Online Political Participation, Civic Talk, and Media Multiplexity:

How Taiwanese Citizens Express Political Opinions on the Web

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Abstract

This study seeks to assess the implications of social use of information and communication technologies (ICTs) for online political participation. Past research investigating the link between ICTs and political participation has emphasized their informational use of ICTs overlooking their communication-enabling potentials for facilitating political talk in interpersonal spaces and subsequently political participation in public domains. To understand further how ICTs as a means of communication may relate to political participation, we use data from the 2008 Taiwan Social Change Survey (N=1,076) to examine the relationship between the Internet and online political participation by looking at online media use for social interaction and engagement in civic talk online. Our findings suggest that interpersonal factors such as online civic talk and media multiplexity are positively associated with online political participation. Individuals who discuss politics with their friends via the Internet and those who use more types of online media for social interaction are more likely to contact legislators and elected officials directly via the Web and articulate their political thoughts in online public spaces such as forums, blogs, and websites of news media. We further offer an assessment of the findings’ implications for political participation, political communication, and digital inequality.

Keywords: civic engagement, digital inequality, ICT use, political communication, political talk, social capital,
Introduction

Civic and political engagement has been the focus of scholarly debates on the democratic potential of the Internet and other digital technologies, as engagement is foundational to the functioning of a democracy. Empirical evidence from past research in this area has indicated that Internet use may facilitate and even promote civic and political participation, finding that easy access to political information online may be able to modestly enhance political participation in the Web era (e.g., Bimber, 2001). However, the literature seems to consider primarily the informational function of the information and communication technologies (ICTs) as the mechanism connecting ICT use and civic and political participation, overlooking the potentials of the Internet and other digital technologies as a means for political communication. Consequently, the mechanism by which ICTs afford political communication within citizens’ social networks and then enable civic and political engagement is still underdeveloped (Hampton, 2011; Valenzuela, Kim, & Gil de Zúñiga, 2011).

To understand how the Web’s communicative functions may facilitate online political participation, this study examines the relationship between multiple media use for communication (i.e. media multiplexity) and engagement in informal discussion of public affairs (i.e. civic talk) in the online contexts. We use data from the 2008 Taiwan Social Change Survey (TSCS) to examine how Taiwanese Web users (N=1,076) engage in political participation online. Our findings suggest that interpersonal factors such as online civic talk and media multiplexity are positively associated with online political participation. Specifically, individuals who discuss politics with their friends via the Internet and those who use more types of online media for communicating with their personal networks tend to directly contact and express their political opinions to legislators and elected officials online. Additionally, political news enthusiasts and
those who have high political efficacy are more likely to express their political opinions in online public spaces such as forums and blogs. We further offer an assessment of what these findings in Taiwan suggest about how instrumental, psychological, and interpersonal perspectives may explain online political participation.

How ICTs afford Political Participation

As one of the important foundations of healthy and functioning democratic societies, political participation can be defined broadly as both psychological engagement and behavioral involvement of civic and public affairs with a clear expectation of influencing government actions (Verba, Schlozman, & Brady, 1995). While Verba and his colleagues primarily look at the level of citizens’ psychological engagement in politics: political interest, political efficacy, political knowledge and partisanship, other studies in this domain measure political participation by examining political behaviors: voting, attending civic events, contacting officials, volunteering or working in campaigns and donating money to political figures (Bimber, 2003; Boulianne, 2009; Brady, Verba, & Schlozman, 1995; Gil de Zúñiga, Veenstra, Vraga, & Shah, 2010; Mossberger, Tolbert, & McNeal, 2008; Xenos & Moy, 2007). The main advantage of these measures is that these political behaviors can be observed in public settings and even from public records (e.g. voting and tax-exempted donation). The past literature shows that the factors differentiating political participants from non-participants involve individuals’ demographic characteristics and socioeconomic status, psychological engagement, and other tangible resources such as time and money (e.g., Brady, et al., 1995; Verba, et al., 1995). In this study, we consider online political participation to be the aforementioned political behaviors engaging in public domains on the Internet. As elaborated later in detail, focusing on online political participation allows us to explore further the extent to which the factors like the communicative
functions of ICTs may relate to political behaviors in online contexts.

ICTs as information sources for political information

Studies investigating the link between ICT use and political participation originate arguably from the traditional media effects research (e.g., Gerbner, Gross, Morgan, & Signorielli, 1982; Uslaner, 1998). Initially, scholarship theorizing the relationship between Internet use and political participation mainly considered the Internet as a source of political information similar to news media, suggesting that the easy access to political information is the key to enhancing political participation. The instrumental approach asserts that citizens who perceive low search costs of online political information are more likely to be politically informed and thus to participate in political affairs (Bimber, 2003; Tolbert & McNeal, 2003). At the same time, higher psychological engagement in politics may also motivate users to search for and retrieve information online for civic and political affairs (Bimber, 2001, 2003; O’Neill, 2010; Xenos & Moy, 2007). For example, by examining the data from the 2000 American National Election Studies (ANES), Bimber (2003) reported that citizens who have higher political efficacy and have used the Internet for political information were more likely to vote. Similarly, in their analysis of the subsequent 2004 ANES data, Xenos and Moy (2007) found that citizens accessing political information online were more likely to engage in political activities such as volunteering in campaigns and donating to certain candidates, and that such a positive tendency seemed to be stronger for those with higher political interests. Other work also found that political and informational Web use were positively related to civic and political participation while recreational Web use seemed to be negatively related to civic and political activities (Kenski & Stroud, 2006; Shah, Cho, Eveland, & Kwak, 2005; Wang, 2007).

While a large body of research has examined rigorously how traditional socioeconomic
status, psychological traits regarding politics, and instrumental Web use condition civic and political participation, only a few recent studies have empirically examined why interpersonal communication and social networks matter to political participation in the information age (Hampton, 2011; Klofstad, 2011). This line of work (e.g. Bimber, 2001) concentrate on ICT’s capabilities of information retrieval, seemingly paying less attention to the interactivity of digital technologies that may facilitate citizens’ communication with their peers as well as their communication with public officials and political figures.

**ICTs as communication media for political discussion**

Beyond citizens’ socioeconomic status and psychological characteristics, political scientists have already recognized that people are often reluctant to become involved in political activities (Eliasoph, 1998; Verba, et al., 1995, p. 269). While, often times, citizens may not participate in political activities spontaneously in the public domain, past research also discovered that citizens may be influenced and motivated by their peers to do so (Huckfeldt & Sprague, 1991). Additionally, citizens may still engage in politics even though they do not necessarily express their political stance in public. For example, citizens may discuss politics with their friends in private settings although they do not participate in the campaign of their favorite candidate. Research in this area consistently shows that citizens’ social networks serve an important role for their political information and opinion exchange, and subsequently, have positive implications for their political participation (Gil de Zúñiga & Valenzuela, 2011; Huckfeldt & Sprague, 1987; Ikeda & Boase, 2011; Lake & Huckfeldt, 1998; Lazarsfeld, Berelson, & Gaudet, 1948; McLeod et al., 1999; Mutz, 2002; Rojas, Shah, & Friedland, 2011; Scheufele, Hardy, Brossard, Waismel-Manor, & Nisbet, 2006).

However, having personal networks with diverse information or opinions only presents
the potential for information exchange or deliberation. A diverse interpersonal environment in and of itself is a necessary but insufficient condition for civic or political talk. Furthermore, political discussion may often be a by-product of conversations about other matters in the daily routines (Klofstad, McClurg, & Rolfe, 2009). Citizens will not use such opportunities to be politically informed until they talk about public affairs with their peers. Therefore, Klofstad (2011) contends that civic talk – informal political discussion with peers in one’s personal networks – is a distinctive type of political behaviors in the private sphere that may encourage citizens’ political participation in the public sphere such as voting or contacting officials. In line with Klofstad’s (2011) findings, a few other studies have also pointed out that individuals practicing civic talk were more likely to engage in civic and political activities (Best & Krueger, 2006; Nisbet & Scheufele, 2004; Shah, et al., 2005).

In addition, political participation varies in forms between online and offline contexts (Di Gennaro & Dutton, 2006; Valenzuela, et al., 2011). The Web’s varying affordances, such as interactivity, replicability, and portability, enable citizens to participate in political behaviors in different ways. For example, citizens are able to access candidates’ websites anytime to view the multimedia content of their campaigns. They can contact elected officials and politicians directly via various Web services. More importantly, people can comment on political news directly on the websites of news media. They can debate about current political events or rant anonymously on discussion boards and web forums. Citizens can also share their opinions along with the URLs of the news articles with their personal networks via email, instant messaging, and popular social media.

Some recent work specifically examines the link between online communication and online political participation, finding that individuals interacting with online communities and
participating in political discussion online were more likely to engage in civic and political
activities (Gil de Zúñiga, et al., 2010; Kobayashi, Ikeda, & Miyata, 2006; Shah, et al., 2005;
Valenzuela, et al., 2011). Nevertheless, citizens may require a certain degree of ICT usage
proficiency to maneuver online contexts and to use ICT swiftly for communication before they
seek to engage in civic talk and other types of political behaviors online (Di Gennaro & Dutton,
2006). As a result, it is unclear that whether the positive association between civic talk and
political participation will persist in the current digital environment where ICTs and social media
become increasingly pervasive in the everyday life. Hence, we derive the following hypothesis
regarding civic talk and political participation online:

H1: Practicing online civic talk is positively associated with online political participation, while
controlling for other demographic and psychological antecedents.

Media Multiplexity: How Citizens use ICTs for Communication and Engagement

Although past research has started to recognize that online communication may have
positive implications for civic and political participation, how and to what extent ICTs can be
used to citizens’ political discussion with their personal networks are under-theorized. In this
section, we turn to the literature of Internet studies and communication research to further
understand ICTs’ role in political discussion. The implications of the Internet and other ICTs for
social interaction and social capital have been debated for years since the early days of the Web’s
mass diffusion, contrasting positive and negative outcomes related to digital technologies (e.g.,
see Haythornthwaite & Rice, 2006; Shklovski, Kiesler, & Kraut, 2006 for a review of this
literature).
On the negative side of the debate is the capital-depletion perspective. Scholars have argued that use of new ICTs will undermine the way citizens communicate with others and will disrupt individuals’ social engagement with their interpersonal networks and society at large (Kraut et al., 1998; Nie, Hillygus, & Erbring, 2002; Putnam, 2001), given the zero-sum time allocation between media use and other social activities (e.g., Robinson, Barth, & Kohut, 1997). Conversely, the literature seems to offer more empirical support to the positive and capital-enhancing implications of ICTs (Bargh & McKenna, 2004; Boulianne, 2009). A considerable body of research has found evidence suggesting that using ICTs may increase civic participation (Katz & Rice, 2002; Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005) as well as bonding and bridging social capital (Ellison, Steinfield, & Lampe, 2007, 2011; Norris, 2004). More importantly, social interaction in digital environments tends to intensify existing social relationships and involvement in public affairs (Hampton, 2011; Hampton, Sessions, & Her, 2011; Hampton & Wellman, 2003; Stern & Adams, 2010).

Additionally, some recent work theorize further the mechanisms connecting ICT with social interaction and public affairs (Wellman et al., 2003). Accounting for varying affordances associated with different communication media, the “media multiplexity” perspective (Boase, Horrigan, Wellman, & Rainie, 2006; Haythornthwaite, 2005) argues that individuals use various media interchangeably to maintain their social relationships as they see fit in different situations. Findings from this line of work indicated that people were likely to use more types of media to keep in touch with those with whom they shared stronger ties in various social contexts (Boase, 2008; Haythornthwaite, 2005; Ledbetter, 2008, 2009). Hogan (2008) found from his urban Canadian participants that individuals were likely to be in touch with the most socially accessible contacts rather than those with whom they have the strongest ties while using multiple ICTs for
A growing body of work has discovered similar results regarding using multiple communication methods for maintaining social relationships and participating in civic activities (e.g., H. Kim, Kim, Park, & Rice, 2007; Mesch, 2009; Shah, et al., 2005; Stern & Adams, 2010; van Cleemput, 2010), indicating that the ways users employ ICTs and the choices to use a certain medium rather another are the function of the features of technologies, the purposes of interaction (e.g. discussion topics), and the social contexts (e.g. the relational closeness between contacts, social roles, locality, etc.) of a particular interaction. Therefore, using multiple ICTs (i.e., practicing media multiplexity) allows citizens to access to their social capital residing in their personal networks and to participate in public affairs under various circumstances.

Taken together, the media multiplexity perspective underscores the potential benefits of ICT use for connecting with their interpersonal environment and the general public spheres, given that various offline and online media afford individuals a forum for their social and civic activities under different situations and needs. Consequently, using multiple media allows citizens to tap into different opportunities for social interaction and civic participation associated with different media and diverse personal networks. In the context of the current study, using many different types of online media suggests that such individuals are more proficient in utilizing various benefits of the Web: these citizens are more likely to express their opinions publicly as well as to communicate with others in their personal networks about public and civic affairs via online services. Hence we propose the following hypothesis:

\[ H2: \text{Using multiple online media for social interaction will be positively associated with online political participation, while controlling for other demographic and psychological} \]
Data and Method

Research context

Since the 1990s, Taiwan has undergone massive political reform and its political system has transformed from a 40-year and single-party monopoly to a multi-party representative democracy. In 1996, Taiwan conducted the first direct presidential election with a 76-percent voter turnout. The successful democratization continues to inspire Taiwanese citizens’ political participation. The voter turnout of the following presidential elections remained approximately 80 percent (Central Election Commission Taiwan, 2012). Taiwan has also undergone two administration transitions between China Nationalist Party (i.e. Kuomintang) and Democratic Progressive Party since both major parties have won the past presidential elections in the past two decades.

In addition to the encouraging environment for political participation, the Internet adoption rate in Taiwan is the fourth highest in Asia. Data from the past Taiwan Social Change Surveys indicate that Internet users in Taiwan have increased gradually from 31.0 percent in 1998 to 54.3 percent in 2008. It is worth noting that Taiwan has a unique participatory culture regarding the use of BBS (Bulletin Board System) similar to the use of Usenet or Web forums in other Western countries. However, while many text-based online communication services (such as Usenet) have become obsolete and lost their users to social media and other Web 2.0 sites in other countries, text-based bulletin boards remain popular online destinations in Taiwan. To date, the most prevalent BBS (i.e. telnet://ptt.cc) attracts heavy Internet traffic and is ranked constantly as one of the top 50 websites in Taiwan¹. At the same time, while blogosphere has become
another important public sphere for information and commentaries of current events and politics in some countries (e.g., Adamic & Glance, 2005; Hargittai, Gallo, & Kane, 2008), ptt.cc remains one of the most popular online venues where users tend to discuss political and social issues vehemently. Users sometimes use this non-profit BBS as the platform for citizen journalism, where they may disseminate information about ongoing public affairs to attract public attention or to organize civic and political activities. Consequently, news media cover public opinion on this popular BBS on a regular basis, frequently reading the comments of netizens on television.

Given the political progress, the high Internet penetration, and the prevalent practices of online public discourse, we consider the social context of Taiwan particularly appropriate for studying the implications of the Web for political participation in a non-Western democracy. More importantly, the unique participatory culture in Taiwan can help researchers investigate whether different types of Web use may have different effects on political participation online, which in turn allows researchers to unpack further the positive relationship between general Internet use and political participation in Taiwan (Wang, 2007).

**Data source and descriptive statistics**

To examine the aforementioned hypotheses, we conduct a secondary analysis on data from the Mass Communication Module (MCM) of the 2008 TSCS², the largest nationwide social survey series in Taiwan. To account for the geographic hierarchy and urbanization status, a three-stage³ stratified probability proportionate to size sampling procedure was used to obtain a nationally representative adult sample living in households in Taiwan. The face-to-face interviews were conducted between July and August 2008 by the Academia Sinica Taiwan. The response rate for the MCM in the 2008 survey was 43.0%, consisting of a research sample of 1,980 adult respondents. The entire sample was 50.7% male and 49.3% female, with a mean age
of 46.20 (SD = 17.32, range = 19 – 93). Almost two-thirds (62.9%) of the sample were either married or living with a partner. The average education level of the respondents was 11.2 years (SD=4.6) and their average monthly personal income was 28,323 NTD (SD=33,665).

Approximately half of the participants (47.8%) lived in the main urban areas. Slightly more than half (54.3%) of them reported using the Internet in the past year.

Questions about Internet use and online behaviors such as news consumption and political participation online were one of the core components of the MCM. However, such questions were administered only to Internet users during the interview. As a result, the final sample for our study comprises 1,076 Taiwanese Web users. Not surprisingly, comparing to the general population in Taiwan, this Web-user sub-sample biases toward urbanites and those with higher socioeconomic status: Web users had an average of 14.2 years of education, a mean monthly personal income of 36,000 NTD (SD=36,901), and more than half (54.3%) of this group lived in the main urban areas. Given that our goal is to analyze users’ online behaviors and the subsequent implications for their political participation online, we consider this national sample of Internet users suitable for our study.

**Measurement construction and description**

**Online political participation**

The 2008 TSCS included a set of questions regarding online political participation and online civic talk, which instructed respondents to recall their political behaviors by social contexts. First, we use three 4-point scale (i.e. never, seldom, sometimes or often) questions to measure two types of citizens’ online activities: articulating political opinions directly to the government (one item) or indirectly to the general public (two items combined). Given that only less than 5% of the participants were moderately engaged (i.e. reported sometimes or often)
across all three questions, we construct two binary variables to indicate whether respondents had engaged in the following political activities online. The first variable measures whether respondents express political opinions directly to elected officials, legislators, or political figures via the internet (11.2%). The second variable denotes whether respondents express political opinions in either one of the following online public spaces: (1) BBS, Web forums, blogs, or (2) websites of news media (24.7%). Leaving opinions on the publicly accessible “comment” section on web pages of news coverage is a clear example of this political practice. These binary variables of online political participation comprise the outcome variables of this study.

**Online civic talk**

Following the definition put forth by Klofstad (2011), we define online civic talk as informal discussions of politics within the private sphere (e.g., social ties in one’s personal networks) that occurs in online domains. Respondents were asked in another 4-point scale question to report the extent to which they had “discussed political issues with friends via the internet.” Similarly to the treatment of the online political participation variables, we construct a binary variable denoting whether respondents had engaged in online civic talk (34.5%).

**Online media multiplexity**

Based on the media multiplexity perspective (Boase, 2008; Haythornthwaite, 2005), we define online media multiplexity as the number of online media people use to communicate with their personal networks. Given that 98.2% of the survey participants reported using telephone to contact their personal networks while the 2008 TSCS did not differentiate the usage of land-line and mobile phone in the question, we focus mainly on Web-based media in the current study and do not include the invariant telephone usage in the variable. To measure online media multiplexity, we first transform the responses to six 4-point scale questions of online media use
into six binary measures to identify whether participants use the following online domains for social interaction: (1) chat with someone on BBS, post a message or response to a post on the board (31.4%), (2) visit chat rooms or websites that provide services for making friends (22.6%), (3) use email (85.6%), (4) use instant messaging services (64.6%), (5) Use Internet phone like Skype (36.3%), and (6) browse or use blogs (69.1%). Then we construct the online media multiplexity index by summing the responses to these six binary indicators. Consequently, this measure (range=0 to 6) provides a robust description of participants’ online media usage patterns. Worthy of note is that this measure denotes the technological context of communication practices: the extent to which respondents engaged in technology-mediated communication regardless of the nature of interaction. On average, Taiwanese Web users employed three different online media to interact with others (Mean=3.1, SD=1.8), while only a small proportion of these users either did not use any online media (8.6%) or use all six of them (8.4%) for social interaction.

**Background characteristics**

To test both hypotheses in our study appropriately, we need to take into account a number of factors that may affect the level of political participation, and more importantly, the associations between civic talk, media multiplexity, and political participation in online contexts. Demographic and socioeconomic characteristics such gender, age, education, income, and marital status have all been implicated as factors conditioning citizens’ level of civic or political participation (e.g., Brady, et al., 1995; Burns, Schlozman, & Verba, 2001). We use two binary variables classifying respondents’ gender and marital status, where 1 denotes female and being married or living with a partner accordingly, and 0 indicates otherwise. We also control for respondents’ age, years of education, and monthly personal income in the analysis.
Psychological and behavioral antecedents of political participation

In addition, we include a series of psychological and behavioral antecedents of political participation as control variables in the analysis. Specifically, we use political efficacy, political trust, political knowledge, and political news consumption to account for the association between people’s psychological engagement in politics and their political participation (Finkel, 1985; Levi & Stoker, 2000; Verba, et al., 1995). To measure political efficacy, we construct an index variable by averaging the responses to four 5-point scale (i.e. from 1= strongly disagree to 5=strongly agree) questions of participants’ beliefs about their own competence to understand and to participate in politics and the responsiveness of governmental authorities (Mean=3.1, SD=0.6, Cronbach's $\alpha=.51$). Similarly, we construct a political trust index by averaging the responses to four 5-point scale questions of participants’ beliefs about whether or not the government is functioning in accord with citizens' expectations (Mean=2.6, SD=0.8, Cronbach's $\alpha=.85$). To measure political knowledge, we look at participants’ responses to four factual questions about political affairs at the time, such as the tenure of presidency, countries with official diplomatic relationship with Taiwan, the president of China, and the executive chief of Hong Kong; we then create a political knowledge measure by calculating the number of correct answers provided from respondents, where 0 indicates little political knowledge, and 4 suggests a great understanding of the current politics in Taiwan (Mean=2.1 SD=1.0).

To account for the instrumental effect of ICTs on political participation (Bimber, 2001; Jennings & Zeitner, 2003; Kenski & Stroud, 2006), we first include political news consumption as a proxy measure observing respondents’ overall political information search activities. We construct an index measure by summing the responses to three 4-point scale questions that inquire respondents’ frequency of accessing political news via newspapers, television, and the
Internet (Range=0 to 9, Mean=3.4, SD=2.3, Cronbach's $\alpha=.68$). Worthy of note is that looking at the overall political news consumption across media (i.e. counting both common mass media and the Web) is appropriate for our analysis since it does not bias the results further toward the heavy users in our Web user sample.

Furthermore, we employ two Internet experience variables – the hours spent online weekly as well as the familiarity of the Internet – as proxy measures capturing respondents’ Internet usage intensity and their reliance on the Web. Time spent online weekly is derived from answers to two questions asking about hours spent online on an average day and days used the Internet in a typical week in the past year. This measure ranges from .017 (about 7 minutes a week) to 105 hours and is logged in the analyses because of the idea that there are diminishing returns of potential benefits to additional time as the time spent online increases (Hargittai, 2010; Hargittai & Hsieh, 2010).

Internet familiarity is constructed by averaging the answers to nine 5-point scale questions of respondents’ familiarity about different aspects of the Web (Mean=3.6, SD=0.6). Respondents were asked to what extent they agree with the following: (1) the Internet can broaden their horizon, (2) using the internet makes them feel happy, (3) if possible, I will go online every day, (4) I can freely express my opinions since I don’t have to use my real name going online, (5) since I cannot see people in person online, I can chat more freely and without pressure, (6) using the Internet can strengthen my interpersonal relationships, (7) I can make more friends online, (8) by going online, my friends and I have more contact with each other, and (9) Internet makes it easier to communicate with people around the world. We consider these two variables as appropriate proxy measures for the instrumental effect of the Web, given the idea that respondents may go online more frequently and have more positive attitudes toward the
Internet if they obtain more benefits from the low search cost and easy access to information while they are online.

Given the limitation posted by the original questions in the questionnaire, the respondents might not be able to indicate their engagement in different types of online political activities separately, as suggested in theory. The Pearson’s correlations documented in Table 1 suggest that the two online political participation variables exhibit weak or moderate relationship with the key political traits and Internet experiences variables. However, the correlations between online civic talk, online media multiplexity, and expressing political opinions in online public spaces could suggest a problem with multicollinearity. We further conduct the variance inflation factor (VIF) tests to detect the potential multicollinearity among the aforementioned explanatory variables included in our models. The results suggest that the VIF factors of all our variables are smaller than 2^6, suggesting that our models do not suffer from the multicollinearity problem.

**Analysis procedure**

Given the binary form of our outcome variables, we conduct a series of logistic regressions to investigate the relationship between online civic talk, online media multiplexity, and online political participation while controlling for a set of socioeconomic, psychological and behavioral variables. The first set of models (Model 1–4 in Table 2) examines whether aforementioned factors relate to contacting political figures online directly, while holding other antecedents constant. The second set (Model 5–8 in Table 3) looks at whether these factors also relate to expressing political opinions in online public spaces. In both tables, we begin by presenting the baseline models including only the control variables (Models 1 and 5), followed by the inclusion of online civic talk (Models 2 and 6), online media multiplexity (Models 3 and 7), and the interaction between these two variables of interest (Models 4 and 8).
In order to demonstrate the directionality of the relationships between our variables, we present the unstandardized coefficients and the standard errors in our tables. However, to better interpret the magnitude of the relationship between these variables, we describe the relationship using odds ratios in our discussion.

Findings

What explains online political participation

We observe similar patterns regarding the relationship between online civic talk, online media multiplexity, and both measures of online political participation. The first model in Table 2 indicates that, males, those who were younger and better educated, those who accessed more political news, and those who had a more positive attitude toward the Web were more likely to do so than their counterparts. As hypothesized, Model 2 suggests a positive relationship between online civic talk and contacting political figures directly, while only gender and political news consumption continue to exhibit a statistically significant association with this online political activity. Holding all other variables constant at their means, the corresponding odds ratio is 42.0 (exp. 3.738) in Model 2, suggesting that respondents who had discussed politics with their friends online were about 42 times more likely to contact political figures such as elected officials or legislators directly via online channels than those who had not done so.

Model 3 indicates that, as hypothesized, online media multiplexity is positively related to contacting politicians directly while controlling for other factors. Comparing to the respondents who used three (mean=3.1) types of online media to communicate with their social ties, the odds of directly contacting political figures via the Internet were as almost twice as large (197%) for those using five (one stand deviation above average, 4.84) different online media for interaction. Based on the non-significant interaction term, Model 4 shows that the association between online
Similarly, Model 5 in Table 3 shows that, respondents who were younger, had higher education as well as political efficacy, accessed more political news, and had a more positive attitude toward the Web were more likely to express political opinions in online public spaces than their counterparts. Also as hypothesized, Model 6 indicates that, respondents who had discussed politics with their friends via online channels were 24.7 times more likely than their counterparts to articulate their thoughts about politics on forums, blogs, websites of news media, or other similar online destinations.

Model 7 indicates that, compared with respondents who used three types of online media, the odds of expressing political opinions publicly online were also as almost twice as large (187%) for those using five different media to contact their social ties online. Only political efficacy and political news consumption continue to be positively associated with expressing political opinions online once we include online civic talk and online media multiplexity in Model 6 and 7. Lastly, Model 8 also suggests that the association between online civic talk and expressing political opinions publicly is not moderated by online media multiplexity.

Based on the similar results regarding both contacting political figures directly and expressing political opinions in online public spaces, we find that online civic talk and online media multiplexity are consistently and positively related to online political participation, either privately or publicly. Therefore, both H1 and H2 are supported by our analyses. More importantly, the positive relationship of online civic talk with these online political activities seems to remain at a similarly high level when we include online media multiplexity into the analyses. This suggests that, in addition to the variances explained by online civic talk, online media multiplexity is indeed able to explain further the differences in propensity toward online
Another interesting finding is that, when explaining whether citizens may engage in online political activities, demographic backgrounds, psychological traits, and Internet experience may not be as important as online civic talk and online media multiplexity. For example, education and Internet familiarity only exhibit a relationship with both online political activities in the baseline models (Models 1 and 5). Although our findings are consistent with the literature demonstrating the gender difference in direct political participation (Verba, et al., 1995), showing that females were consistently less likely than males to directly contact political figures via the Web in all four models, we do not find gender difference regarding expressing political thoughts publicly online. Similarly, only one of the three psychological antecedents and the level of political news consumption exhibit a relationship with the odds of articulating political thoughts in online public spheres. The result is consistent with previous work indicating that politically efficacious Taiwanese citizens were more likely to be politically involved (Chen & Lo, 2006).

The large coefficients of online civic talk and online media multiplexity may be due to the overall political disengagement of some respondents, resulting in low propensity to practice any political activities. The predicted probabilities presented in Table 4 illustrate such a tendency. Looking at the results generated from Models 2 and 6 in the top panel of Table 4, for those who had never engaged in civic talk online, their predicted probability of contacting political figures online directly is less than 1% and their predicted probability of expressing political opinions in online public spaces is only about 5%.

In a sharp contrast, if respondents had discussed politics with their social ties online, there is about 28% chance that they would contact political figures directly via the Internet, and
the predicted probability of expressing political opinions publicly in online destinations is also fairly high (56%)\(^7\). When controlling further for online media multiplexity, the predicted probabilities generated from Models 3 and 7 resemble the similarly large discrepancy between the people who had engaged in online civic talk and those had not done so.

The bottom panel of Table 4 presents the discrete change in the predicted probability in relation to the types of online media used for communication. While such changes in the predicted probabilities are less pronounced than the differences induced by online civic talk, using more online media for social interaction increases the odds of online political participation noticeably.

**Importance of Social Factors in Conditioning Online Political Participation**

The results presented in the previous section indicate that Taiwanese citizens engaging in online civic talk with their friends and those using multiple online media for social interaction are more likely to participate in online political activities, either directly or indirectly. The findings further provide four revealing insights into the link between ICT and political participation in the digitalized civic life in Taiwan. Our first contribution is to extend the understanding of the implications of political discussion for other politically expressive activities, as we confirm the positive link in online contexts using a nationally representative sample of Taiwan. We find that articulating political opinions online is not a political behavior reserved for politically enthusiastic bloggers (Gil de Zúñiga, et al., 2010). Taiwanese citizens who use multiple online media regularly for social interaction are also likely to engage in these political expressive activities via the Web. Note that although we did not have any variable specifically measuring the participatory online culture in Taiwan, the use of BBS was captured in the measure of online media multiplexity and in one of the online political activities. Therefore, our
findings were able to represent the general ICT usage pattern of interests sufficiently.

Second, and perhaps most importantly, we find that ICTs as a communication means play a prominent role in facilitating Web users’ online political participation, given the strong and positive association of online media multiplexity and online civic talk with both direct and indirect online expressive participation. Our analyses also indicate that the novel effect of instrumental Web use appears to be wearing off (Xenos & Moy, 2007), given that there is no statistically significant relationship between the Internet experience variables and online political participation. This means that the media or technologies per se may not necessarily relate to citizens’ political engagement. The specific ways in which citizens use the online media can have crucial implications for their participation in public affairs (e.g., Shah, et al., 2005). In other words, using different online media (such as BBSs versus social network sites) does not necessarily differentiate the patterns of Taiwanese citizens’ political participation since they may visit these online venues for only entertainment purposes. However, if Taiwanese citizens use multiple ICTs to communicate with their friends, then they are more likely to engage in expressive political activities online than their counterparts.

Third, our findings about online political participation in Taiwan also support the claims by Di Gennaro and Dutton (2006) regarding the factors explaining the difference in online political participation in the United Kingdom. The significance of online media multiplexity suggests that Taiwanese citizens can extend the political communication in their private spheres to general public spheres by using available communication tools, which marks a potential path to directly or indirectly influence policy process. We also suspect that the extent of online media multiplexity appears to be a good indicator of new communication or civic skills allowing citizens to engage in politics in digital domains.
The perspective of civic skills (Verba, et al., 1995) implies two underlying issues for digital divide research and e-government studies. We discover that once citizens adopted ICTs in their daily routines, the traditional fault lines such as socioeconomic status and Internet experience may not necessarily be able to differentiate politically involved, from politically disengaged, persons in online contexts. Consistent with the work highlighting the digital inequality in ICT use (Hargittai, 2008), our findings indicate that Taiwanese citizens who use more ICTs for social interaction in private domains are more likely to contact political figures via online channels and voice their political opinions in public spheres, suggesting that online media multiplexity – the usage intensity of online media for social interaction – is related to the democratic potentials of ICTs. Similarly, as citizens start to rely on digital technologies for social interaction as well as civic and political participation, governments, officials, and other political figures should not merely equate e-government initiatives with information dissemination or service digitalization (Li & Feeney, 2012). They should also consider utilizing the interactivity of ICTs to solicit and encourage citizens’ participation in public affairs.

Conclusions and Limitations of Current Study

Our study seeks to assess the implications of ICTs as a communication means for online political participation. While we present some robust evidence showing how ICTs facilitate new types of expressive political participation in online contexts, much empirical work remains to be done to address the nuances and limitations in detail. There are inherent constraints of the TSCS data, which limit the interpretation of the findings. First, the cross-sectional nature of the 2008 TSCS data prevents us from investigating the causality between ICT use and political participation. In other words, we cannot determine whether the relationship suggests that political enthusiasts were likely to use ICTs more intensively, or that heavy Web users were
likely to encounter more opportunities to express their opinions or participate in political activities.

Second, given that the 2008 TSCS mainly focused on media use and online behaviors, we do not have any traditional measures of respondents’ civic and political behaviors, such as membership in voluntary organizations or participation in campaigns; nor do we have information regarding respondents’ personal networks. Given that the original questionnaire primarily asked respondents to report the overall estimates of online political activities and ICT usage, we could only construct proxy measures capturing the general patterns of online civic talk and online media multiplexity. Without a more refined observation with the necessary details about these behaviors, we are not able to account for these important variables and further examine the interaction effects among these constructs noted by some recent studies (Gil de Zúñiga & Valenzuela, 2011; Y. Kim, Hsu, & Gil de Zúñiga, 2013; Rojas, et al., 2011; Tian, 2011). We are also not able to explore the implications of social Web use for political participation in both online and offline contexts. Another limitation of our study is that we could only include Internet users in our models and we acknowledge that the selection bias may be unavoidable. We cannot explore whether there is difference in general political participation between Internet users and non-users, nor can we examine whether online public spheres may have become the main venues for users to engage in public affairs. Future work in this area should seek to collect detailed information regarding citizens’ experience with ICTs and their civic and political engagement in various domains to investigate further the link between ICT use and political participation.

Despite its limitations, our study’s unique approach allows us to make distinct contributions to the literature. Our study produces robust findings consistent with prior research
in Western societies regarding how ICTs facilitate online political participation. More importantly, our findings suggest that communication affordances of ICTs may have notable implications for political communication and participation in online contexts. However, the extent to which citizens can benefit from the democratic potentials may depend largely on their ability to employ and utilize ICTs for social interaction under different situations and needs (Hsieh, 2012). Future work in this area is also encouraged to explore the inequality implications of online political activities.

Notes

1 Internet traffic ranking is based on statistics from Alexa (http://www.alexa.com/siteinfo/ptt.cc). The ranking may be fluctuating given that Alexa updates their tracking statistics daily.
2 The survey questionnaire was designed by the Institute of Sociology at Academia Sinica Taiwan.
3 In the first stage, cities and counties were randomly selected based on a seven-tier stratum classifying their traits of geography and urbanization. In the second stage, a random sample of townships from selected cities and counties was drawn. In the third stage, a random sample of individual household addresses was drawn from the household registration records of selected townships.
4 For example, emailing letters to editors or commenting news articles on the news media website.
5 We apply logarithmic transformation to the monthly personal income to adjust its distribution to normality.
6 The general rule of thumb is that, a VIF factor larger than 10 indicates a multicollinearity problem. A low threshold (VIF=5) is often used for a more robust detection (O’brien, 2007).
7 Given the low predicted probabilities for those who did not discuss politics with social ties online (online civic talk=0), the discrete change (from 0 to 1 in online civic talk) in predicted probability for both outcome variables of online political activities does not correspond closely to the constant factor change in probability. For more details, please see Long (1997).
Table 1: Correlation between respondents' political traits and online experiences

<table>
<thead>
<tr>
<th></th>
<th>Political knowledge</th>
<th>Political efficacy</th>
<th>Political trust</th>
<th>Political news consumption</th>
<th>Internet attitude</th>
<th>Online civic talk</th>
<th>Online media multiplexity</th>
<th>Contacting political figures directly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political efficacy</td>
<td>.113 (.000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political trust</td>
<td>.008 (.772)</td>
<td>.485 (.000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political news consumption</td>
<td>.447 (.000)</td>
<td>.177 (.000)</td>
<td>.066 (.003)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet attitude</td>
<td>-.052 (.085)</td>
<td>.140 (.000)</td>
<td>.053 (.081)</td>
<td>.124 (.000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online civic talk</td>
<td>.055 (.071)</td>
<td>.110 (.000)</td>
<td>.013 (.677)</td>
<td>.310 (.000)</td>
<td>.320 (.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online media multiplexity</td>
<td>-.009 (.764)</td>
<td>.036 (.239)</td>
<td>-.029 (.350)</td>
<td>.148 (.000)</td>
<td>.439 (.000)</td>
<td>.443 (.000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contacting political figures directly</td>
<td>.068 (.026)</td>
<td>.065 (.033)</td>
<td>-.028 (.364)</td>
<td>.200 (.000)</td>
<td>.136 (.000)</td>
<td>.398 (.000)</td>
<td>.253 (.000)</td>
<td></td>
</tr>
<tr>
<td>Expressing political opinions in online public spaces</td>
<td>.066 (.031)</td>
<td>.130 (.000)</td>
<td>.015 (.635)</td>
<td>.270 (.000)</td>
<td>.260 (.000)</td>
<td>.625 (.000)</td>
<td>.398 (.000)</td>
<td>.643 (.000)</td>
</tr>
</tbody>
</table>

* P-values are presented in parentheses.
Table 2: Logistic Regressions on contacting political figures directly

<table>
<thead>
<tr>
<th></th>
<th>Contacting political figures directly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1 Coefficient (S.E.)</td>
</tr>
<tr>
<td></td>
<td>Model 2 Coefficient (S.E.)</td>
</tr>
<tr>
<td></td>
<td>Model 3 Coefficient (S.E.)</td>
</tr>
<tr>
<td></td>
<td>Model 4 Coefficient (S.E.)</td>
</tr>
<tr>
<td>Female (Female=1)</td>
<td>-.575**</td>
</tr>
<tr>
<td></td>
<td>(.219)</td>
</tr>
<tr>
<td>Age</td>
<td>-.031*</td>
</tr>
<tr>
<td></td>
<td>(.014)</td>
</tr>
<tr>
<td>Years of education</td>
<td>.117**</td>
</tr>
<tr>
<td></td>
<td>(.053)</td>
</tr>
<tr>
<td>Married/cohabitation</td>
<td>.402</td>
</tr>
<tr>
<td></td>
<td>(.295)</td>
</tr>
<tr>
<td>Personal income (logged)</td>
<td>-.022</td>
</tr>
<tr>
<td></td>
<td>(.015)</td>
</tr>
<tr>
<td>Political efficacy</td>
<td>.368</td>
</tr>
<tr>
<td></td>
<td>(.201)</td>
</tr>
<tr>
<td>Political trust</td>
<td>-.256</td>
</tr>
<tr>
<td></td>
<td>(.149)</td>
</tr>
<tr>
<td>Political knowledge</td>
<td>.058</td>
</tr>
<tr>
<td></td>
<td>(.135)</td>
</tr>
<tr>
<td>Political news consumption</td>
<td>.259***</td>
</tr>
<tr>
<td></td>
<td>(.052)</td>
</tr>
<tr>
<td>Hours online per week (logged)</td>
<td>.030</td>
</tr>
<tr>
<td></td>
<td>(.074)</td>
</tr>
<tr>
<td>Internet attitude</td>
<td>.617*</td>
</tr>
<tr>
<td></td>
<td>(.218)</td>
</tr>
<tr>
<td>Online civic talk with friends</td>
<td>3.738***</td>
</tr>
<tr>
<td></td>
<td>(.435)</td>
</tr>
<tr>
<td>Online media multiplexity</td>
<td>.357***</td>
</tr>
<tr>
<td></td>
<td>(.097)</td>
</tr>
<tr>
<td>Online civic talk× Online media multiplexity</td>
<td>-1.166</td>
</tr>
<tr>
<td>Constant</td>
<td>-6.703***</td>
</tr>
<tr>
<td></td>
<td>(1.245)</td>
</tr>
<tr>
<td>N</td>
<td>1060</td>
</tr>
<tr>
<td>McFadden's R2</td>
<td>.119</td>
</tr>
<tr>
<td>Deviance</td>
<td>648.682</td>
</tr>
<tr>
<td>LR test</td>
<td>87.601</td>
</tr>
<tr>
<td>AIC</td>
<td>672.683</td>
</tr>
<tr>
<td>BIC</td>
<td>732.275</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001
Table 3: Logistic Regressions on expressing political opinions in online public spaces

<table>
<thead>
<tr>
<th></th>
<th>Model 5 Coefficient (S.E.)</th>
<th>Model 6 Coefficient (S.E.)</th>
<th>Model 7 Coefficient (S.E.)</th>
<th>Model 8 Coefficient (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (Female=1)</td>
<td>-.170 (.162)</td>
<td>-.061 (.193)</td>
<td>-.058 (.197)</td>
<td>-.058 (.197)</td>
</tr>
<tr>
<td>Age</td>
<td>-.022* (.011)</td>
<td>.008 (.013)</td>
<td>.021 (.014)</td>
<td>.022 (.014)</td>
</tr>
<tr>
<td>Years of education</td>
<td>.126** (.040)</td>
<td>.035 (.048)</td>
<td>.007 (.049)</td>
<td>.008 (.049)</td>
</tr>
<tr>
<td>Married/cohabitation</td>
<td>-.351 (.221)</td>
<td>-.435 (.262)</td>
<td>-.328 (.268)</td>
<td>-.332 (.268)</td>
</tr>
<tr>
<td>Personal income (logged)</td>
<td>-.009 (.012)</td>
<td>-.011 (.014)</td>
<td>-.014 (.015)</td>
<td>-.014 (.015)</td>
</tr>
<tr>
<td>Political efficacy</td>
<td>.494** (.154)</td>
<td>.429* (.182)</td>
<td>.416* (.186)</td>
<td>.416* (.186)</td>
</tr>
<tr>
<td>Political trust</td>
<td>-.208 (.115)</td>
<td>-.223 (.138)</td>
<td>-.223 (.139)</td>
<td>-.224 (.139)</td>
</tr>
<tr>
<td>Political knowledge</td>
<td>.071 (.102)</td>
<td>.100 (.122)</td>
<td>.093 (.126)</td>
<td>.093 (.126)</td>
</tr>
<tr>
<td>Political news consumption</td>
<td>.267*** (.040)</td>
<td>.141** (.048)</td>
<td>.128** (.049)</td>
<td>.128** (.049)</td>
</tr>
<tr>
<td>Hours online per week (logged)</td>
<td>.072 (.055)</td>
<td>-.024 (.063)</td>
<td>-.074 (.067)</td>
<td>-.077 (.068)</td>
</tr>
<tr>
<td>Internet attitude</td>
<td>.852*** (.170)</td>
<td>.384 (.207)</td>
<td>.194 (.214)</td>
<td>.195 (.214)</td>
</tr>
<tr>
<td>Online civic talk with friends</td>
<td>3.208*** (.232)</td>
<td>3.004*** (.234)</td>
<td>3.151*** (.581)</td>
<td></td>
</tr>
<tr>
<td>Online media multiplexity</td>
<td>.380*** (.080)</td>
<td></td>
<td>.405*** (.122)</td>
<td></td>
</tr>
<tr>
<td>Online civic talk× Online media multiplexity</td>
<td>-0.040 (.144)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-7.549*** (.969)</td>
<td>-6.293*** (1.159)</td>
<td>-6.695*** (1.184)</td>
<td>-6.789*** (1.235)</td>
</tr>
</tbody>
</table>

N 1060 1060 1060 1060
McFadden's R2 0.167 0.393 0.413 0.413
Deviance 989.484 720.958 697.282 697.206
LR test 198.251 466.779 490.454 490.531
AIC 1013.485 746.957 725.282 727.205
BIC 1073.077 811.515 794.806 801.696

* p<0.05, ** p<0.01, *** p<0.001
Table 4: Predicted Probabilities of online political participation by online civic talk

<table>
<thead>
<tr>
<th></th>
<th>Contacting political figures directly</th>
<th>expressing political opinions in online public spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>Have not discussed politics with social ties via the Web</td>
<td>.009</td>
<td>.009</td>
</tr>
<tr>
<td>Have discussed politics with social ties via the Web</td>
<td>.275</td>
<td>.227</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Contacting political figures directly</th>
<th>expressing political opinions in online public spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using 2 online media for social interaction</td>
<td>-</td>
<td>.020</td>
</tr>
<tr>
<td>Using 3 online media for social interaction</td>
<td>-</td>
<td>.029</td>
</tr>
<tr>
<td>Using 4 online media for social interaction</td>
<td>-</td>
<td>.041</td>
</tr>
<tr>
<td>Using 5 online media for social interaction</td>
<td>-</td>
<td>.057</td>
</tr>
</tbody>
</table>

*Holding all other variables at their mean when generating the predicted probabilities.
Reference


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