CHAPTER 16

Access, Skill, and Motivation in Online Political Discussion: Testing Cyberrealism

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Researchers, policy experts, and social activists employ the term *digital divide* to speak about an important concern—that new information and communication technologies (IT), particularly the Internet, might exacerbate existing social inequalities. Ultimately, the digital divide *is* the inequalities created by new information technologies. Because directly measuring such inequalities would be very challenging, research has generally focused on factors that inhibit the use of the Internet and thereby disadvantage various social groups. Digital divide research generally focuses on three broad factors: access, skill, and motivation. While access constitutes the chief focus of much research, skill and motivation are increasingly seen as a "second-level" digital divide that can disadvantage some groups even if they have access.

The notion of a "democratic digital divide" is about the more narrow concern that IT may aggravate political inequality—the unequal distribution of political power among population groups. Though political power is notoriously difficult to measure (Dahl 1961; Gaventa 1980), research can begin with an examination of the role of inequalities in access, skill, and motivation on the use of IT for political purposes. These factors can also shed light on subtle yet important features of the digital divide, such as motivational differences between online and offline political discussants.

Political inequality matters because, as Verba, Schlozman, and Brady (1995) show, there are high levels of demographic inequality in voting, donating money, and other types of political action in the United States. In addition, underlying political inequality are the low levels of political knowledge, sophistication, and participation of most Americans (Converse 1964; Gilens 2000; Kinder 1983, 2003; Luskin 1987; Neuman 1986; Putnam 2000). Low levels of knowledge and sophistication can result in poor public policy choices (Gilens 2000). Lack of participation can result in reduced community control over political institutions and public policy (Rothenberg 1992).

Norris (2001) has identified a variety of theoretical positions regarding the democratic digital divide. The cyberoptimist view holds that IT will appreciably reduce political inequality, ignorance, and apathy (Aikens 1996; Kirschner 1994; Rheingold 2000; Schwartz 1996). The cyberpessimist view suggests IT will further increase the influence and knowledge of the advantaged, exclude the disadvantaged, and introduce new possibilities of social control and manipulation by the powerful (McChesney, Wood, and Foster 1998; Schiller 1989). A cyberskeptic view suggests that political life with the Internet will be business as usual (Margolis and Resnick 2000; Webster 1995). In this view, the structural forces that make modern politics what it is do not change when people come online.

Finally, a cyberrealist view agrees that not much has visibly changed politically but that the new capacities created by the Internet represent a potential that can be tapped under the right circumstance and that do empower more peripheral groups (Bimber 1998, 2000; Norris 2001). By reducing the marginal cost of political information, communication, and organizing, at least the potential exists for IT to substantially mobilize political action. Structural factors resulting in a lack of political motivation prevent mobilization at the moment, but if an event of sufficient concern occurs, the Internet greatly increases the possibility of mobilization, as it already has in some countries (Watts 2003). Also, less visible forms of mobilization may occur, particularly of social movements comprising highly motivated people with nonmainstream political concerns. Finally, there may be subtle yet important effects of IT on political activity. For instance, political discussion online is often more public than in face-to-face settings, which may affect the motives and behavior of those involved.

This essay examines how the Internet affects one type of political activity—political discussion. Political discussion plays an important role in conveying political information, stimulating political participation, and helping people decide how to vote (Huckfeldt and Sprague 1991; Klofstad 2001; Lupia and McCubbins 1998). Thus, political discussion promotes both political action and political knowledge. This essay focuses on survey data from a random sample of a midsized American city, Pittsburgh, Pennsylvania, to clarify the relative roles of demographics, access, skill, and motivation in online and offline political discussion.

Findings support a cyberrealist perspective. A rather small percentage of all political discussion takes place on the Internet, which reduces the plausibility of the cyberoptimist perspective. Motivation matters almost as much as access, which also weakens optimism that eventual universal access will eliminate bars to online participation. Contrary to cyber-pessimists, demographics matter much less for online than offline discussion. A closer examination, however, reveals that much of the demographic difference is due to suppressed levels of participation by the educated and homeowners. Efforts to promote online discussion might introduce demographic disparities in online participation. These overall results are consistent with cyberskepticism—that on the whole IT makes little difference. They are also consistent with cyberrealism. The scales are tipped in favor of realism by evidence that there are important motivational differences between online and offline political discussants. Political interest proves crucial for offline but not for online discussion, which creates an opening for IT to mobilize people who are not normally active. Also, the patterns of motivation suggest online discussion may be more public and discomforting—attributes that raise the possibility of building a more vibrant public sphere online.

1. The Digital Divide: Access, Skill, and Motivation

Digital divide research usually focuses on three broad factors: access, skill, and motivation. Much research has focused on access to the Internet as an indicator of the digital divide (Katz, Rice, and Aspden 2001; McConnaughey et al. 2002; Rainie and Packel 2001; Victory and Cooper 2002). Some observers, however, believe access matters less over time because people are increasingly able to afford access (Eastin and LaRose 2000). A quite limited amount of research has been conducted on differences between people in skills necessary for using the Internet (Hargittai 2002), even though the notion of skills figures prominently in discussions of the influence of demographics on the digital divide (Norris 2001). Some research has examined the effect of motivation to use the Internet (Katz, Rice, and Aspden 2001; Lenhart et al. 2000). Again, motivation figures prominently in conceptualizations of the digital divide (Norris 2001). A limited amount of psychological work has examined Internet self-efficacy (Eastin and LaRose 2000; Torkzadeh and Van Dyke 2001), a construct related to motivation and skill. Access might be termed a "first-level" digital divide issue, while skill and motivation might be called "second-level" divide issues (Hargittai 2002)—that is, factors that matter after people acquire access.

2. Political Inequality and the Internet

The Internet may affect a particularly crucial type of inequality, political inequality. Verba, Schlozman, and Brady (1995) have shown that American

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politics involves high levels of demographic inequality in voting, donating money, and other types of political action. For example, people of modest means (family incomes of under $35,000) made up 55 percent of their nationally representative sample but only 46 percent of the vote in the 1988 presidential election—a difference that can matter. People of modest means also make up only 43 percent of campaign hours, 40 percent of contacts with the government, 42 percent of protests, and 16 percent of campaign dollars. Verba, Schlozman, and Brady also show that the policy concerns of lower-income Americans are systematically and substantially underrepresented in the political system.

The Internet may well matter for political inequality. Brady, Verba, and Schlozman (1995) lay much of the blame for inequalities in political participation on a lack of resources by members of various social groups. Resources include money, time, and civic skills such as speaking, writing, and organizing skills. The Internet may affect all of these resources. If people pay more attention to online political information from nonmainstream sources, the importance of money in politics would be reduced. Online civic participation could appreciably reduce time requirements for political activities. As for civic skills, the Internet might enhance the literacy and cognitive ability of its users, or it might serve as a bar to people with low skills.

In addition, the Internet could lower the barriers to entering the self-reinforcing "virtuous circle" between political interest, political knowledge, and participation (Neuman 1986; Norris 2001). In the virtuous circle, high levels of one of these factors tend to stimulate higher levels of the others, resulting in self-sustaining engagement. The Internet could lower barriers to entering the virtuous circle by providing low-cost political information and participation opportunities.

3. Hypotheses

I will test a number of hypotheses from the cyberrealist perspective. Cyberrealism holds that online political activity will be different only subtly from offline political activity in "normal political times"—which is certainly true of the year 2001, when this study was conducted. Cyberrealism concedes that the cyberskeptic view will hold for the most part. Nevertheless, there may be important yet subtle differences between online and offline participation that support cyberrealism. Because the costs of online engagement are lower, online participants might not be as interested in politics as offline participants. Also, given the public nature of much online discussion, they may need to be more inclined to discuss politics publicly. The following hypotheses should be supported:

   H1: There should not be an appreciable amount of online political discussion.

H2: The effect of demographics on amount of political discussion should matter as much online as offline.

H3: The second-level digital divides in motivation and Internet skill should matter as should the first-level divide in access. The second-level divides form a structural barrier to greater online participation, but one that can be affected by historical events.

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4. Data and Methods

4.1. Participants

A sample of 1,200 Pittsburgh residents of voting age were selected from Cole Information Services' Marketshare directory of the Pittsburgh area. Because of its information sources, the directory likely overrepresents adults who have permanent residency and therefore underrepresents the economically disadvantaged, including ethnic minorities. Nevertheless, the Marketshare directory is superior to alternative directories. A sample was drawn that was stratified by gender, age, estimated household income, and geographical location. Mail survey data were obtained from 524 respondents, with a response rate of 65 percent. Nonrespondents and those who explicitly declined participation are counted toward the denominator of the response rate. Those not counted are the deceased, ineligible, and bad addresses.

Survey respondents were 54 percent male and 46 percent female, had a median age of forty-seven, and were 88 percent Caucasian, 8 percent African American, and 4 percent other. Median and mean education was "some college, no degree." Seventy-three percent of respondents owned their own home. Respondents represent a diverse cross section of people.

Pittsburgh is an ethnically varied and class-diverse community with a city population of 334,583; with the surrounding areas, the population is over 1 million, according to the 2000 census. Neighborhoods range from suburblike residential areas to areas of urban poverty. Although Pittsburgh is known to have a moderately high quality of life for a city its size, people intimately involved with public life in the city do not believe this leads to either an especially high level of political involvement or cordial public dialogue.

4.2. Materials and Procedures

Respondents were first sent a one-page prenotification letter indicating they had been selected for a Pittsburgh-wide mail survey being conducted by Community Connections, a nonprofit and nonpartisan community engagement project housed at Carnegie Mellon University. They were told the confidential questionnaire would arrive shortly with a small monetary

gift and a coupon for a free Blockbuster video rental. They were also told that if they returned the questionnaire, they would be entered into three lotteries in which they could win up to $300. Three more waves of letters and a phone call awaited those who did not respond early.

4.3. Measures

4.3.1. Dependent Variables. The questions for overall discussion frequency and amount were: "Think back on the times you have discussed political issues. On average, about how many times a month do you discuss political issues? [__ times a month] On average, about how many minutes do these discussions last? (Your best estimate is fine.) [__ minutes]," The discussion frequency question was used as a dependent variable, and the product of frequency and amount was used to test an alternative hypothesis. These questions were preceded by a definition of *political* that included examples and the sentence "Political issues are issues that divide the public and which might need a government solution—at least according to some people." The dependent-variable questions were also preceded by a series of questions meant to help respondents remember where and when they discuss politics.

The other dependent variable, frequency of online political discussion, was measured by the question "How often do you go online to express an opinion about a political or social issue to a bulletin board, online newsgroup, or e-mail list [hardly ever, every couple of months, every couple of weeks, 1–2 days per week, 3–5 days per week, every day]?" This question was based on questions 63 and 66 of the Pew Research Center's Technology 1998 Survey. The online discussion question was converted to a more continuous scale. For comparability in ordered probit analysis, the continuous overall discussion frequency variable was converted to resemble the more categorical online discussion frequency variable by applying the same breakpoints and mean values as for the online question.

4.3.2. Independent Variables. The independent variables were as follows:

- *Political interest.* A weighted average of questions regarding how much the respondent follows politics and was interested in the presidential campaign. These are questions 310 and 313 from the 1952–92 cumulative code book of the American National Election Survey's (ANES) (1965–92 version with response categories presented as labels on a seven-point scale). Weights were assigned by principal components.
- *Talk motivation.* The question was "We are also hoping to develop a project in which we would bring small groups of Pittsburghers together for six hours on a weekend or evening to discuss matters of community concern. This would be a one-time commitment. If you

would like to learn more about this project, we could have someone phone you—assuming the project happens [yes, no]" (Muhlberger 2000, 2001; Muhlberger and Shane 2001).

- *Talk engagement.* A weighted average of the reversed responses to the questions "I'd rather not justify my political beliefs to someone who disagrees with me," "I would rather not reveal my political beliefs to someone who would disagree with me." All responses were on an eleven-point Likert scale. Responses were reversed by multiplying by -1. These questions were constructed and pretested for the purpose of this survey (Muhlberger 2000, 2001; Muhlberger and Shane 2001).
- *Talk with disagreement.* "I want to talk with people who disagree with me about political issues [Likert]."
- *Talk for job.* "Is discussing politics an important part of your employment [yes, no]?"
- *Internet skill.* "I am very skilled at using the World Wide Web (Internet) [Likert]," "I don't know much about using the World Wide Web (Internet)." Adapted from the computer skill scale in a HomeNet April 1998 survey.
- *Home Web access.* "Does your household have access to the Internet (World Wide Web) that lets you read whole Web pages? (Do not count mobile phones or other devices with limited access to Web pages.) [yes, no, don't know]." The answer "don't know" was coded as no. The question was adapted from the Commerce Department's 2000 digital divide survey.
- Web use. "On average, about how much time do you spend in the following activities on a typical day? (Just give your best estimate. Fill in the blank): using the Internet (World Wide Web) [__ hours, __ minutes]." Also included in analyses were similar questions for computer and e-mail use: "Using a computer at work, home, or school (include all activities)" and "Using electronic mail." These questions were derived from the HomeNet survey.
- *Demographics.* Standard demographic questions from the ANES and other sources.
- Additional independent variables. The following were also controlled for in analyses, although they are not depicted in tables because of space constraints, as they did not prove significant: internal and external political efficacy (standard ANES questions); perceived Internet information quality ("What do you think of the quality of online information?" [eleven-point scale, labels "very poor," "OK," "very good"]); Web information trust ("Information on the World Wide Web (Internet) can be trusted" [eleven-point scale, labels "not true," "moderately true," "very true"]); and Web privacy concerns ("I worry about my privacy on the World Wide Web (Internet) [same scale]").

- *Variables to test alternative explanations.* Party identification, ideology, and political values (humanitarianism, egalitarianism, individualism, traditionalism, and racism) were standard measures taken primarily from the ANES. Anti-instrumentalism was measured with such questions as "Sometimes people need to act politically even if the actions cannot succeed [Likert]." And free time was measured with such questions as "I have a lot of free time."

5. Results

5.1. The Prevalence of Online Political Discussion

The real significance of digital political speech should include its potential as much as the quantity of current levels of such speech. Nevertheless, an important datum in assessing current levels of digital political speech is its amount relative to political speech more generally. The data indicate that respondents on average discuss politics online eight times per year, compared with discussing politics both on and offline at a rate of eighty-four times per year. Thus, online discussion constitutes 9.8 percent of all discussion instances, with a confidence interval of 7.2 percent to 13.1 percent (bootstrapped bias-corrected 95 percent confidence interval, N = 3,000 for bootstraps, N = 522 for data). These levels of discussion may somewhat understate long-term rates of discussion because the study was conducted in 2001, a year largely without important elections.

5.2. Demographic Correlates of Online and Offline Discussion

Ordered probit analyses were conducted with two dependent variables (variables to be explained), online discussion and offline discussion. The explanatory variables were five demographic variables: education, gender, age, ethnicity, and home ownership. The analyses show that the proportion of variance of the dependent variable successfully predicted (R^2) is not particularly large for either online or all discussion. Nevertheless, the .07 R^2 of all discussion represents a quarter of all variance that appears explainable (the R^2 is .26 with all explanatory variables included). Interestingly, the proportion of variance explained by demographics ($R^2 = .02$) for online discussion is less than a third of that explained for all political discussion ($R^2 = .07$). This offers some cause for optimism that the Internet levels demographic differences. The digital divide in online discussion does not turn out to be a demographic divide. Though gender and education significantly and appreciably affect all political discussion, only age significantly affects online discussion. A further analysis of the data indicates that the negative relationship between age and online discussion is largely due to Internet access.

5.3. Total Possible Effects of Motivation, Access, and Demographics

Readers interested in the first- and second-level digital divide will want to know the overall impact of such groups of variables as political motivation, access and use, and demographics. They may also be interested in how much improvement is possible in discussion frequency. Table 1 shows what happens when groups of variables are "maximized"—that is, each variable is given its maximum observed value if its coefficient is positive or its minimum value if its coefficient is negative. Only variables within each group that prove significant in ordered probit analyses are maximized.

Table 1 shows an overall predicted mean for yearly online discussion frequency of 8.3, with no variables changed. When the significant access variables (home Web access and Web use) are maximized, the yearly frequency increases to 17.3, an increase of 109 percent from 8.3. Table 1 supports the notion of a second-level digital divide. Though access proves more important than political motivation for online discussion, motivation is not far behind. Thus, a second-level consideration—motivation—proves nearly as substantial as access. This result erases any doubt regarding the importance of the second-level digital divide for online discussion.

An important feature of Table 1 is the large possible improvement in online participation attributable to education and home ownership. Maximizing these variables involves setting all respondents to nonhomeowners and to the lowest observed education, tenth grade (there is one observation at sixth grade, but setting the grade level to six would be extrapolating too much from the sample). Maximizing these variables increases discussion frequency 156 percent to 21.2, a substantial fraction of offline political discussion. Higher education and home ownership thus substantially suppress levels of online discussion, more than lack of access or low political motivation. Note that the effects reported here are total *direct* effects. The total direct and indirect effect of education and homeownership is close to zero (analyses not shown). Table 1 shows that the educated and homeowners are participating much less than would be expected from their Internet access and use. The suppressive direct effects of demographics deserve discussion. Another noteworthy result of Table 1 is that it shows that very substantial improvements in online discussion would be possible by increasing more than one set of variables. Finally, offline discussion frequency reacts much as expected, with political motivation being the predominant factor.

6. Discussion

This essay tested five key cyberrealist hypotheses about online political discussion with generally supportive results. These hypotheses stipulate that online discussions do not have appreciable political effects currently but that online discussions will show motivational differences that could prove

TABLE 16.1 Possible Improvements in Yearly Political Discussion Frequency from Maximizing Significant Variables

	Variables improved (significant variables only)	Mean predicted yearly discussion frequency (% change from overall mean)
Online Discussion		
Overall mean	None	8.3 (0%)
Maximized political motivation	Talk motivation, talk with disagreement	15.6 (88%)
Maximized access	Home Web access, Web use	17.3 (109%)
Maximized demographics	Education, owns home	21.2 (156%)
Maximized motivation and access	Talk motivation, talk with disagreement, home Web access, Web use	34.9 (321%)
Maximized motivation and demographics	Talk motivation, talk with disagreement, education, owns home	39.3 (374%)
Maximized access and demographics	Home Web access, web use, education, owns home	43.5 (425%)
Maximized all significant variables	All unique variables above	79.8 (863%)
All Discussion		
Overall mean	None	69.2 (0%)
Maximized political motivation	Political interest, talk motivation, talk with disagreement	128.2 (85%)
Maximized demographics	Education	90.0 (30%)
Maximized all significant variables	All political motivations and education	160 (131%)

Note: Possible improvements calculated using ordered probit results. The overall mean is the overall yearly political discussion mean predicted given the explanatory variable values present in the data. Variables were "maximized" by setting them to their maximum value if their coefficient was positive or minimum if the coefficient was negative.

important under the right historical circumstances. These hypotheses are discussed below. Only hypothesis 2, that demographics should matter as much online as offline, is disconfirmed. Important caveats, however, apply to this result.

Contrary to the cyberoptimist viewpoint, but consistent with cyberrealism, findings indicate that online political discussion does not constitute an appreciable amount of all discussion. Online discussion makes up only

9.8 percent of all discussion, with a small confidence interval. Some will argue that even small amounts of discussion could play an important signaling role (Huckfeldt and Sprague 1991; Lupia and McCubbins 1998). Unless online discussion is far more politically potent than offline discussion (or there is a very low ceiling on effects), however, the more than 90 percent of discussion that takes place offline is bound to have a much greater political impact than online discussion.

Contrary to cyberrealism, but supportive of cyberoptimism, findings show that demographics matter more than a third less for online discussion than offline discussion. These results, however, must be interpreted in light of the low percentage of all discussion that takes place online, which greatly limits the potential benefits of online discussion in reducing demographic inequalities. This overall situation is consistent with the cyberrealist position that the Internet has untapped political potential. The demographic results must also be interpreted in light of the finding that education and homeownership matter considerably once Internet access and use are controlled (Table 1), even though neither matter when only demographic explanatory variables are regressed. These two findings indicate that the educated and homeowners discuss politics about as much as anyone else online, but much less than would be expected from their level of Internet access. A number of possible explanations suggest themselves. It may be that the educated and homeowners are too busy; that they believe online discussion will not affect political outcomes; that their ideology, political leanings, or political values differ from people online; that they have more discussions offline and so do not use online forums; and that they do not find Internet political discussion sufficiently high in quality or sufficiently pertinent to their concerns.

The low levels of participation by the educated and homeowners may best support a cyberpessimist view, with a caveat. The data show that getting these groups to participate more on the Internet would be by far the most effective means of improving the amount of online discussion. Their participation might be enhanced by forums that are more ideologically appealing, better connected to political outcomes, or focus on more communitycentric issues of interest to homeowners and on political issues of greater interest to more educated and politically mainstream people. Nevertheless, such attempts to boost online discussion would upset the current demographic balance of Internet discussion, confirming a cyberpessimist view. A caveat, however, is that in the longer term, the underlying reason for the greater potential participation of the educated and homeowners—namely, their greater access to and use of the Internet—may be mitigated by more universal access and use.

Consistent with cyberrealism (or cyberpessimism), political motivation matters. Motivational factors have almost as much effect as Internet access on the potential for improving discussion frequency. In addition, as just discussed, motivational considerations may be behind the sizable effect of

demographics, which appear once Internet access is controlled. If so, the second-level divide of motivation would dwarf the effects of mere access. Findings on the role of education and homeownership, however, suggest the novel conclusion that some motivational considerations may actually narrow the gap between advantaged and disadvantaged population groups.

The findings of this essay gravitate toward cyberrealism. Online political discussion is too small a portion of overall political discussion to have appreciable political effects currently. Online discussion is more demographically balanced, which suggests some current-day positive implications of the Internet, but this finding must be interpreted in light of the low amount of online discussion and evidence that demographic equality results from suppressed levels of participation by the educated and homeowners. Online discussion is inhibited not only by Internet access but also by a second-level divide in political motivation. This second-level divide forms a structural barrier to greater online participation even if Internet access became widely available. It may, however, be a barrier that will vary with context—with current events and the specific format of discussion available. This offers some hope for the future potential of online discussion.

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