

Who are the “Journalism Kids?”**Academic Predictors of Journalism Participation in Secondary Schools**

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Abstract

Prior scholastic journalism research did not adequately address the possibility that journalism students perform better academically because of their backgrounds and inherent abilities. Using Education Longitudinal Study of 2002 data, this study shows that high school journalism attracts better students. Although for-credit and extracurricular programs differentiate journalism student characteristics, journalism students generally tend to have greater English self-efficacy, higher English grade point average, greater involvement in schools, be female and White, or have a higher socioeconomic background than those who do not participate in journalism. Future assessments of journalism’s contribution to academic achievement should account for students’ pre-journalism characteristics.

Keywords

journalism education, scholastic journalism, academic achievement, standardized tests, stratification, selection

A central tenet of research on journalism education in US secondary schools (i.e., scholastic journalism) is that participating in student media results in positive academic outcomes, specifically in higher scores on standardized reading and writing assessments. The case was presented most comprehensively in *Journalism Kids Do Better: What Research Tells us about High School Journalism* (Dvorak, Lain, & Dickson, 1994), and subsequent studies have contributed corroborating evidence (Bruschke & George, 1999; Dvorak, Bowen, & Choi, 2009; Dvorak & Choi, 2009; Morgan & Dvorak, 1994). Although this literature consistently shows that journalism education is related to higher achievement in English, studies have left unresolved the question of selection: Do “journalism kids do better” because of journalism, or because journalism attracts better students?

This study begins to address this question by identifying the characteristics of students who participate in journalism in secondary school. The literature review draws on educational psychology to identify high school journalists’ key attributes, including academic motives and demographic characteristics. The review also distinguishes between participation in for-credit and extracurricular journalism. The empirical analysis employs a large, longitudinal dataset to examine which student attributes measured early in high school (9th and 10th grades) predict upper-class journalism participation (11th and 12th grades). Results show that journalism students tend to differ from their non-journalism peers on English self-efficacy, English achievement, overall involvement in school, gender, and race and ethnicity. The study contributes to a clearer understanding of who participates in and benefits from journalism education in secondary schools.

Literature Review

Stratification and Selection in Education. Students of differing demographic backgrounds and academic abilities follow distinct academic tracks, which in large measure shape eventual academic achievement (Lucas, 1999; Oakes & Lipton, 1990; Schmidt & McKnight, 2012). A complex process of social selection tends to stratify students from more affluent and better educated families and those exhibiting higher academic aptitude into college preparatory classes and activities. Less well-off students and those who display lower academic potential follow less rigorous general or vocational curricula (Schmidt & McKnight, 2012). Resources unique to each track reinforce academic differences between students and compound the discrepancies in academic achievement (Oakes & Lipton, 1990).

Within this system of academic stratification, students select into curricular and extracurricular activities that capitalize on and bolster their academic characteristics and potential. Research has illustrated the influence of selection on the outcomes of sports participation in secondary schools. While playing school sports is associated with positive academic outcomes, this positive correlation is partially attributable to student-athletes' family backgrounds (Broh, 2002; Fejgin, 1994). Students who participate in sports are more likely to come from better educated, more affluent, two-parent families than from less privileged households. For students from better backgrounds who already tend to perform better academically, participation in school sports only enhances their positive academic trajectories.

Scholastic journalism research thus far has not accounted for the possibility that students who participate in journalism are inherently different from non-journalism students. Several cross-sectional studies have shown that journalism students tend to score higher than non-journalists on standardized tests of English and reading, while also scoring lower than non-journalists on standardized tests of math and science (Dvorak et al., 1994, 2009; Dvorak & Choi,

2009; Journalism Education Association, 1987). Two longitudinal studies also documented positive language-related outcomes of journalism. One showed that journalism students' writing scores increased over a one-year period, in contrast to a decrease in non-journalists' writing scores (Morgan & Dvorak, 1994). Another showed that newspaper students had higher standardized verbal scores than similarly achieving non-journalism students (Bruschke & George, 1999). An analysis of college journalism outcomes showed that high school journalists were more likely than non-journalists to choose the journalism major before entering college, which was positively related to both college GPAs and the number of internships students held before graduation (Becker, Han, Wilcox, & Vlad, 2014). None of these studies, however, accounted for students' achievement or academic motivations prior to their participation in high school journalism. If students who end up taking journalism start out being academically different than students who do not pursue journalism, the inherent differences between journalists and non-journalists may account more than journalism participation for the disparities in these students' eventual academic achievement.

Why Students Participate in Journalism. The present study identifies and examines the academic and motivational attributes that predict journalism participation later in high school: English self-efficacy, achievement, and attachment to school. It also considers whether some demographic characteristics are represented more than others among high school journalists. Finally, it introduces the distinction between curricular and extracurricular journalism participation and considers whether journalism predictors differ between these two modes of participation.

English self-efficacy and achievement. Prospective students' attraction to journalism likely is informed by prior academic experiences and consequent sense of self-efficacy, that is,

feelings about whether they can succeed in journalism. Self-efficacy, in general, refers to the judgments individuals make about their ability to carry out tasks and meet objectives (Bandura, 1986). Students with greater self-efficacy in an academic subject tend to be more motivated to do well in that subject, to set more ambitious goals in related tasks and classes, and to engage in activities that further reinforce their competencies in that subject (Schunk & Mullen, 2012). Although subject-specific self-efficacy correlates with aptitude to succeed in that subject, self-efficacy contributes to academic outcomes independent of aptitude and prior achievement (Pajares, 2003).

Journalism is often characterized as an English course because it requires writing and is often taught by an English teacher (Dvorak et al., 1994). Students who do well in English and those who perceive themselves as doing well in English, therefore, may be especially motivated to participate in journalism. In an analysis of students' ACT profiles, publication staff members took advanced and honors English courses at a higher rate than non-publication students (Dvorak et al., 1994). Inasmuch as journalism enriches the English curriculum, students who perform better in English and those with stronger self-efficacy in English may be most likely to self-select into taking high school journalism or be encouraged by their teachers or counselors to do so.

Attachment to school. A positive attachment to school, also known as investment or engagement in school (Fredricks, Blumfield, & Paris, 2004), likely characterizes student journalists. Students with a positive attachment feel they belong at school, experience being a student as an important component of their identities, and understand doing well in school as a worthwhile goal (Finn, 1989). Positive attachment manifests in school participation, which ranges from basic engagement in assigned classroom activities to involvement in extracurricular

activities. Students who are invested in their schools, as opposed to those who feel alienated from school, are likely to participate in school activities beyond the basic curricular requirements. Research demonstrates journalism students' positive attachment to their schools. Half of the publication staff members in the first ACT study were involved in student government during high school, compared to 24% of non-staffers (Dvorak et al., 1994). Publication staff also had higher rates of involvement in special-interest and academic groups, completing projects, and participating in community service.

Demographics. High school journalists may differ demographically from non-journalists. Gendered socialization may propel females toward journalism more than males: Young girls have higher writing self-efficacy than boys (Pajares, 2003; Pajares, Johnson, & Usher, 2007), and female students are more likely to participate in school-based clubs than males (Feldman & Matjasko, 2007). Becker et al. (2014) found that being female and being white predicted high school journalism participation, although this study's sample lacked non-journalism majors. While students who attend more affluent public schools may be more likely to participate in journalism (Bobkowski, Goodman, & Bowen, 2012), it is unclear if students' personal socioeconomics likewise relate to journalism participation.

Curricular or not. An underexplored distinction concerns the type of journalism program in which students participate. In most US schools, journalism and/or publications is a for-credit class, with a minority of schools offering only extracurricular (i.e., after school, not-for-credit) journalism activities (Goodman, Bowen, & Bobkowski, 2011). Thus far, it is unclear whether the profile of the student journalist differs between these two variants of secondary school journalism.

Hypotheses. Based on the foregoing discussion we predict that:

H1: (a) English self-efficacy, (b) English achievement, and (c) positive attachment to school at the underclass level predict participation in journalism at the upper-class level.

Further, we examine:

RQ1: Which demographic markers characterize journalism participation?

RQ2: Does the curricular versus extracurricular nature of a journalism program differentiate students who participate in journalism?

Method

Sample and Data. Analyses used data from the Educational Longitudinal Study of 2002 (ELS:2002), a National Center for Education Statistics project. The ELS:2002 base-year survey consisted of a stratified random sample of 15,360 10th-grade students in 750 public and private US schools in spring 2002 (see Ingels et al., 2014). This study used the base-year survey, a follow-up survey of the original sample fielded in 2004 (12th grade), and high school transcript data collected by ELS:2002 personnel from respondents' schools. Access to restricted data, including transcripts, was licensed by the Institute of Education Sciences. Because some variables contained non-trivial levels of missing responses, and because listwise deletion may have compromised the integrity of the dataset, Amelia II, a multiple imputation program, imputed iterations of the dataset for final analysis (Honaker & King, 2010).

Outcome Measures. Journalism participation. To take advantage of the longitudinal nature of the data, this study used base-year measures (9th- and 10th-grade data) as predictors of curricular journalism participation in the 11th and/or 12th grades, and extracurricular journalism participation in the 12th grade. These measures were constructed from survey and transcript data to be mutually exclusive, using the following procedure. The follow-up survey, administered during the 12th grade, included a question indicating participation in "school yearbook or

newspaper.” Because the original responses to this question included reports based on for-credit and extracurricular participation, the original values were recoded to “no” when transcript data indicated 12th-grade participation in for-credit journalism. This resulted in an outcome measure indicating only non-curricular journalism participation in the 12th grade. Based on transcript data, the other outcome measure was a dichotomous variable that indicated earning any journalism credit in grades 11–12. Table 1 presents descriptive statistics for all variables, including means adjusted for panel nonresponse using an ELS:2002-supplied weight.

[Insert Table 1]

Independent Measures. *English self-efficacy and achievement.* ELS:2002 personnel constructed “English self-efficacy” from five items indicating how frequently respondents understood difficult English texts and class, excelled on English assignments and tests, and mastered English class skills. “English GPA” was computed from grade 9–10 transcript data. English courses included titles such as literature, composition, reading, and grammar.

Attachment. “School activities” was the number of non-athletic and non-journalism school activities in which respondents participated in the 10th grade (i.e., band, chorus, theater, musical, student government, honor society, service club, hobby club, vocational club). “School sports” indicated the number of interscholastic sports in which respondents participated in the 10th grade.

Demographics. In the statistical models, the demographic variables were gender (1 = female), dichotomized race/ethnicity (1 = white, non-Hispanic), and socioeconomic status (SES). The sample was 51% female and 49% male. In terms of race, 60% of the respondents were white, 14% were black, 4% were Asian, 4% were multiracial, 1% were American Indian; 16% had a Hispanic ethnicity. SES was a standardized variable constructed by ELS:2002 personnel

from parent-reported indicators of household income, parents' education, and parents' occupations. Continuous independent variables were centered and normalized to facilitate comparisons across variables in the regression models.

Control Measures. *Overall achievement.* "Standardized test" was the score of a reading and math assessment in the base-year survey. Respondents answered reproduction, comprehension, and inference questions based on literary and scientific passages, and answered math knowledge, understanding, and problem solving questions (Ingels et al., 2004).

Prior journalism. Dichotomous variables indicated for-credit participation in high school journalism in grades 9–10, and in extracurricular journalism in the 10th grade.

School-level variables. Because ELS:2002 used a clustered random sample, two school-level variables controlled for the potential influence of school characteristics. A dichotomous variable indicated the school sector (1 = public school). A "school SES" variable was the mean SES among each school's respondents (e.g., Engberg & Wolniak, 2010).

Diagnostic Tests. There were substantial correlations between English GPA and the standardized test score ($r = .47$), between individual SES and the standardized test score ($r = .45$). To assess whether multicollinearity was an issue, we computed variance inflation factors (VIFs) for both models using ordinary least-square regression. VIFs were < 1.70 , below the threshold of 5 at which multicollinearity is considered problematic (Hair, Black, Babin, & Anderson, 2009).

Because ELS:2002 comprised nested data (individual students clustered within schools) (Hayes, 2006), we assessed the appropriateness of the multilevel regression approach for both models presented in Table 2. The between-schools variance components were statistically significant (σ^2 range: .48–1.00), justifying the multilevel approach.

Results

Approximately 1 in 10 students in US secondary schools (8.47%) earned credit in a journalism or publications class in grades 11–12. Another 9.53% participated in extracurricular newspaper or yearbook in the 12th grade. In presenting the results of our predictions about these student journalists' academic and demographic attributes, we first discuss each independent variable's weighted mean among for-credit journalists (M_{credit}), extracurricular journalists (M_{extra}), and non-journalists. Figure 1 illustrates these means. We then discuss how the variable was related to the outcome variable in the regression model. Table 2 presents the regression model. We use odds ratios (ORs) to interpret regression coefficients.

[Insert Table 2]

[Insert Figure 1]

Addressing H1(a), students who participated in either for-credit or extracurricular journalism programs in grades 11 or 12 had higher English self-efficacy in the 10th grade ($M_{\text{credit}} = .14$; $M_{\text{extra}} = .20$), than non-journalists ($M = .01$). To interpret these means, because the grand mean is 0 and the standard deviation is 1, $M = .14$ indicates .14 of a standard deviation above the overall mean for this variable. According to the regression model, a one standard-deviation (1 SD) increase in 10th-grade English self-efficacy was associated with a 9% increase in the odds of taking journalism for credit (OR = 1.09), and with a 12% increase in the odds of participating in extracurricular journalism later in high school (OR = 1.12). These results supported H1(a).

Students who participated in journalism in the 11th or 12th grades had higher 10th-grade English GPAs ($M_{\text{credit}} = .39$; $M_{\text{extra}} = .19$), than non-journalists ($M = .07$). A 1-SD increase in 10th-grade English GPA was associated with a 33% increase in the odds of taking journalism for credit later in high school (OR = 1.33). Once all of the correlates were accounted for in the

regression model, English GPA did not predict extracurricular journalism participation.

Therefore, H1(b) was supported only for for-credit journalism, not for extracurricular journalism.

Students who participated in journalism in the 11th or 12th grade were involved in more non-athletic school activities in the 10th grade ($M_{\text{credit}} = .20$; $M_{\text{extra}} = .33$) than students who did not participate in journalism ($M = -.01$). In the regression model with covariates accounted for, however, engagement in additional non-athletic activities did not predict for-credit journalism in the 11th or 12th grade. It did predict extracurricular journalism in the 12th grade, however. A 1-SD increase in non-athletic activities in the 10th grade was related to a 16% increase in the likelihood of doing extracurricular journalism in the 12th grade ($OR = 1.16$). In terms of athletic activities, students who participated in journalism in the 11th or 12th grade appeared to be involved in more athletic activities in the 10th grade ($M_{\text{credit}} = .08$; $M_{\text{extra}} = .20$) than non-journalists ($M = 0$). The regression model did not support the notion that participation in sports was related to for-credit journalism participation, but it did show that participation in sports was related to extracurricular journalism participation ($OR = 1.10$). In all, H1(c) was only supported for extracurricular journalism.

Addressing RQ1, female students comprised 68% of those who took journalism in the 11th or 12th grade, and 59% of those who participated in extracurricular journalism. Accounting for the other variables in the regression models, female students were more than twice as likely as male students to take for-credit journalism in the 11th or 12th grade ($OR = 2.02$), and 45% more likely to participate in extracurricular journalism in the 12th grade ($OR = 1.45$).

Those who took for-credit journalism in 11th or 12th grade were 70% white, 12% Hispanic, 10% black, 4% Asian, 3% multiracial, and 1% American Indian. Those who participated in extracurricular journalism in the 12th grade were 61% white, 16% black, 14%

Hispanic, 5% Asian, 4% multiracial, and 1% American Indian. Accounting for controls, white students were 45% more likely than non-white students to take for-credit journalism in the 11th or 12th grade (OR = 1.45), but were 16% less likely than non-white students to participate in extracurricular journalism in the 12th grade (OR = .84).

Having a higher socioeconomic background was associated with a higher likelihood of participating in extracurricular journalism (OR = 1.10), but not with for-credit journalism. In sum, gender, ethnicity, and socioeconomics relate to journalism participation, with gender predicting both curricular and extracurricular journalism participation.

With respect to RQ2, students who take for-credit journalism differ from students who participate in extracurricular journalism. For-credit journalism participation may be motivated by academics: Curricular journalists have a higher English self-efficacy and higher English GPA. Those who participate in extracurricular journalism may be motivated by school involvement: They have a higher English self-efficacy and are more involved in non-athletic activities in their schools. The for-credit and extracurricular student profiles also differ demographically. For-credit journalists are more likely to be white; extracurricular journalists are less likely to be white but more likely to have a higher socioeconomic background.

Discussion

Socioeconomic and ethnic backgrounds, and the aptitudes that students exhibit early in their schooling, often determine the academic tracks they follow throughout their academic careers, including the classes they take and the activities in which they participate (Lucas, 1999; Schmidt & McKnight, 2012). As a result of this stratification and selection, academic achievement often is a reflection of students' backgrounds and the academic aptitudes they cultivate within the boundaries of their respective academic tracks (Oakes & Lipton, 1990).

Using a large, nationally representative, longitudinal dataset, this study illustrates that journalism participation likewise is related to students' academic and demographic backgrounds. Because students who end up participating in journalism start out being academically and demographically different than their peers who do not engage in journalism, it is likely that academic stratification and selection funnel some students but not others into journalism programs.

This study thus clarifies and augments the “journalism kids do better” claim (Dvorak et al., 1994). The study shows that those students who end up taking journalism as a for-credit class, on average, are more confident in their abilities and performance in English and enjoy greater achievement in English. Those who participate in extracurricular journalism also have higher English self-efficacy—although this is not reflected in higher scores on English achievement—and are more invested than non-journalists in the lives of their schools. Each of these attributes characterizes students who, in general, perform better academically. Students with greater academic self-efficacy follow more ambitious academic pathways (Pajares & Schunk, 2001; Schunk & Mullen, 2012). Students who succeed in class subsequently score better on standardized tests and enroll in college (Geiser & Studley, 2004). Students who are involved and exhibit more positive attachment to school also enjoy higher academic achievement (Feldman & Matjasko, 2005; Voelkl, 2012). In all, the study's findings indicate that future assessments of journalism's contribution to academic achievement should account for students' pre-journalism characteristics.

Student journalists are not only academically but also demographically distinct from their peers, which underscores further journalists' increased likelihood of better academic performance independent of journalism. First, female students are overrepresented among high

school journalists. This by itself increases the likelihood that journalists will score higher overall on English assessments because female students tend to perform better on standardized tests of English-based skills than male students (Feingold, 1988; Pope & Sydnor, 2010). Second, white students are overrepresented among curricular journalists while non-white and more affluent students tend to be overrepresented among extracurricular journalists. Students from more affluent backgrounds, which often correlate with race and ethnicity, tend to perform better than their less affluent peers on standardized tests and college attendance (Sackett et al., 2009; Carnevale & Rose, 2003).

The reasons for these demographic patterns deserve further exploration. It is possible that minority students do not perceive journalism education to be meant for them. Research has suggested that college journalism education has a bias toward a middle-class white experience (Alemán, 2014). At the high school level, Marchi (2012) likewise found minority students express disillusionment with mainstream media that failed to follow through on ideals of fairness and objectivity. These students, however, felt empowered by “community-oriented” journalism that tackled real-world issues rather than school events, suggesting that journalism education may need a re-focusing to resonate with minority students. Structural factors also may be at play. Schools with higher minority populations are less likely to offer all forms of student media except for television (Bobkowski, Goodman, & Bowen, 2012), and it may be that students of color choose extracurricular journalism activities because that is what is available to them.

While our study finds that it is higher-ability and higher-involvement students who tend to participate in journalism, it is possible, of course, that these students’ academic trajectories do benefit from their participation in journalism. Future research should be directed at assessing whether this is the case. This study does challenge researchers who undertake this work to better

conceptualize and measure journalism's potential contribution to academic achievement. Given this study's findings, a key theoretical question that future researchers will need to address is: Why would participation in scholastic journalism contribute to academic achievement over and above the positive influence of student journalists' academic and demographic backgrounds? Future researchers also may need to derive more precise ways of assessing journalism's unique academic contributions than the broad standardized test scores employed in previous studies (Bruschke & George, 1999; Dvorak, Bowen, & Choi, 2009; Dvorak & Choi, 2009). Such new measures may, perhaps, focus on the skills that journalism strengthens directly and uniquely.

This challenge—that journalism researchers conceptualize and operationalize more specifically than prior studies the *why* and *how* of journalism's contribution to academic achievement—reaches beyond the scholastic journalism subspecialty. Journalism education research in general may benefit from better theoretical grounding and from more detailed measurement of how journalism benefits those who train to practice it.

This study also contributes to a more comprehensive understanding than prior work of the distinction between for-credit and extracurricular journalism. While Dvorak et al. (1994) found that students rated for-credit classes as more effective than extracurricular journalism, our study suggests that different students take for-credit versus extracurricular journalism. This, combined with the possibility that the educational experiences of students in for-credit journalism classes may differ from those of students in extracurricular classes, may mean that the academic benefit of for-credit journalism differs substantially from the academic benefit of extracurricular journalism. Future comparative research may examine these two modes of journalism education.

The use of simple dichotomous outcome measures of journalism participation limited the extent to which this study represented journalism in US high schools. Schools with robust programs offer a variety of journalism classes and specializations (e.g., journalistic writing, newspaper, yearbook, advanced journalism), and the transcript data contained some information about such classes. Two reasons guided our choice of the dichotomous outcome variables in place of more complex measures. First, ELS:2002 contained a dichotomous measure of participating in “newspaper or yearbook,” which we transformed into the extracurricular outcome variable. We aimed for the curricular measure to match the extracurricular one. Second, there is little standardization in journalism offerings across schools. The dichotomous variable efficiently captured the idiosyncratic combinations of classes that schools offer and students pursue. The study thus mirrored prior scholastic journalism research that used dichotomous variables indicating *any* journalism participation in high school (Dvorak et al., 1994, 2009).

We derive a key practical implication for journalism educators and high school journalism advocates. The study’s findings show that journalism education is not egalitarian. While we do not inquire into *how* selection into high school journalism happens, the study challenges journalism educators and leaders to make journalism more accessible to students who do not exhibit the academic characteristics and do not come from the demographic locales that tend to propel students into journalism education. Journalism clearly can benefit students outside the academic elites. For example, because journalism can stimulate engagement in school and positive attachment to school (Clark & Monserrate, 2011; Finn, 1989), perhaps the precepts of journalism education can be adapted in interventions with students at risk for dropping out. Researchers and educators may examine and work to modify the current school structures that

support unequitable selection into journalism, thus opening up journalism to be more than an enrichment program for students who do well in English.

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

	Min	Max	Mean	SE	Unweighted N
Outcome variables					
For-credit journalism (11th / 12th grade)	0	1	.09	< .01	14,810
Extracurricular journalism (12th grade)	0	1	.10	< .01	13,580
Independent variables					
English self-efficacy	-4.2	3.6	0	.01	14,810
English GPA 9-10	-2.5	1.4	0	.02	14,810
<i>Attachment</i>					
School activities (10th grade)	-.7	5.8	0	.02	14,810
School sports (10th grade)	-.8	4.5	0	.02	14,810
<i>Demographics</i>					
Female	0	1	.51	.01	14,810
White	0	1	.60	.01	14,810
SES	-3.1	3.2	0	.02	14,810
Control variables					
Standardized test	-3.0	3.1	0	.02	14,730
Prior journalism (for-credit)	0	1	.03	< .01	14,810
Prior journalism (extracurricular)	0	1	.10	.09	13,580

Source: Education Longitudinal Study of 2002, Restricted Data.

Table 2

Logistic regression estimates predicting participating in for-credit and extracurricular journalism, as a function of individual- and school-level correlates.

		For-credit journalism (11th and/or 12th grade)		Extracurricular journalism (12th grade)	
		<i>B</i> (<i>SE</i>)	<i>p</i>	<i>B</i> (<i>SE</i>)	<i>p</i>
Individual level					
English self-efficacy		.09 (.04)	.023	.11 (.04)	.002
English GPA 9-10		.28 (.05)	< .001	-.01 (.04)	.778
Attachment	School activities	.04 (.04)	.326	.15 (.03)	< .001
	School sports	.07 (.04)	.073	.09 (.03)	.004
Demographics	Female	.70 (.08)	< .001	.37 (.07)	< .001
	White	.37 (.09)	< .001	-.18 (.08)	.049
	SES	.05 (.04)	.294	.09 (.04)	.026
Control measures					
Standardized test		.01 (.05)	.951	.09 (.05)	.049
Prior journalism	For-credit	2.01 (.13)	< .001	.43 (.17)	.011
	Extracurricular	.70 (.14)	< .001	1.44 (.10)	< .001
School level					
Public school		-.52 (.16)	.001	-.74 (.12)	< .001
School SES		-.14 (.12)	.223	-.14 (.10)	.152
Intercept		-3.06 (.16)	< .001	-2.25 (.12)	< .001
School-level variance		1.05 (.12)		.67 (.09)	
Wald χ^2 (<i>df</i> = 10)		506.20	< .001	473.16	< .001
<i>N</i> _{students}		11,030		12,050	
<i>N</i> _{schools}		580 [†]		740	

Source: Education Longitudinal Study of 2002, Restricted Data. *Note:* Because the dependent variables were mutually exclusive, the for-credit journalism model does not include respondents who participated in extracurricular journalism and vice versa.

[†] Includes only schools with journalism in the curriculum.

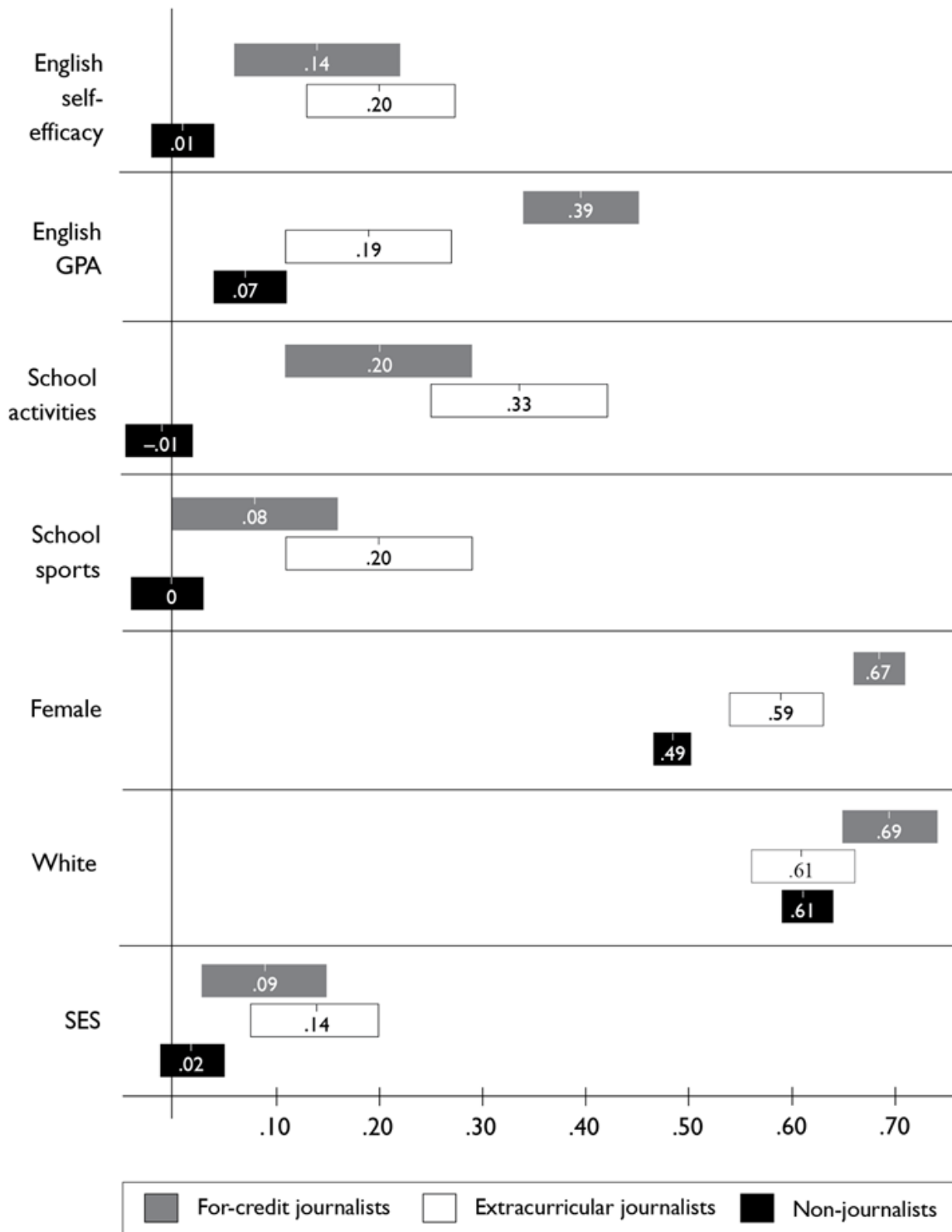


Figure 1

Means and 95% confidence intervals (illustrated by rectangle widths) of independent variables by participation in journalism.