



Digital Media Literacy Education and Online Civic and Political Participation



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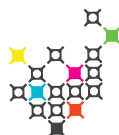
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Digital Media Literacy Education and Online Civic and Political Participation

There is a stark contrast between youths' participation with new media and their civic and political participation. Judged by traditional standards, levels of youth civic and political commitment, capacity, and activity are the lowest of all demographic groups and until recently have been declining (Macedo et al., 2005). At the same time, youth are highly engaged with digital media, such as social media, blogging, video games, and smart phones (see, e.g., Lenhart. et al., 2010; Kahne, Middaugh, & Evans, 2008). Youth, in fact, are frequently the generation that is closest to innovation (Krueger, 2002; Mossberger, Tolbert, & McNeal, 2008).

Engagement with new media has the potential to help strengthen young people's participation in civic and political life. Educators, policymakers, foundations, and others are considering ways to develop desirable bridges between these two domains (for examples, see the National Broadband Plan, the Center for Media Literacy, and the National Association for Media Literacy Education). The present study represents one of the first efforts to assess quantitatively how frequently digital media literacy education occurs in U.S. high schools and whether it can increase the likelihood that youth will engage with digital media in ways that promote the quantity, quality, and equality of online civic and political participation.

Media literacy can be defined as “the ability to access, analyze, evaluate, and create messages in a variety of forms” (Aufderheide & Firestone, 1993, p. 7). It describes a set of capacities related to media consumption and creation that one can acquire. *Digital media literacy* extends the traditional understanding of media literacy to include new skills that are required to navigate today's new media environment and includes creative production and instruction on how to evaluate and use information critically (Buckingham, 2003; Jenkins, 2006).

The importance of digital media literacy in relation to civic and political life can be manifold. Digital media technologies are now a central component of civic and political life, especially for young people. For example, Kohut (2008) found that 37% of those ages 18–24 got campaign information during

the 2008 presidential election from social networking sites (more than did so from newspapers). Only 4% of those 30–39 did so and for older adults the numbers drop still further. Similarly, 41% of those 18–29 went online during the campaign to see candidate interviews, debates, speeches, or commercials (Kohut, 2008). Countless Web sites provide information on political and social issues, blogs provide exposure to varied perspectives, and a growing sector of video games create simulations of civic action and political life. These games expose players to a host of social issues such as global hunger, animal rights, the environment, immigration, and urban development (see <http://www.gamesforchange.org>). Moreover, youth need not be passive consumers in relation to issues about which they care. Digital media provide many ways for youth to voice their perspectives, share information, contact officials, create artistic statements related to civic and political issues, and to mobilize others (Benkler, 2007; Jenkins, 2007; Shirky, 2008).

But not all youth are tapping this potential. While some view youth as being “digital natives” (Tapscott, 1997), studies have demonstrated that this title does not apply to all youth (Hargittai, 2010). Digital media skills are unevenly distributed with those from privileged backgrounds demonstrating higher-level know-how, compared to those from lower socioeconomic status (Hargittai, 2003, 2010; Norris, 2001).

Can digital media literacy education strengthen the bridge between new media activity and civic and political engagement?

Unfortunately, even though many states, schools, and organizations have signed on to advance media literacy education in our schools (see Hobbs, 2004, for a summary of such initiatives), very little empirical research on the effectiveness of media literacy education has been published (David, 2009; Hobbs, 2004). Indeed, we could not find a single quantitative assessment of media literacy education among high school students in the United States that measured its frequency or examined its impact on online civic and political engagement. In the one study we found, Mihailidis (2009) looked at civic learning outcomes among undergraduates at the University of Maryland. His quasi-experimental study of 239 students found that those

enrolled in a media literacy course increased their ability to comprehend, evaluate, and analyze media messages. At the same time, his findings suggest that these courses promoted negativity and cynicism about the news media and that more could be done to promote active citizenship.

There are also very few empirical studies of the broader impact of media literacy courses (see Hobbs & Frost, 2003). Conceptual work in this area is more common. Jenkins (2006) argues that increased digital media literacy education has the potential to close the digital media “participation gap”—the variation in engagement with digital media (Hargittai & Walejko 2008) —among youth by providing the skills and opportunities that will enable active participation in the public sphere. Other work suggests that many more traditionally conceived literacy skills, such as interpersonal skills and strategic planning, can be effectively taught through digital media because of youth’s familiarity and regular use of new media (Buckingham, 2003). Buckingham, Jenkins, and many others also express the need for critical media literacy skills; youth need support in learning how to effectively judge the credibility of what they find online and how to identify and compare various ideological and political messages.

In short, there are many ways that digital media literacy might strengthen the bridge between youth, new media, and civic and political life. Our analysis provides empirical evidence that can speak to several of these possibilities. Specifically, we aim to address the following questions.

1. How frequently do youth experience digital media education in school contexts?
2. Can digital media literacy education foster online political participation?
3. Can digital media literacy education promote exposure to diverse viewpoints?
4. Might digital media literacy education promote more (or less) equitable civic and political engagement?

Below, we outline our reasons for interest in these questions. We then describe our methods, discuss our findings, and detail some implications.

Rationales for our research questions:

Question 1: How frequently do youth experience digital media education in school contexts?

In their handbook chapter, Brown and Schwarz (2008) write, “The state of critical media literacy in U.S. secondary schools is difficult to determine” (p.483). There are no nationally representative studies on which to draw. In fact, there are no large-scale surveys at all that assess the frequency of digital media literacy education in K-12 schools. Knowledge of the frequency of such practices is needed if we are to consider both the potential significance of current practices and directions for policy and practice.

Question #2: Can digital media literacy education foster more online political participation?

Increasing youth’s online engagement with civic and political life is generally viewed as desirable. Currently, youth report low levels of civic commitment, capacity, and engagement. In 2008, 55% of those under 30 were judged to be “disengaged” in a report by the National Conference on Citizenship. Moreover, on the National Assessment of Educational Progress (NAEP) exam in civics, which assesses knowledge of key terms and government structures as well as interpretive skills, 34% of high school seniors failed to achieve a “basic” level of competency (NAEP, 2006). Only 9% of high school seniors taking the exam could list two ways a democratic society benefits from citizen participation (NAEP, 1998).

New and traditional media provide many opportunities to learn about and discuss civic and political issues. Digital media literacy education may expand the degree to which youth tap the affordances of the Web to engage in civic and political activities online (such as seeking out information or engaging in dialogue on civic and political topics) that will help offset generally low levels of youth civic and political engagement by boosting both online and offline engagement. In addition, studies show that when youth and adults seek out information and participate in discussions online, it increases their overall levels of civic acts, such as raising money for charity or

volunteering, as well as political acts, such as working on a campaign, attending a political speech, or voting (McLeod, Kosicki, & McLeod, 2009; Mossberger, Tolbert, & McNeal, 2008; Shah, McLeod, & Lee, 2009).

Question #3: Can digital media literacy education promote more exposure to a diverse array of perspectives?

It is also worth exploring whether digital media literacy education can promote exposure to a diverse array of perspectives. In particular, many scholars have expressed the concern that online discussions of societal issues can become echo-chambers where individuals are primarily exposed to and interact with those who share their ideological viewpoints (Sunstein, 2001). There is often value in engaging with those who share one's views. Such experiences can promote greater civic and political participation and a deeper and often more conceptually coherent understanding of one's perspective (Mutz, 2006; Jamieson & Cappella, 2008). However, a rich tradition in political theory also details the benefits of exposure to divergent viewpoints. Such practices have been viewed as a means of promoting reflection, of reaching a better understanding of complex issues, and of developing a deeper appreciation of other's viewpoints (Arendt, 1968; Habermas, 1989; Mill, 1956). Empirical studies have also found that exposure to divergent viewpoints can enhance individual's knowledge of actual public opinions, tolerance, and their sense of the legitimacy of democratic outcomes (See Brundidge & Rice, 2009, for a review). Integrating these two priorities, we examine youth's exposure to diverse perspectives—those that align with their views and those that diverge. The value of such dual exposure was detailed by John Dewey (1916) who argued that the strength of a democratic community could be assessed by the number of interests that were consciously shared and by the level of full and free interplay with those who hold alternative perspectives.

Question 4: Can digital media literacy education promote more equitable civic and political engagement?

Not only are levels of civic and political participation low, they are alarmingly unequal. For example, young people with more education are far more likely to vote than their lesser-educated counterparts (CIRCLE, 2008, p. 1). Similarly, compared to those who have no college experience, those 25 or older who have a BA are more likely to report working with others on a community problem (45% vs. 32%), meeting to discuss community issues (45% vs. 21%), and volunteering in the past year (72% vs. 43%) (National Conference on Citizenship, 2008). There are also disparities associated with socioeconomic status (SES). Roughly 75% of those in the top 20% on measures of SES participate in offline political activity, while the percentage drops to about 32% for those in the bottom 20%. These disparities are also apparent online. While 65% in the top quintile report engaging in one of five online political activities, only 10% of those in the bottom quintile made the same claim (Schlozman, Verba, & Brady, 2009).¹

Since digital media literacy education aims to influence online civic and political engagement, it is important to assess whether different demographic groups receive more or fewer of these opportunities. If the provision of digital media literacy education is inequitably distributed, it might reinforce already existing inequalities. For similar reasons, it is important to examine whether those who are more interested in civic and political issues receive more of these opportunities.

Methods

Data

Our exploration of these questions draws on two sets of panel data. The first panel consists of 502 California high school students who were surveyed in 2006 when they were in their junior year and then were resurveyed a year later in their senior year (henceforth, panel 1). Students for this panel came from seven high schools. The districts and schools were purposively selected to ensure a diverse range of demographic and academic characteristics. The

¹ Interestingly, the difference between those who had attended college and those who had not diminished markedly when it came to posting political material on blogs or engaging politically on social networking sites. While it was 28% for overall political activity, it was only 7% for these activities. (Smith, Schlozman, Verba, & Brady, 2009).

percentage of students receiving a free or reduced-price lunch varied widely across schools, from 1% to 83%. In addition, the sampled schools reported average Academic Performance Index (API)² scores ranging from the bottom 20% to the top 10% of all the high schools in California. Of those students who identified their ethnicity, 36.7% were white, 30.8% were Asian American, 18.2% were Latino, and 7.6% were African American.

The second panel includes 435 respondents who were initially surveyed in their high school junior or senior years and resurveyed in 2009 after the 2008 presidential election (hereafter, panel 2). These students came from one of 21 different school districts in California. This sample of schools covers schools that enroll mostly white students (19.0%), ones that enroll predominantly students of color (42.9%), and ones that are racially mixed (38.1%). The percentages of students receiving a free or reduced-price lunch also varied widely across schools from 0% to 92%. In addition, the sampled schools reported average API scores from the bottom 10% up to the top 10% of all the high schools in California. The selection of diverse schools was reflected in the racial makeup of the high school students that participated in our survey. Of those students who identified their ethnicity, 22.0% were white, 27.2% were Asian American, 38.5% were Latino, and 5.5% were African American.

To minimize selection bias, we surveyed entire classes of juniors and seniors during class time. Selection of these classes was based on class schedules and the availability of the computer lab where the surveys took place. We did not select classes based on students' experiences of digital media literacy education or on their exposure to new media in general.

We believe this data set is quite unique. Indeed, we know of no other panel survey of a broad and diverse sample of youth that examines a range of digital media practices that are likely supports for civic and political engagement and opportunities for digital media literacy education.

Measurement

² The API is a single-number summary of scores on several standardized tests, including in math, language arts, and science.

Three groups of variables were created from the two sets of our panel data: (a) indicators of new media engagement (outcome variables), (b) measures of digital media literacy education, and (c) control variables.

Outcome Variables

We examined three dependent variables: politically driven online participation, online exposure to diverse perspectives, and interest-driven online participation.

Politically driven new media participation was comprised of three questions gauging, on a six-point scale, how often respondents (a) used blogs or social networking sites to share or discuss perspectives on social and political issues, (b) used the Internet to get information about political or social issues, and (c) used e-mail to communicate with others who are working on a political or social issue. We averaged the three scores to construct an index of politically driven new media participation. Reliability estimates (Cronbach's α) for this measure on the pre- and post-surveys ranged from .72 to .82.

Exposure to divergent perspectives was measured by the degrees of agreement with the following four statements:

- (a) I've gotten new perspectives on societal issues because of my online activities.
- (b) I've had online conversations with people who have different values or political views than I do.
- (c) I've been able to connect with people who care about the same things that I do through the Internet.
- (d) I've been able to connect with people who share my views about ways to create a better world through the Internet.

Results from exploratory factor analysis clearly indicate that these items all load on one factor. As a result of online activities, few individuals are only exposed to perspectives with which they agree or only to perspectives with which they disagree (for a related finding, see Gentzkow and Shapiro, 2010). Individuals tend either to experience both sets of perspectives or they

experience neither. Reliability estimates (Cronbach's α) for this measure on pre- and post-surveys ranged from .82 to .86.

Digital Media Literacy Education

In this study, we are particularly interested in forms of digital media literacy education that might support online civic and political engagement, as broadly conceived. In an effort to assess the opportunities students had for varied features of digital media literacy education, we asked four questions on our survey. These items do not provide a nuanced picture of educational practice, but we believe they do provide a sense of the support students received in their classrooms.

Table 1

Frequency Distributions of Digital Media Literacy Education Items

Items: In my classes...	Response categories			
	Never	Sometimes	Often	Very often
	<u>High school panel, % (N = 490)</u>			
...we learned how to assess the trustworthiness of information we find on the Web.	18.0	41.5	27.4	13.1
...we were required to use the Internet to get information about political or social issues.	10.9	32.3	30.5	26.3
...we were required to use the Internet to find different points of view about political or social issues.	13.9	34.3	28.2	23.5
...we were given an assignment where we had to create something to put on the Web.	66.5	18.7	9.0	5.9
	<u>Post-high school panel, % (N = 226)</u>			
...we learned how to assess the trustworthiness of information we find on the Web.	8.9	7.1	43.4	40.7
...we were required to use the Internet to get information about political or social issues.	13.7	11.1	38.5	36.7

...we were required to use the Internet to find different points of view about political or social issues.	20.8	10.6	35.8	32.7
...we were given an assignment where we had to create something to put on the Web.	65.0	12.8	10.6	11.5

Students were asked how often in their classes they (a) had learned how to assess the trustworthiness of online information, (b) were required to use the Internet to get information about political or social issues, (c) were required to use the Internet to find different points of view about political or social issues, and (d) were given an assignment where they had to create something to put on the Web. All these items were assessed during the second wave of each panel. For the post-high school panel, these questions were not asked of those who were not enrolled in an educational institution. Table 1 provides detailed information on the frequency distribution of the responses to each question. An index for digital media literacy instructions was created by averaging four scores (panel 1, $\alpha = .75$; panel 2, $\alpha = .82$).

Control Variables

We employed extensive controls to isolate the effects of our independent variables. Specifically, we controlled for general uses of new media and for background variables that prior research had indicated might influence our dependent variables. In particular, we controlled for students' gender and race (Burns, Schlozman, & Verba, 2001; Marcelo, Lopez, & Kirby, 2007) and for intention to enroll in college and grade point average (GPA). We also employed three variables to isolate the effects stemming from political orientation. This focus reflects research that has documented a significant relationship between the strength of political ideology and political interest with various types of political activities (Verba & Nie, 1972; Rosenstone & Hansen, 1993). We assessed "political ideology" on a scale ranging from "very liberal" (1) to "very conservative" (5). To measure the "strength of political ideology," we folded over the political ideology measure and took the absolute value so our measure ranged from "middle of the road"

(0) to “very liberal or very conservative” (2). We also assessed political interest on a standard five-point scale. In addition, we controlled for discussion between parents and youth in order to take into account influences from parents and family environments (see Andolina et al., 2003; Torney-Purta et al., 2001).

General uses of new media. One potentially confounding factor in our examination of the influence of digital media literacy education on digital media engagement is the possibility that the relationship might be spurious, resulting simply from the levels of general new media usage. In other words, those who are active users of new media in general might seek new media-related education and also actively engage in interest-driven and politically driven activities. To control for this possibility, we included four control variables addressing diverse aspects of new media use other than interest-driven and politically driven online activities.

First, we took into account the amount of time the respondents spent online as a general measure of Internet use. Time spent online was only assessed in panel 1. Second, we included two items measuring people’s use of new media for communicating and socializing with those around them (i.e., friends, family, and acquaintances). We used two items assessing how often the respondents (a) used e-mail, text messaging, or instant messenger to communicate with friends or family; and (b) used blogs, diary, or social networking sites (like MySpace) to socialize with people (“friends, family, or people you’ve met online”). Both of these two items were assessed on a six-point scale and were correlated with each other modestly at $r = .32$. Finally, since literature has indicated that there may be a relationship between some forms of video game play and civic outcomes (Kahne, Middaugh, & Evans, 2008; Williams, 2006) we included a measure of video game play to control for the impact of this form of online activity. Gaming was measured by a single item asking how often the respondents played games on a computer, a console, or a handheld device.

Analytic Strategy

To take advantage of our panel data, we used a lagged dependent variable regression analysis, which included prior values of the outcome variable as an independent control variable. By taking into account lagged values of our outcome variables, this kind of panel model predicts the level of a given outcome variable at time 2 while controlling for the value of that outcome at time 1. This model provides unbiased estimates of the effects of digital media literacy education on new media engagement by adjusting any initial differences in the outcome variables that might exist between those who were already active online and those who were not (Finkel, 1995; Halaby, 2004).

One shortcoming of our survey in relation to this analytic strategy should be mentioned. Our outcome variables measure the total amount of time youth spent doing these various activities. Thus, teacher assignments that require engaging in these activities may be included in youth assessments of the time they had spent doing these activities and this in turn may inflate the relationship between digital media literacy education and various online civic and political activities.

Results and Discussion

1. Opportunities for digital media literacy education are common, though not universal.

At both the high school and college levels, we found that many youth receive various forms of digital media literacy education (see table 1). Between 40% and 57% of youth in high school said they had each of the three educational opportunities associated with consumption of online civic and political information “often” or “very often.” Less than 20% reported “never” having such opportunities. These opportunities were more common at the college level, where between 68% and 81% reported receiving each of these same opportunities “often” or “very often.” Opportunities to create content for the Web were much less common. Only 15% of high school youth in our survey reported having this opportunity “often” or “very often,” and 66% reported “never” having this opportunity. Again, these opportunities were slightly more common for college youth with 22% receiving these opportunities “often” or

“very often.” While our survey is not nationally representative, it is of a broad and diverse sample. These results indicate that many youth are having these opportunities, but that they are far from universal. There is much room for growth in access to these opportunities.

II. Digital media literacy education can foster greater politically driven online participation.

Regressions, controlling for demographic factors, and prior levels of online politically driven participation indicate that digital media literacy education provided a significant boost to rates of online politically driven participation for both high school and college youth (see table 2). Indeed, as indicated by the standardized betas for these opportunities, digital media literacy education’s betas for the high school and college settings (.22 and .31) was almost as strong a predictor of online politically driven participation as the lagged value of the dependent variable (.28 and .35). Moreover, these betas were larger than for other factors such as family discussion of politics (.12 and not significant), strength of ideology (.11 and .11), and political interest (.09 and .20).

These findings indicate that when youth have opportunities to learn how to engage in online political activities, they become more likely to do so. In addition, since online participation is a support for offline participation as well, digital media literacy education may also support broader civic and political engagement.

Table 2

Results of Regression Models Predicting Politically Driven New Media Participation

High school panel

Post-high school panel

	Model 1		Model 2		Model 1		Model 2	
<u>Background variable</u>								
Female	-0.12	*	-0.12	*	-0.03		0.00	
Family discussion	0.18	***	0.12	**	0.08		0.08	
GPA	-0.03		-0.03		0.04		0.02	
Conservatism	-0.03		-0.02		-0.07		-0.09	#
Strength of political ideology	0.15	***	0.11	**	0.11	#	0.11	*
Aspiration for 4-year college	0.00		0.03		—		—	
African American	0.05		0.03		0.03		0.04	
Hispanic	0.06		0.05		0.09		0.10	#
Asian	0.14	**	0.11	*	0.08		0.08	
Political interest	0.14	**	0.09	*	0.28	***	0.20	***
<u>General uses of new media</u>								
Time spent online	0.03		0.00		—		—	
Use of e-mail/messenger/messaging	0.00		-0.01		-0.04		-0.03	
Use of blogs/social media for socializing	0.19	***	0.19	***	0.18	**	0.15	**
Frequency of video gaming	0.05		0.04		0.13	*	0.12	*
<u>Lagged values of outcome variables</u>								
Politically driven participation, wave 1	—		0.28	***	—		0.35	***
<u>Focal predictor variable</u>								
Digital media literacy education	0.25	***	0.22	***	0.40	***	0.31	***
R^2 (%)	31.7		38.2		39.0		49.3	
Observations	444		444		221		221	

Note. Standardized OLS regression coefficients are displayed. GPA, grade point average. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; # $p \leq .1$.

III. Digital media literacy education promotes the frequency of youth exposure to diverse viewpoints.

We found that digital media literacy education for high school and college youth promotes online exposure to diverse viewpoints (see table 3). The impact of these learning opportunities was relatively sizable. For both high school and college youth, the impact of digital media literacy education (.18 and .26) was slightly lower than the lagged value of the dependent variable (.27 and .27) and greater than that of the impact of political interest (.13 and .20), and family discussions of politics (.14 and .10). This finding is significant, as exposure to diverse views is believed to be a valuable support for the quality of a democratic society. In addition, as noted earlier, in a separate study (authors, forthcoming) we find that exposure to diverse perspectives promotes both civic and political engagement.

Table 3

Results of Regression Models Predicting Exposure to Diverse Perspectives

	High school panel		Post-high school panel	
	Model 1	Model 2	Model 1	Model 2
<u>Background variable</u>				
Female	-0.05	-0.06	-0.14 *	-0.12 #
Family discussion	0.17 ***	0.14 **	0.10	0.10
GPA	-0.06	-0.04	-0.02	0.00
Conservatism	-0.06	-0.05	-0.18 **	-0.17 **
Strength of political ideology	0.06	0.03	0.08	0.07
Aspiration for 4-year college	0.00	0.03	—	—
African American	0.04	0.03	-0.03	-0.02
Hispanic	-0.06	-0.07	0.00	0.00
Asian	0.11 *	0.07	0.22 **	0.16 *
Political interest	0.15 **	0.13 **	0.27 ***	0.20 **
<u>General uses of new media</u>				
Time spent online	0.16 ***	0.09 #	—	—
Use of e-mail/messenger/messaging	-0.01	-0.03	0.01	0.01
Use of blogs/social media for socializing	0.13 **	0.12 *	0.16 **	0.15 **
Frequency of video gaming	0.12 *	0.09 *	0.09	0.08

Lagged values of outcome variables

Exposure to diverse perspectives, wave 1	—		0.27	***	—		0.27	***
<u>Focal predictor variable</u>								
Digital media literacy education	0.17	***	0.18	***	0.27	***	0.26	***
R^2 (%)	29.6		35.5		33.1		39.7	
Observations	442		441		218		218	

Note. Standardized OLS regression coefficients are displayed. GPA, grade point average. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; # $p \leq .1$.

IV. The impact of digital media literacy education on civic and political inequality appears mixed.

Given our findings regarding the ability of digital media literacy education to promote desired forms of online practice, it is important to examine how equitably these opportunities are distributed.

Regression analysis of our data indicates that a student's race, gender, GPA, and intention to enroll in college do not appear to exert a sizable influence on the opportunities for digital media literacy education that students receive (see table 4).³ Political interest was not related to media literacy education in high school, but it was positively though modestly associated with the level of digital media literacy education in college settings. We suspect this was due to students' enhanced ability to select courses that match their interests while in college (those interested in politics take courses where political issues are explored online). Together, these individual background factors account for only 1.7% and 5.8% of the variation in experiencing digital media literacy education in high school and college

³ Interestingly, those with lower GPAs in high school reported receiving more of these opportunities (though the effect size was relatively small). Also, women report receiving slightly more of these opportunities in college. We are not sure why this is so, but it may be related to gender differences in college majors.

settings. The general lack of a relationship between demographic factors and opportunities for media literacy education contrasts favorably with the provision of many other school-based civic learning opportunities. As noted earlier, many school-based civic learning opportunities such as opportunities for service learning, classroom debates, or opportunities to participate in simulations are unequally distributed (Kahne & Middaugh, 2008). Higher achieving students, white students, and those in classrooms where the average SES is higher tend to receive far more of these opportunities. Unlike those findings, however, we did not see indications that opportunities for digital media literacy education are inequitably distributed in schools.

Table 4

Results of Regression Model Predicting Digital Media Literacy Education

	High school panel	Post-high school panel
<u>Background variables</u>		
Female	0.03	0.21 **
GPA	-0.12 *	0.01
Aspiration for 4-year college	0.01	—
African American	-0.04	0.04
Hispanic	-0.05	-0.01
Asian	0.01	0.09
Political interest, T1	0.07	0.14 *
R^2 (%)	1.7	5.8
Observations	475	225

Note. Standardized OLS regression coefficients are displayed. GPA, grade point average. ** $p \leq .01$; * $p \leq .05$.

One important exception must be highlighted, however. Currently, 71% of students nationally graduate on time from high school. In the nations' fifty largest cities, that rate drops to 53% (Swanson, 2009). Moreover, many high school graduates are not engaged in post-secondary education. Educational attainment is already a strong predictor of civic and political participation.

Since only those enrolled in school receive these media literacy opportunities, providing school-based digital media literacy education appears likely to exacerbate the gap in civic and political participation between those who stay in high school and attend college and those who do not.

Limitations

The study would be stronger if the sample was larger and was proportionally representative of the nation's students. As a result of these limitations, we do not use our data to characterize the frequency of varied media literacy opportunities in U.S. schools. In addition, this survey was designed to capture youth online participation both in school and out. Thus, our measure of politically driven online activity and of online exposure to diverse perspectives did not distinguish between activities that occurred in school and those that occurred out of school. Consequently, it is likely that some youth counted activities that occurred as part of media literacy education when describing their overall level of online activity. This likely inflated the relationships we found between digital media literacy education and the outcome variables we considered. Experimental studies designed to test the degree to which in-school opportunities promote out-of-school discretionary practices are clearly needed as are studies that test whether changes in youth practice that occur are sustained over time.

Implications

This is one of the first studies to assess quantitatively the frequency of digital media literacy education and its relationship to varied forms of online civic and political participation. We find that several forms of digital media literacy education are occurring within public schools in California. Although our sample is not representative of the state, it is diverse with students from a varied array of districts. It provides clear evidence that many youth are currently receiving these opportunities in both high school and college settings. These findings also demonstrate that there is substantial room to expand students' access to these opportunities.

Second, we find that digital media literacy education is associated with gains in the quantity of politically driven online activities and with higher levels of online exposure to diverse perspectives. The relationships we found were consistent and relatively sizable while controlling for a broad range of demographic factors and for prior levels of online activity. Thus, these data suggest that support and guidance may well help many youth when it comes to fully tapping the affordances of new digital media to enhance the quality and quantity of their online civic and political participation. As Hargittai (2003;2010) and others have demonstrated, not all youth are digital natives or fully engaged online. This study points to the potential value of educational initiatives.

A vast array of curricula can provide the kinds of opportunities we assessed in this study. There are many ways to help individuals judge the trustworthiness of online information and to find and analyze the differing perspectives on social issues they find online (for examples, see Project Look Sharp, at <http://www.ithaca.edu/looksharp/?action=main>, and the Salzburg Academy, at <http://www.salzburg.umd.edu/salzburg/new/media-literacy-curricula>). Given the potential benefits identified in this study, it makes sense for curriculum developers, policymakers, and educators to continue experimenting with and developing ways to provide these and related opportunities.

Such efforts will be aided by a deeper understanding of how and why digital media literacy education can promote desired practices. Educators would benefit from a fuller picture of effective ways to help students judge the trustworthiness of online information and to help students analyze the different perspectives on political and social issues they locate on the Web. Indeed, there is no doubt that more research is needed. Experimental and qualitative case studies of specific media literacy initiatives would be particularly valuable as a means of specifying impact and as a way of gaining a more detailed sense of best practice.

Finally, since so many valuable educational practices are inequitably distributed, it is striking that the digital media literacy opportunities we

identified were relatively equitably distributed among those enrolled in school. A core challenge for reformers is to expand the quantity and quality of these opportunities without contributing to their inequitable distribution. In addition to the challenge of coming up with more ways to introduce such programs in educational curricula, an additional significant part of this agenda requires identification of ways to promote digital media literacy education for youth who are not enrolled in high school or college.

In sum, the strong relationships we found are encouraging and argue for greater focus on the potential value of digital media literacy education as a support for the quality, quantity, and equality of civic and political engagement. Given that adolescent new media practices are youth directed and products of their preferences, some might assume that schools can do little to impact youth practices. To the contrary, our study indicates that schools may be able to promote desired practices in significant ways. It is important to examine these possibilities more fully with nationally representative data as well as with panel data and experimental studies in order to inform both policy and practice.

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