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Lost in Cyberspace: Barriers to Bridging the Digital Divide in e-Politics

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Abstract: In our analysis of e-political participation among a 2003 random sample survey of 478 respondents drawn from Iowa, Pennsylvania, and Colorado, six blocks of variables were entered: (1) sociodemographic (2) place effects, (3) voting, (4) technology use (VCR, cell phone, etc.) and computer apathy, (5) attitudes toward technology, and (6) specific uses of the Internet. In the final block, younger and White respondents are more apt to be e-citizens. Computer training apathy decreases, and IT advantages increase, support for e-citizenry. Seeking medical e-information and making e-purchases increases engagement in e-politics. No main effects of place are found. For Colorado and Iowa residents , less-engaged voters reported less online political engagement, while those who voted at higher levels are also advocates of e-politics. The final model explains 56% of the variation in e-governmental participation.

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1 Introduction

Studies of the digital divide, focusing primarily on physical access to the Internet, proliferated in the wake of a series of *Falling Through the Net* reports from the National Telecommunications and Information Administration [1]. In 1995, the original NTIA report noted the simultaneous growth in computer ownership and usage, as well as the existence of several digital divide indicators [2]. The home and broadband access divide remains largely intact. In some cases, the impact of the ITL divide has been exacerbated for digital "have nots," despite some evidence of recent physical access gains in public and work places for particular groups [1]. The 2002 NTIA study, *A Nation Online*, reflected steadily growing physical access to the Internet, yet it had little to say about current barriers to the dissemination of ITL and more universal access to digital citizenship [3]. A novel aspect of this research is its focus on barriers to digital citizenship, and in particular on the characteristics of size of place and region within which people establish, or fail to establish, IT links with citizenship rights and responsibilities. This study aims to fill this gap in the literature by exploring attitudes, regional and urbanicity differences, voting behavior, and technological use as predictors of e-political involvement. Whereas IT should make it easier for all citizens to conduct their routine business with the government, in fact, it also has potential to widen the gap between the IT-literate and those without basic navigational skills [4].

2 Literature Review

2.1 Demographic correlates

Compared to their older counterparts, citizens 30 years of age and younger were more likely to use the Internet as a news source on a weekly basis [5]. Age, sex, education, size of locality, and e-information collection were significant predictors of political involvement. Shah and colleagues [6] report that seeking Internet-based information increased "Generation X"ers' levels of civic participation (i.e., index of volunteerism, club attendance, and participation in neighborhood projects) and interpersonal trust in others' integrity. Lenhart and colleagues [7] reported that Internet users reported more reliance than did non-users on print and broadcast media, cell phones, and other forms of technology. Cody and colleagues [8] suggest that computer training for elders has many positive effects, including access to current events and news as well as medical information and improved psychological well-being.

In a study of 1,812 respondents (with oversampling of ethnic minorities) drawn from residential areas near the Los Angeles Civic Center, Loges and Jung [9] reported that older persons were just as likely as their younger counterparts to view the Internet as an integral part of their lives, but older people had a limited repertoire of Internet activities. Lenhart et al. [10] suggest that fear of privacy invasion may be an important factor in limiting ITL usage by seniors. To this end, Loges and Jung [9] recommend that Internet training should put seniors at ease by addressing these privacy concerns. In multivariate analyses, availability of a home computer and Internet access in North Carolina appeared to be influenced more by race and SES than by gender or rurality [11], but Blacks and Whites did not differ in their propensity to participate in e-based training to improve job skills.

2.2 Place effects

Compared to their urban counterparts, rural communities lack access to high-speed Internet access [1]. One-quarter of rural Internet users reported that broadband connections were not available in their household, compared to only 5% of urban and 10% of suburban residents. [41]. Merely 33% of rural residents who have never used the Internet think they will do so, compared to 47% of urban dwellers. Researchers have found that rural location, race, and gender were correlates of digital disparities [12]. Regional distinctions also were noted. Nearly 60% of citizens from the Midwest and South had no desire to go online, compared to roughly 50% of their counterparts in the Northeast and West [7]. Loges and Jung [9] reported that, after controlling for sociodemographic variables, residents of South Pasadena (a predominantly White community) scored higher on the Internet Connectedness Index than did ethnic residents of East Los Angeles, Pico Union, and Koreatown. A study conducted in Grand Rapids, Michigan, and Detroit Lakes, Minnesota, reported that community context played a key role in citizens' support for public access and computer training. Grand Rapids residents were more apt to see information technology as a public good, whereas Detroit Lakes residents felt little community responsibility to provide public IT access [13].

2.3 Information technology literacy

There is some evidence [14] that ITL programs with a strong inducement to community "buy-in" are more likely to succeed. The question remains, however: What exactly do the target communities need to buy into? There is no unchallenged model of ITL that will serve all communities equally well. Significant debate continues over which skills comprise the core of digital citizenship [15]. Less controversial, however, is the idea that the digitally illiterate "are looking for training which is delivered in their own time, at their own pace and in a familiar environment" [16, 17].

Perhaps the most useful point of departure for attaining our research objectives is the 1999 National Research Council [18] report, "Being Fluent with Information Technology." The NRC report challenges researchers to look beyond a reductive skills-based notion of computer literacy. Invoking "fluency" in place of "literacy," the authors call for a higher baseline level of IT competency that creates the ability for lifelong independent learning and adaptation. Fluency broadens the scope of cognitive development. Simple computer literacy skills are trumped by more challenging notions of "FITness," or fluency with information technology. Instead of treating skills for using computer software applications as an endpoint, the NRC report posits a richer range of concepts and capabilities designed to create a deeper understanding of IT. "Skills with specific applications," note the authors, "are thus necessary but not sufficient for individuals to prosper in the information age" [18].

2.4 Political involvement

Some research has concluded that the Internet provides a civic and political forum for citizens and strengthens community-level participation [19, 20]. However, other researchers conclude that e-politics does not translate to traditional political involvement [21], nor does the Internet facilitate deliberative discourse [22]. In a 1998 Internet-based survey of adult U.S. citizens, after controlling for demographic correlates (i.e., age, sex, education, and race) and civic group participation, engaging in Internet activities increased involvement in traditional politics [23].

A 2000 Web survey of 442 politically active Internet users showed that, after controlling for demographic characteristics, e-based shopping and finances were significant predictors of obtaining political guidance and advice via the Web. Using the Web as a source of political entertainment was predicted by age, education, technical orientation, and

e-entertainment (i.e., online videos and music). The more highly-educated respondents were more likely to seek out e-political information and to use the Web for convenience. As citizens gained more experience with the Internet, they were less inclined to gather e-political information as a matter of convenience [24]. In a nationally representative sample, Katz and colleagues [25] concluded that Internet participation enhanced everyday political and civic involvement and bolstered offline and online social exchange.

3. Theory

Traditional democratic theory is predicated on citizens in a democracy being interested in and participating in politics, knowledgeable about how government works and aware of alternate solutions to problems of public policy, and voting consistent with a set of values or principles [26, 27, 28]. Participation includes activities designed to influence governmental leadership, structure, and decisions; it can range in intensity from passive acquisition of politically-relevant knowledge to highly active "gladiatorial" involvement in the political arena, and may assume either conventional or unconventional forms [29] and transpire on both symbolic and instrumental levels [30, 31, 32].

Among the benefits of participation is to contribute to political stability by maintaining open access to government by those who are motivated by their interest in the issue, although access is limited by legal and administrative barriers as well as by psychological orientations that result in greater access for some in society rather than for others [33]. The reality of participation in the United States is much different:

> … many citizens are uninterested in public affairs. Participation rates are low. Only a small proportion of the electorate has much knowledge about the structure and functions of government, and the mass public is often unaware of even major policy problems being considered by federal, state, or local governments. Many voters … lack knowledge of the candidates' stands even on issues that are important to them [33].

Differential rates of political participation are conditioned by many variables. Social characteristics (e.g., age, race, education, sex, region, place of residence, marital status, social class, income, employment status, or occupation) impact participation through structuring social roles, affecting the flow of political communications, and affecting what people believe is at risk through political action and the importance of defending those interests. Sociopolitical attitudes and related behaviors, such as the direction and strength of partisan identification, gaining political information through the mass media, belief in civic duty, general interest in politics, level of interest in politics and government, belief in government attentiveness, personality differences, and political efficacy, also are greatly relevant [34, 35]. Additional influences on political participation arise from the political and legal environment of the electoral system, candidates and their campaigns, issues of the day, historical patterns of conflict and cooperation, political parties and interest groups, and political movements and organizations [36, 37].

Ultimately, political participation matters because those who have greater access to means of participating are much more likely to be effective in influencing policy outcomes in their favor [33]. In the current cyberpolitical realities, the traditional advantages enjoyed by those with higher socioeconomic status and greater self-efficacy are accentuated by the greater cybersophistication of many of the same groups and individuals. The research findings presented here bear directly on some of the key components of the "digital divide" that overlays, and in many respects reinforces, preexisting traditional societal and political inequalities. How society addresses the unequal access to and influence over the digital components of the divide between the "haves" and "have nots" is of critical importance to the long-term stability of government, politics, and society. Helping to create a more

politically informed public certainly is a desirable goal toward achieving these forms of stability, by serving to level the playing field of conflict and cooperation. As noted by Erikson and Tedin [38], we must adapt to contemporary realities, including cyber technology, because "the existing methods for translating public opinion into government policy are inaccurate relics from a technically primitive time when ballot casting, face-to-face communication, and geographic representation were the only feasible conduits for public expression" (pp. 346-347). Advancing beyond this inequitable institutional inertia and the "dead hand of the past" certainly can be accelerated by fostering greater societal equity in cyberspace. This article explores some of the leading components of the barriers to, and possible ways of resolving, the parameters of the digital divide.

4. Measurement

4.1 Sample

Results of data from a 2003 national computer-assisted telephone interview (CATI) random sample survey (n = 478) are reported. The sample consisted of phone numbers appearing in telephone directory listings, which represented three regions of the country. Adult (age 18 and above) respondents living in Colorado, Iowa, and Pennsylvania were eligible for participation. Women and men were nearly equally represented (52% and 48%, respectively). Racial and ethnic origins were self-reported—nearly nine in every ten were White (89%); and 11% were of other racial/ethnic origins, including Black (5%), Hispanic (4%), American Indian/Alaskan Native (1%), and Asian or Pacific Islander (1%). Age ranged from 18 to 93 years; on average, respondents were 46 years old. Five percent of respondents reported not completing high school, and 24% had achieved a high school

degree, 8% a technical or vocational certificate, 24% some college but without degree completion, 24% a 4-year degree, and 15% a graduate degree. Nearly two-thirds were married or living as married (59%), 23% had never been married, while 8% were divorced, 9% widowed, and 1% separated from their partners. Nearly a quarter of respondents lived in a rural area (23%), and another 18% resided in a town of less than 10,000, 22% in a town of 10,000-50,000, 11% in a city of 50,000-100,000, and 26% in a city of 100,000 or more. The overall response rate was 31.4%, ranging from 37.4% in Iowa to 26.7% in Pennsylvania.

4.2 Measures

The following variables were employed in statistical analysis. Age ranges from young adult to 93 years, with response categories of 1 = "18-37 years," 2 = "38-50 years," 3 = "51-64 years," and 4 = "65+ years." Education is treated as a continuous variable. Response categories range from 1 = "non-completion of high school," 2 = "high school diploma," 3 = "trade school," 4 = "some college," 5 = "undergraduate degree," and 6 = "graduate or professional degree." The mean value is 3.81; higher values reflect increased levels of education. Gender was coded "0 = female" and "1 = male." Males represented 48% of the sample. Race was a dichotomous variable, coded "0 = Non-Hispanic White" and "1 = Non-White." Nearly nine-tenths (89%) were White. Married was coded "0 = Non-married" and "1 = Married or living as married." The majority of the sample (59%) was married.

Metropolitan Residence was coded "0 = reside in an area of less than 50,000 persons" and "1 = reside in an area with a population of 50,000 or more." PA Resident was coded "0 = Otherwise" and "1 = Pennsylvania resident." Nearly two-thirds (63%) were represented in this latter category. CO Resident is a dichotomous variable, coded "0 = Otherwise" and "1 = Colorado resident." Over one-fifth (22%) lived in Colorado.

Use Technology was a count of affirmative responses to five items (VCR, cell phone, camcorder, digital camera, and PDA). On average, respondents had used more than three technological devices. Computer Apathy was a construct assessing self-reported computer skills and respondents' interest in improving their skills. Higher values are indicative of respondents with marginal computer skills and no desire to improve them. Before transformation, the measure ranged from 0 to 9. Although differing in the level of computer skills, three-quarters of the sample wanted to become more technologically sophisticated. Due to skewness, a log transformation was applied.

Electoral Non-participation was the mean of 2 items. Respondents indicated whether they voted in local elections or state and national elections. Individual item response categories ranged from 1 = "never" to 5 = "always." Since a histogram indicated that the variable was negatively skewed, the measure was reflected. That is, each value of electoral participation was subtracted from one plus the largest value of the measure; consequently, this procedure converted negative skewness to positive skewness (Tabachnick & Fidell, 2001). The resulting variable was centered. As a result, the interpretation of electoral participation is reversed. Higher values reflect less involvement in the political process.

Principal components factor extraction, with varimax rotation using Kaiser normalization, was performed with SPSS on the seven items measuring attitudes toward technology. Two factor scales were extracted: (1) the advantages of information technology, and (2) the disadvantages of IT. IT Advantages is a scale comprised of 3 items. Viewing the Internet as a good source of information, e-mail as a good way to contact political officials (.76 and .72, respectively), and enjoying the use of new technology (.65) produced fairly robust factor loadings. Individual item response categories ranged from 1 = "strongly

disagree" to 4 = "strongly agree." Higher values of the scale indicate more support for information technology. IT Disadvantages was a four-item scale. Concerns about the confidentiality of computer-based information (.73), societal dependence on computers (.71), difficulty staying up-to-date with IT (.59), and the credibility of Internet-based information (.48) produced moderate factor loadings. Individual item response categories ranged from 1 = strongly agree" to 4 = strongly disagree." Lower values of this scale reflect a distrust of IT. Unless otherwise indicated, all factor scores were obtained by principal components extraction and varimax rotation, with the Anderson-Rubin (1956) procedure used to save the resulting factors as uncorrelated standard normal composite variables with mean zero and standard deviation one. Unless otherwise indicated, missing values were replaced with mean substitution.

E-Medical Information was a dichotomous construct that evaluated the use of online health information. Response categories were 0 (no) and 1 (yes). Over half reported affirmative responses (51%). E-Purchases is a measure assessing whether respondents used the Internet to buy things. Response categories were 0 (no) and 1 (yes). Fifty-six percent indicated that the Internet was a viable alternative to purchase products.

E-Political Participation is a summed scale constructed of 5 items: using the Internet to get (1) political information, (2) news, and (3) specifics about a political candidate, (4) responding to an Internet petition, and (5) using e-communication to contact a public official. Individual response categories were 0 = "no" and 1 = "yes." Missing values were not replaced for these items. For the e-Political Participation measure, the square root transformation was used to induce normality. This construct had a reliability coefficient

(unstandardized Cronbach alpha) of .73. Higher scale values indicate more involvement in e-politics.

5. Results

5.1 Correlations

Intercorrelations among the variables examined in this study, together with descriptive statistics, are presented in Table 1. Younger and more educated respondents reported higher levels of digital citizenship (r = -.39; r = .43, respectively). Married persons were more supportive of e-politics (r = .20). Neither metropolitan city nor state of residence influenced e-political involvement. The use of other forms of technology and desire to increase computer proficiency increased e-citizenship (r = .51; r = -.56, respectively). Technological attitudes played a role, as those who saw more advantages (r = .40) and fewer disadvantages (r = .27) were more likely to use the Internet for political purposes. Searching for e-medical information and making e-purchases were associated with e-government (r = .60 and r = .59, respectively).

Younger respondents were more educated (r = -.27). Older persons were more likely to be White (r = -.11) and to reside in non-metropolitan areas (r = -.12). Older persons voted more often and were more apathetic about computer use (r = -.36 and r = .45, respectively), and were more distrustful of IT (r = -.34). On the other hand, younger respondents reported greater use of technology (r = -.57), more IT advantages (r = -.34), and reliance on e-medical information (r = -.28) and e-purchases (r = -.45).

Higher educational achievement was associated with being married (r = .11), living in a metropolitan area (r = .21), and residing in Colorado (r = .14). Higher educational

attainment also was correlated with greater technology use (r = .36), decreased computer apathy (r = -.39), increased electoral participation (r = -.15), increased IT advantages (r = .28), and decreased IT disadvantages (r = .18). E-medicine (r = .33) and e-purchases (r = .41) were reported more often by more highly educated respondents. Males used technology more and saw more IT advantages than females did (r = .14 and r = .13, respectively). Non-whites were less likely to vote (r = .09), but whites were more apathetic about IT (r = -.10). Married respondents used technology (r = .15), voted (r = -.18), and used e-medicine (r = .21) and e-purchases (r = .20) more often than did their non-married counterparts.

Overall, metropolitan respondents were more supportive of technology, computer, and Internet use, and voted more often than did their nonmetropolitan counterparts. Pennsylvanians reported fewer advantages (r = -.09) and more disadvantages (r = .13) than did residents of the other states; on the other hand, Coloradoans saw more advantages (r = .12) and fewer disadvantages (r = -.10), and made more e-purchases (r = .10) than residents of Iowa and Pennsylvania.

Technology use decreased computer apathy (r = -.56) and voting (r = .12). IT use was associated with more advantages (r = .37), fewer disadvantages (r = .25), more use of e-medicine (r = .44), and more e-purchases (r = .52). Apathetic respondents were less likely to use the Internet for medical information or purchases, and had more negative attitudes about IT. There was a positive association between IT disadvantages and voting participation (r = .11). Greater perception of IT advantages was associated with greater use of the Internet for e-medicine (r = .30) and e-purchases (r = .36). Respondents who reported fewer IT disadvantages also made online purchases and sought medical information more often than

did respondents reporting more IT disadvantages. E-medicine and e-purchases were positively correlated (r = .49).

5.2 Multivariate analysis

After examining outlier diagnostics, no observations were found to be influential. Therefore, all cases were retained in the analysis. Predictor variables were entered in six blocks (Table 2). The five demographic variables were entered simultaneously in Model 1. Age was a significant predictor; younger respondents were more likely to engage in e-politics (β = -.31; p < .01). Higher educational attainment increased e-political involvement (β = .33; p < .01). Married respondents were more likely than nonmarried respondents to engage in e-politics (β = .17; p < .01).

In the second model, the place effect variables were added. The effects of age, education, and marriage remained significant. However, none of the regional or size of place variables achieved significance. Electoral participation was added in the third model. Voting in local, state, and national elections increased respondents' e-political engagement (β = -.11; p < .05). All other effects remained the same.

Use of technology and computer apathy were added in the fourth model. The use of other forms of technology was positively associated with the outcome variable (β = .19; p < .01). In addition, as computer apathy declined, e-political participation increased (β = -.34; p < .01). Age, education, and marital status remained significant, but their impact was less substantial. After controlling for other variables, whites were more likely to engage in e-politics (β = -.11; p < .01). Engaging in voting behavior continued to predict higher levels of e-political participation (β = -.09; p < .01).

Attitudes toward technology were added in the next block (Model 5). With the exception of age, all variables from the previous step remained significant. Respondents who held favorable IT attitudes were more supportive of e-politics ($\beta = .16$; $p < .01$). Those with less distrust of IT were more engaged as e-citizens ($\beta = .08$; $p < .05$).

In the final model, specific Internet activities were added and proved to be influential. Having searched for medical information via the Internet increased levels of e-political involvement ($\beta = .30$; $p < .01$). Respondents who reported e-purchases also were more likely to engage in e-political activities ($\beta = .24$; $p < .01$). Of the sociodemographic variables, education and race remained significant. On the other hand, marital status was no longer associated with e-citizenship. Voter participation, use of technology, and IT disadvantages also were no longer significant predictors. Those who were less apathetic ($\beta = -.19$; $p < .01$) and saw more IT advantages ($\beta = .10$; $p < .05$) reported higher levels of e-political involvement. The final model explains 56% of the variation in e-political engagement.

No main effects of place were found, but geographic-based interactions were tested. The interaction term for Pennsylvania resident and voting was added in the seventh block (results not shown). Its effect was significant and positive ($\beta = .13$; $p < .05$). The effect of voting differed by geographic location. For Pennsylvanians, voting had little influence on e-citizenship. Compared to residents of the two other states, less engaged voters reported a reduction in their online political engagement, while respondents who voted at higher levels were more likely to be e-political advocates.

6. Conclusion

The results of this study contribute to the growing literature on barriers to digital citizenship. Cyber technology magnifies existing social inequalities, as minorities and the less educated stand on the periphery of technology-driven change. As trends continue and technology becomes the glue that connects citizens to the government, the IT-challenged will have one less alternative way to engage the political system.

Before marginalized citizens can become e-citizens, public access to IT must be made available. Employment in the low-wage service sector economy leaves many struggling to meet basic needs and living their lives with little margin for error. Due to the intersections of race and class, poor minorities are at a significant disadvantage. Only 8% of Blacks and 9% of Hispanics are Internet users. Furthermore, just 5% of individuals without a high school diploma use the Internet, and only 18% of households with incomes below $30,000 are Internet consumers (Lenhart et al., 2003). Public access would ameliorate some of these class-based impediments.

However, to level the digital playing field, educational programs and Internet training must be offered at citizens' own time and pace. For instance, Midwestern inner-city residents were not indifferent to learning about IT. Less-educated and non-white respondents desired basic computer skills, while non-whites were more likely to report that technological information could be a source of empowerment (Shelley et al., 2004). It is crucial that programs be designed to present the relevance of technology and its advantages in ways that participants will find most useful and meaningful. Programs and training must be sensitive to marginalized citizens' needs and real-life concerns. For example, the adoption of IT would enable some groups to find jobs and secure better employment (e.g., Internet searches, software training, etc.). Many businesses increasingly are driven by cost-saving techniques

that have implemented Web-based applications. Those without basic computing skills are unable to compete for these positions. When the benefits of technology are experienced first-hand and technological fear is reduced, attitudinal changes may sow the seeds of digital empowerment.

A reluctance to increase one's computer skills leads to lower levels of e-political involvement. Individuals who are not committed to updating their skills may be IT-literate but not "FLUent." They may lack the interest and expertise to adapt to technological trends, and unaware of the links between enhanced electronically-mediated citizenship and the concepts and capabilities that undergird IT. Those who have the IT capacity for lifelong learning adjust as technology shifts the landscape of democratic participation to electronic means. Therefore, they maintain greater access to the political machinery than do their IT illiterate counterparts and exert more influence over policy outcomes.

Receptiveness to technology carries great weight in citizens' willingness to engage government electronically. The trajectory of e-involvement is a process shaped by time and place, as well as by sociopolitical attitudes and behaviors. Technology crosscuts many domains, with computers and the Internet harnessed for academic achievement, advancement at work, communication with family and friends, and leisure activities such as listening to music or watching DVDs. In turn, people should have more favorable opinions about technology because it improves their quality of life and allows them to interconnect multiple dimensions of their lives through one medium. Technology becomes a conduit to connect social, political, and economic interests, and fuels the engine of e-political efficacy, because it transcends time and place and offers a convenient and effective means of participation.

As citizens engage in online economic (e.g., purchases) and social (e.g., medical information-seeking) interests, they are inclined toward e-political participation. Under these circumstances, technology becomes fluid and melds the dimensions of lived experience. Conducting one's routine business via the Internet may empower citizens to extend their e-repertoire to political activities. The use of technology crosscuts multiple role domains and becomes a natural extension of self. Cybersophistication may increase levels of self-efficacy, which in turn promotes political efficacy. Citizens may view the Internet as a forum to engage in discourse with appointed officials and the government.

Citizens' engagement in online politics may come at the expense of traditional modes of participation. After controlling for sociodemographics, place, and attitudinal and behavioral factors, opting for digital citizenship was not associated with voting. There may be a trade off, as people exchange community involvement for e-citizenry and invest less in their communities as a result. In the final analysis, main effects of place and community size failed to produce a meaningful relationship with e-citizenship. However, state residence and voting behavior influenced e-political participation. For Pennsylvanians, the level of electoral participation has no impact on e-politics. For other state residents, higher levels of voting are associated with more interest in e-government. This would suggest that a subset of the sample is actively involved in electronic and traditional realms of politics.

Two limitations of this study are its use of cross-sectional data and its sampling technique. Care must be taken in drawing conclusions about the processes at work because the data do not allow one to evaluate these mechanisms over time. The study's results are based on data collected in three states and may not be generalizable to all regions in the

United States. The measures of region and size of location need further refinement to provide a thorough examination of place effects on political involvement.

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Table 1. Correlation matrix for e-political participation (n = 466)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 E-politics	--															
2 Age	-.39**	--														
3 Education	.43**	-.27**	--													
4 Male	.08	-.06	-.00	--												
5 Non-White	-.08	-.11*	-.06	-.10*	--											
6 Married	.20**	.05	.11*	.01	-.12*	--										
7 Metro	.09	-.12**	.21**	-.01	.22**	-.08	--									
8 PA resident	.00	.02	-.06	-.06	.04	-.02	-.20**	--								
9 CO resident	.04	-.03	.14**	.05	.05	-.05	.30**	-.69**	--							
10 Use technology	.51**	-.57**	.36**	.14**	.07	.15**	.16**	-.03	.08	--						
11 IT Apathy	-.56**	.45**	-.39**	-.08	-.10*	-.07	-.14**	-.03	-.02	-.56**	--					
12 Non-Voter [+]	-.06	-.36**	-.15**	.05	.09*	-.18**	-.10*	-.00	-.07	.12*	-.04	--				
13 IT advantages	.40**	-.34**	.28**	.13**	.08	-.01	.15**	-.09*	.12**	.37**	-.45**	.02	--			
14 IT disadvantages	.27**	-.34**	.18**	.03	.04	.02	.07	.13**	-.10*	.25**	-.36**	.11*	-.00	--		
15 E-medicine	.60**	-.28**	.33**	.01	-.00	.21**	.17**	-.08	.09	.44**	-.46**	-.07	.30**	.27**	--	
16 E-purchases	.59**	-.45**	.41**	.04	.04	.20**	.15**	-.06	.10*	.52**	-.47**	-.02	.36**	.34**	.49**	--
M	1.55	2.13	3.81	.48	.11	.60	.37	.63	.22	3.42	.51	.00	.00	.00	.51	.56
SD	.46	1.11	1.53	.50	.31	.49	.48	.48	.42	1.31	.32	.25	1.00	1.00	.50	.50

*p <.05; ** p < .01.

+ Electoral non-participation

Table 2. Regression model predicting e-political participation (n = 465)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Independent Variable	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β
Age	**-.13****	**-.31**	**-.13****	**-.31**	**-.15****	**-.35**	**-.05****	**-.13**	-.04	-.09	-.02	-.05
	(.02)		(.02)		(.02)		(.02)		(.02)		(.02)	
Education	**.10****	**.33**	**.10****	**.32**	**.09****	**.29**	**.05****	**.17**	**.05****	**.15**	**.03****	**.10**
	(.01)		(.01)		(.01)		(.01)		(.01)		(.01)	
Male	.05	.05	.05	.06	.05	.06	.01	.01	-.00	-.00	.02	.02
	(.04)		(.04)		(.04)		(.03)		(.03)		(.03)	
Non-White	-.10	-.07	-.11	-.07	-.10	-.07	**-.16****	**-.11**	**-.17****	**-.11**	**-.15****	**-.10**
	(.06)		(.06)		(.06)		(.06)		(.05)		(.05)	
Married	**.16****	**.17**	**.16****	**.17**	**.14****	**.16**	**.10****	**.10**	**.10****	**.11**	.03	.04
	(.04)		(.04)		(.04)		(.03)		(.03)		(.03)	
Metro			.02	.02	.00	.00	-.02	-.02	-.02	-.03	-.04	-.04
			(.04)		(.04)		(.04)		(.04)		(.03)	
PA resident			.06	.06	.05	.05	.03	.03	.03	.03	.06	.06
			(.05)		(.05)		(.05)		(.05)		(.04)	
CO resident			.04	.03	.03	.02	.02	.02	.02	.02	.01	.01
			(.06)		(.06)		(.06)		(.06)		(.05)	
Electoral non-participation					**-.19***	**-.11**	**-.16***	**-.09**	**-.15***	**-.08**	-.08	-.05
					(.08)		(.07)		(.07)		(.06)	
Use technology							**.07****	**.19**	**.06****	**.18**	.02	.07
							(.02)		(.02)		(.02)	
IT apathy							**-.49****	**-.34**	**-.40****	**-.27**	**-.27****	**-.19**
							(.06)		(.07)		(.06)	
IT advantages									**.07****	**.16**	**.04***	**.10**
									(.02)		(.02)	
IT disadvantages									**.04***	**.08**	-.00	-.00
									(.02)		(.02)	

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Independent Variable	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β	B *(SE)*	β
E-medicine											**.27****	**.30**
											(.04)	
E-purchases											**.21****	**.24**
											(.04)	
Intercept	1.34		1.30		1.38		1.44		1.39		1.25	
R^2	.30		.31		.31		.44		.46		.57	
Adjusted R^2	.30		.29		.30		.43		.45		.56	

*p <.05; ** p < .01.