Verba, S. (1987). *Participation in America: Political Democracy and Social Equality*. Chicago, IL: University of Chicago Press.
- Östman, J. (2013). When private talk becomes public political expression; Examining a practice-field hypothesis of youth political development. *Political Communication, 30*, 602–619. doi:10.1080/10584609.2012.737437

- Pingree, R. J. (2014). Effects of online political messages on their senders: Conceptual tools and research directions. In H. Gil de Zuniga (Ed.), *New Agendas in Communication: New Technologies & Civic Engagement*. New York, NY: Routledge.
- Planty, M., Bozick, R., Ingels, S. J., & Wirt, J. (2006). Academic pathways, preparation, and performance: A descriptive overview of the transcripts from the high school graduating class of 2003–04 (NCES 2007–316). Retrieved from: nces.ed.gov/pubs2007/2007316.pdf
- Rheingold, H. (2008). Using participatory media and public voice to encourage civic engagement. In W. L. Bennett (Ed.), *Civic life online: Learning how digital media can engage youth* (pp. 97–118). Cambridge, MA: MIT Press.
- Rolfe, M. (2013). *Voter turnout: A social theory of political participation*. Cambridge, UK: Cambridge University Press.
- Rosenstone, S. J., & Hansen, J. M. (1993). *Mobilization, participation, and democracy in America*. New York: Longman.
- Shah, D. V., McLeod, J. M., & Lee, N.-J. (2009). Communication competence as a foundation for civic competence: Processes of socialization into citizenship. *Political Communication*, 26, 102–117. doi:10.1080/10584600802710384
- Sherrod, L. R., & Lauckhardt, J. (2009). The development of citizenship. In R. M. Lerner & L. Steinberg, *Handbook of adolescent psychology* (3rd ed., Vol. 2, pp. 372–408). Hoboken, NJ: John Wiley.
- Skocpol, T., & Fiorina, M. P. (1999). *Civic engagement in American democracy*. Washington, D.C.: Brookings Institution Press.

- Smith, E. (1999). The effects of investments in the social capital of youth on political and civic behavior in young adulthood: A longitudinal analysis. *Political Psychology*, 20(3), 553–580. Stable URL: jstor.org/stable/3792161
- Van der Meer, T. W. G., & Van Ingen, E. J. (2009). Schools of democracy? Disentangling the relationship between civic participation and political action in 17 European countries. *European Journal of Political Research*, 48(2), 281–308. doi:10.1111/j.1475-6765.2008.00836.x
- Verba, S., Scholzman, K. L., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics*. Cambridge, MA: Harvard University Press.
- Warren, R., & Wicks, R. H. (2011). Political socialization: Modeling teen political and civic engagement. *Journalism & Mass Communication Quarterly*, 88(1), 156–175.
- Watts, R. J., Williams, N. C., & Jagers, R. J. (2003). Sociopolitical development. *American Journal of Community Psychology*, 31(1/2), 185–194. doi:10.1023/a:1023091024140
- Wolfinger, R. E., & Rosenstone, S. J. (1980). *Who votes?* New Haven, CT: Yale University Press.
- Yates, M. (1999). Community service and political-moral discussions among adolescents: A study of a mandatory school-based program in the United States. In M. Yates and J. Youniss (Eds.), *Roots of civic identity: International perspectives on community service and activism in youth* (pp. 16–31). New York: Cambridge University Press.
- Youniss, J., McLellan, J. A., & Yates, M. (1997). What we know about engendering civic identity. *American Behavioral Scientist*, 40(5), 620–631. doi:10.1177/0002764297040005008

Zukin, C., Keeter, S., Andolina, M. W., Jenkins, K., & Delli Carpini, M. X. (2005). *A new engagement? Political participation, civic life, and the changing American citizen*. New York, NY: Oxford University Press.

Table 1*Descriptive statistics, including weighted means, for student-level measures.*

	Min	Max	Mean	SE
<i>Dependent variables</i>				
Voting propensity	0	4	1.98	.03
Comm. group volunteering	0	12	.95	.02
<i>Civic education</i>				
Journalism	0	1	.11	.01
Social studies units	0	1	.56	.01
Debate units	0	1	.02	< .01
Comm. service units	0	1	.04	.01
Student government	0	1	.16	.01
<i>Controls</i>				
Female	0	1	.52	.01
White	0	1	.64	.01
SES	-2	2	.03	.02
Parent discussion	1	3	1.94	.01
Citizenship	1	3	2.41	.01
Patriotism	1	3	2.19	.01
Total h.s. units	1	40	24.57	.14
Education level	1	9	4.39	.03
Transferred	0	1	.17	.01
<hr/>				
Unweighted sample	9,680			
Weighted sample	2,483,117			

Source: Education Longitudinal Study of 2002, Restricted Data.

Table 2

Weighted frequency distributions of civic educational experiences among U.S. high school students.

	Carnegie units					
	0	> 0, ≤ 1	> 1, ≤ 2	> 2, ≤ 3	> 3, ≤ 4	> 4
Social studies	1.27 %	3.65 %	8.50 %	30.10 %	37.92 %	18.56 %
Debate	97.73	2.07	.20	—	—	—
Comm. service	95.80	3.93	.26	.01	—	—
Journalism	88.61	8.52	1.86	.66	.31	.04
	No	Yes				
Student government	84.12 %	15.88 %				

Source: Education Longitudinal Study of 2002, Restricted Data.

Table 3

Regression estimates predicting voting propensity and community volunteering as a function of civic education experiences, and individual- and school-level controls (N_{students} = 9,680; N_{schools} = 690).

	Voting propensity			Community volunteering		
	<i>B (SE)</i>	<i>p</i>	IRR	<i>B (SE)</i>	<i>p</i>	IRR
Individual level						
<i>Civic education</i>						
Journalism	.09 (.02)	< .001	1.09	.04 (.04)	.380	1.04
Social studies	.03 (.02)	.108	1.03	-.11 (.03)	.001	.90
Debate	.08 (.05)	.021	1.12	.19 (.08)	.021	1.21
Comm. service	-.06 (.04)	.146	.95	.01 (.07)	.828	1.02
Student government	.05 (.02)	.006	1.05	.36 (.03)	< .001	1.43
<i>Controls</i>						
Female	.07 (.02)	< .001	1.07	.12 (.03)	< .001	1.13
White	.11 (.02)	< .001	1.12	-.13 (.03)	< .001	.88
Family SES	.14 (.01)	< .001	1.15	.20 (.02)	< .001	1.22
Parent discussion	.10 (.01)	< .001	1.11	.19 (.02)	< .001	1.21
Citizenship	.12 (.01)	< .001	1.13	.20 (.03)	< .001	1.22
Patriotism	.05 (.01)	< .001	1.06	.07 (.02)	.001	1.08
Total h.s. units	.01 (.01)	.002	1.01	.02 (.01)	< .001	1.02
Education attained	.05 (.01)	< .001	1.05	.16 (.01)	< .001	1.17
Transferred	-.15 (.03)	< .001	.86	-.16 (.05)	< .001	.86
School level						
Public school	-.05 (.03)	.046	.95	.01 (.04)	.806	1.01
School SES	.02 (.02)	.400	1.03	.13 (.04)	< .001	1.14
Journalism offered	-.06 (.03)	.047	.95	.09 (.05)	.036	1.10
Intercept	-.38 (.07)			-2.29 (.13)		
School-level variance	.03 (.01)			.03 (.01)		
Wald χ^2 (<i>df</i> = 20)	1306.21	<.001		1489.05	< .001	

Note: Poisson regression model for voting propensity; Negative binomial regression model for community volunteering; IRR = incidence rate ratios.

Source: Education Longitudinal Study of 2002, Restricted Data.

Table 4

Regression estimates predicting voting propensity and community volunteering as a function of civic education experiences, and individual- and school-level controls (N_{students} = 9,680; N_{schools} = 690).

	Voting propensity		Community volunteering	
	<i>B</i> (<i>SE</i>)	<i>p</i>	<i>B</i> (<i>SE</i>)	<i>p</i>
Individual level				
<i>Civic education</i>				
Journalism	.12 (.02)	< .001	.07 (.04)	.096
Social studies	.04 (.02)	.018	-.10 (.03)	.003
Debate	.11 (.05)	.019	.19 (.08)	.020
Comm. service	-.05 (.04)	.192	.01 (.07)	.833
Student government	.07 (.02)	< .001	.40 (.04)	< .001
<i>Controls</i>				
Female	.07 (.02)	< .001	.12 (.03)	< .001
White	.11 (.02)	< .001	-.13 (.03)	< .001
Family SES	.20 (.02)	< .001	.26 (.03)	< .001
Parent discussion	.10 (.01)	< .001	.19 (.02)	< .001
Citizenship	.12 (.01)	< .001	.20 (.03)	< .001
Patriotism	.06 (.01)	< .001	.07 (.02)	.001
Total h.s. units	.01 (.01)	< .001	.01 (.01)	< .001
Education attained	.05 (.01)	< .001	.15 (.01)	< .001
Transferred	-.14 (.03)	< .001	-.15 (.05)	.002
<i>Interactions</i>				
Journalism × SES	-.11 (.03)	< .001	-.15 (.06)	.010
Soc. studies × SES	-.06 (.03)	.017	-.02 (.04)	.590
Student gov't × SES	-.06 (.02)	.002	-.13 (.05)	.004
School level				
Public school	-.05 (.03)	.064	.01 (.04)	.847
School SES	.03 (.02)	.186	.13 (.04)	.001
Journalism offered	-.05 (.03)	.074	.10 (.05)	.027
Intercept	-.39 (.07)	< .001	-2.28 (.13)	
School-level variance	.03 (.01)		.03 (.01)	
Wald χ^2 (<i>df</i> = 20)	1346.23	< .001	1507.19	< .001

Note: Poisson regression model for voting propensity; Negative binomial regression model for community volunteering.

Source: Education Longitudinal Study of 2002, Restricted Data.

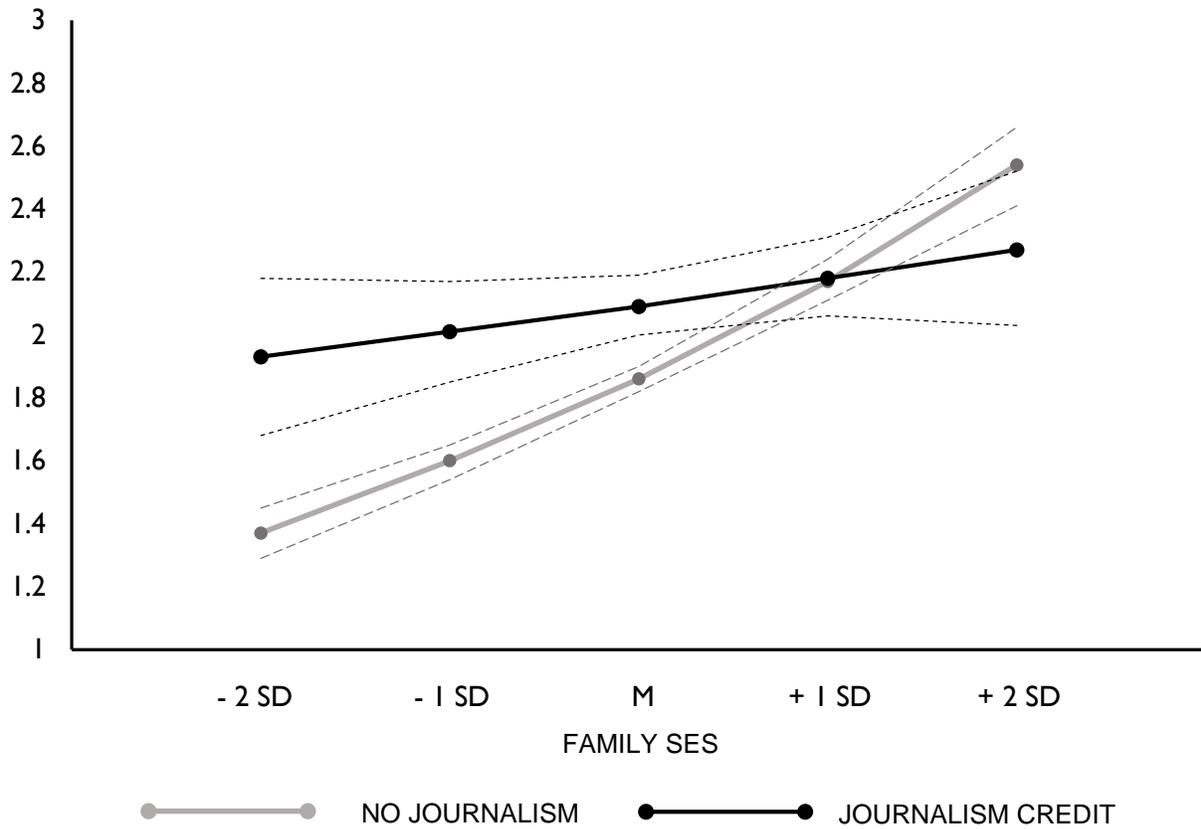


Figure 1

Predicted voting count with 95% confidence intervals (broken lines), as a factor of family SES and taking journalism in high school.

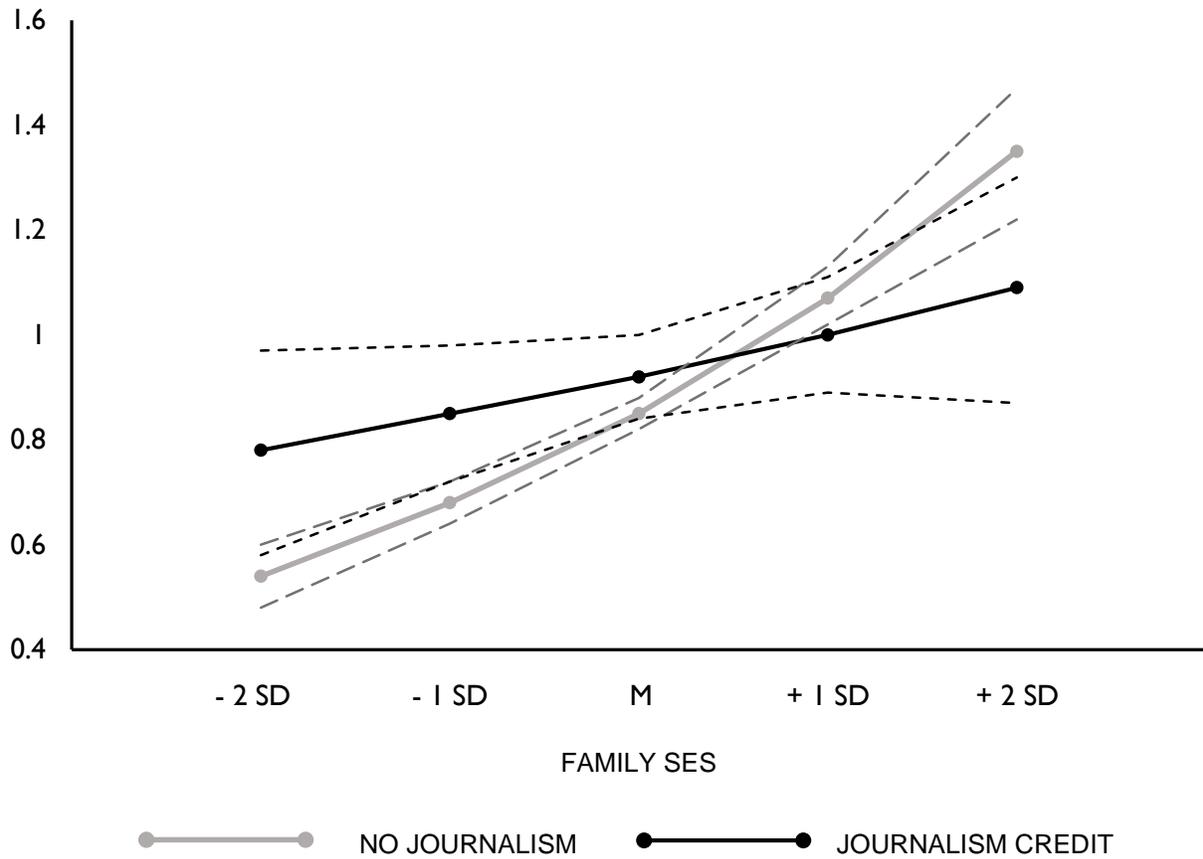


Figure 2

Predicted count of community volunteering with 95% confidence intervals (broken lines), as a factor of family SES and taking journalism in high school.