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## SECOND SCREENING

# Dual Screening: Examining Social Predictors and Impact on Online and Offline Political Participation Among Taiwanese Internet Users

Trisha T.C. Lin and Yi-Hsuan Chiang

*This study investigates how social factors affect Taiwanese Internet users' dual screening use and its impact on online and offline political participation. The Web survey recruits 961 dual screen users. Structural equation modeling results show that bridging social capital and perceived social presence are significantly associated with dual screening use. Dual screening is positively related to online and offline political participation. Dual screening use strongly influences offline political participation when mediated by online political participation. Moreover, alternative media trust is positively related to online political participation, whereas mainstream media trust shows a negative association.*

## Introduction

Dual screening, which involves the use of one screen device to engage in social and communicative activities while viewing audiovisual content on another, has increased dramatically in recent years (Warren, 2013). Myriad media consumers in various countries have used two screen devices to conduct communicative activities and watch videos simultaneously. Owing to fast technological advancements, dual screening has become prevalent media behavior when users have low thresholds to accessing, consuming, and producing digital content via connected devices (Lochrie & Coulton, 2011; Nielsen, 2014). Using social media as back channels empowers

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audiences to interact with content producers and like-minded people while watching TV. Vaccari, Chadwick, & O'Loughlin (2015) argued that the term "second screening" was problematic as it suggested the universal mode of switching—TV first and social media second. However, TV viewing can sometimes be treated as the secondary activity when users pay primary attention to other screen tasks (Jago, Sebire, Gorely, Cillero, & Biddle, 2011). Thus, this study thus focuses on dual screening use in the context of political participation and examines predictors and outcomes of viewing political videos on one device and engaging in politics-related activities on another (e.g., news consumption and social media discussions).

Many TV audiences have used Internet-empowered second screen devices to follow political events, search information, and share opinions via Twitters during live shows (Sasseen, Olmstead, & Mitchell, 2013; Verizon, 2012). Most viewers of live political shows tweeted personal opinions, including emotional or informative posts, which recreated pseudo group TV viewing experiences (Wohn & Na, 2011). A recent content analysis research that examined tweets about political talk shows revealed how subgenres of TV content has influenced the types of discussions and engagement second screeners (Giglietto & Silva, 2014). Political participation was associated with news consumption on the Internet and social media (Holt, Shehata, Strömbäck, & Ljungberg, 2013; Shah et al., 2007). Gil de Zúñiga, Garcia-Perdomo, & McGregor (2015) identified second screening for news as a significant predictor of online political participation. Vaccari et al. (2015) found that dual screening while watching political debate videos was correlated with political engagement. Built upon past studies' exploratory results, this research further examines social predictors of dual screening in consuming political news and videos and their impact on online and offline political participation in an Asian context.

To address the research gap, a Web survey in March 2016 recruited 961 Taiwanese Internet users who have had prior dual screening experiences to engage in online communicative and social activities related to their consumption of political videos (e.g., news, current affairs, and talk shows). Many Taiwanese have increasing dual screening habits for video consumption (Statista, 2016b) and keen participation in politics and elections (Sullivan, 2013); thus, Taiwan provides an appropriate case to examine the relationships of social factors affecting politics-related dual screening practices (i.e., perceived sociability, perceived social presence, and bridging social capital) and their effects on online and offline political participation. The findings will provide important insights to academics in studying emerging multiscreen social TV and political communication, as well as practitioners in political campaigns and TV industries.

## Theoretical Background

A growing body of research shows that individual political participatory behaviors are shaped by their media consumption and interpersonal discussions (Calenda & Meijer, 2009; Tolbert & McNeal, 2003). They are consistent with the perspectives of the communication mediation model (CMM) that emphasizes how news information, when mediated by face-to-face interpersonal discussions, can raise awareness about collective problems, highlight opportunities for political participation and lead to individual engagement in various political activities (McLeod et al., 1999). An implicit premise of CMM postulates that communicative behaviors largely mediate the effects of media consumption on users' participatory behaviors. Gil de Zúñiga et al. (2014) found that political expressions on social media significantly mediated the relationship between social media news consumption and political engagement. As dual screening facilitates the consumption of political content (e.g., news and videos) and online political communication (Gil de Zúñiga, Molyneux, & Zheng, 2014), the CMM can provide an insightful theoretical basis to investigate such emerging phenomenon.

Based on CMM, individuals with extensive and heterogeneous discussion networks are likely to encounter a variety of politically active individuals with diverse opinions, which can enhance their discussions and reflections about political and public affairs (Leighley, 1990). Social media and online forums allow users to connect with people outside their pre-existing social groups and locations, thus facilitating the formation of virtual communities around shared interests (Ellison, Steinfield, & Lampe, 2007). Ellison et al. (2007) stated that bridging social capital was essential to the formation of online linkages of weak ties. The mediated communication of dual screening can reach geographically dispersed virtual groups with similar political interests. These users can also connect with heterophile others to discuss diverse topics about politics. Additionally, past social TV (STV) studies have found bridging social capital as a strong predictor and mediator of user engagement (Lim, Hwang, Kim, & Biocca, 2015; Lin et al., 2016). It is reasonable for this study to concentrate on examining the association of dual screening, a type of STV, and its association with bridging social capital on heterogeneous weak ties. Several STV studies have provided strong support to regard the social components (e.g., perceived sociability, perceived social presence, and bridging social capital) as predictors that influence STV attitude and intention to use (Hwang & Lim, 2015; Kim & Sundar, 2014; Lin et al., 2016; Shin, 2013; Shin & Kim, 2015).

Moreover, dual screening is a form of media multitasking that allows users to swiftly shift attention to various tasks on two screens. In the context of dual screening for political participation, users seek political information and consume media content on one screen, while they actively engage in discussions, elaborations, and reflection on political issues via social media on a separate screen. These complementary tasks on two screens likely increase user involvement and strengthen the

effects on political participation, instead of reducing cognitive resources allocated to media tasks. Hence, this study proposes a CMM process integrating social concepts to explain how politics-related dual screening use that undertakes political content consumption and political discussions on separate screens influences online and offline political participatory behaviors.

## Political Participation

According to Verba, Schlozman, & Brady, (1995, p. 38), political participation refers to activities with the intent or effect of influencing government actions. Several researchers have developed their definition and measured offline political participation with items such as attending protests, making campaign donations, and writing letters to public officials (Gil de Zúñiga, Jung, & Valenzuela, 2012; Saldaña, McGregor, & Gil de Zúñiga, 2015). The emergence of the Internet and social media has brought new ways of participating in elections and public affairs (Chadwick & Howard, 2008). Unlike mass media's one-to-many communication, computer-mediated political participation can empower individuals from a grass-roots level to reach out to both political figures and the masses (Castells, 2007). Traditional offline participation can be executed online, such as signing online petitions and writing emails to politicians. The Internet also facilitates unique online expressive participation, like posting or commenting on political issues or subscribing to political parties' Facebook pages (Gil de Zúñiga, Veenstra, Vraga, & Shah, 2010). Many scholars have regarded online political participation as a related but separate construct from offline participation (Gil de Zúñiga et al., 2012; Skoric, Ying, & Ng, 2009).

Online and offline political participation are the dependent variables in this dual screening research. Comparatively, online participation requires lesser time and commitment and is arguably less resource intensive than offline participation (Vitak et al., 2011). Online political participation is sometimes viewed as a supplement to traditional modes of participation (Gil de Zúñiga et al., 2010). Various online activities can coordinate the mobilization of offline political efforts (Shah, Cho, Eveland, & Kwak, 2005). Hence, online political activities can influence offline participation and thus we hypothesize:

H<sub>1</sub>: Online political participation is positively associated with offline political participation.

## Dual Screening Use and Political Participation

Dual screening involves intentional information seeking, passive media consumption, and active online communicative and social activities. Dual screening for

political participation is defined in this study as a hybrid practice in which users utilize two screens for viewing political content and communicating with others about politics. The various types of political content include political breaking news, “live” coverage of political debates, and interviews with politicians (Giglietto & Silva, 2014; Gil de Zúñiga et al., 2015).

Early computer-mediated communication (CMC) studies found the positive influence of purposive information seeking and online expressions on participatory behaviors (Gil de Zúñiga et al., 2010; Shah et al., 2007; Tolbert & McNeal, 2003). Exposure to online information about the U.S. presidential campaign was significantly related to offline political participation (Kenski & Stroud, 2006). Other studies in the United States and Asia have consistently reported that using the Internet and social media for accessing, discussing, and reproducing online political information had direct and indirect associations with various forms of offline participation (Vitak et al., 2011; Wang, 2007). Social media use for news consumption showed a strong relationship with online and offline political participation (Gil de Zúñiga et al., 2012; Saldaña et al., 2015). All in all, these findings are consistent with CMM’s key theoretical assumption that the more people participate in interpersonal discussions, the more likely they will consume news media information, reflect on the content, and engage in political participation (McLeod et al., 1999).

Despite the increasing popularity of dual screening, few scholarly studies have explored its relationship with political participation. Gil de Zúñiga et al. (2015) showed that second screening for news was a significant predictor and mediator of online political engagement. Vaccari et al.’s (2015) panel survey during the British parliamentary elections revealed a strong association between second screeners’ active “lean-forward” practices (i.e., information searching and online discussions) and their political engagement. Based on the aforementioned studies, dual screening for political participation is likely to positively affect both online and offline participation and we hypothesize that:

H<sub>2a</sub>: Dual screening use is positively associated with online political participation.

H<sub>2b</sub>: Dual screening use is positively associated with offline political participation.

## **Bridging Social Capital**

Social capital, a multidimensional construct, refers to the resources available to people through social interactions (Lin, 2001). It can be divided into bonding and bridging social capital at the individual level (Putnam, 2000). Technological affordances of the Internet and social media increase the convenience and capability to maintain and interact with vast social networks, which are beneficial for bridging social capital (Ellison et al., 2007; Resnick, 2002). As past studies suggest a more direct link between heterogeneous networks and democratic and civic engagement

(Lake & Huckfeldt, 1998; McLeod et al., 1999), this study only focuses on bridging social capital that exchanges resources among widely diffused networks of reciprocity. Bridging social capital in the context of political participation can result from informal discussions and interactions on social media (Skoric et al., 2009). Such digital spaces can facilitate political discourse and re-education of citizens to participate in public affairs (Vitak et al., 2011). Although the relationships between social capital and online news consumption have been confirmed (Gil de Zúñiga et al., 2012; Kim, 2007), the role of bridging social capital with regard to dual screening for political participation remains underexplored. Dual screeners of political videos are likely to have social conversations with people in heterogeneous networks, thereby expanding their access to various perspectives on political issues. Thus we propose the following:

H<sub>3</sub>: Bridging social capital is positively associated with dual screening use.

### Perceived Sociability

This study on dual screening focuses on the concept of perceived sociability in CMC research. Preece (2001) defined perceived sociability as how the technical features and social policies of online communities advance group members' social interactions for shared purposes. Dual screening can be identified as a kind of STV because its video viewers interact with other audiences using various modalities of social media. In the context of STV, Shin and Kim (2015) regarded perceived sociability as the characteristics of the technology-mediated communication environment that support a state of being sociable, and where viewers find interaction with one another a pleasant experience. Perceived sociability plays an instrumental role in users' attitude toward social media adoption (Keenan & Shiri, 2009) and their use intention (Gao, Dai, Fan, & Kang, 2010). Shin's STV study (2013) found that perceived sociability positively affected users' attitude and intention to use. Another recent study showed that perceived sociability of STV, when mediated by bridging social capital, had an indirect positive association with program loyalty outcomes such as repeating video viewing and using social media for interactions (Lin et al., 2016). As perceived sociability of dual screening is likely to encourage the continued consumption of political content and increase online social interactions, we propose the following:

H<sub>4a</sub>: Perceived sociability is positively associated with bridging social capital.

H<sub>4b</sub>: Perceived sociability is positively associated with dual screening use.

## Perceived Social Presence

Many scholars agree that virtual co-presence is an essential concept in understanding active engagement in online media use (Kim & Biocca, 1997; Song & Hollenbeck, 2015). In CMC studies, perceived social presence is a psychological variable that goes beyond the virtual presence of other social actors and generates subjective experiences of closeness and connectedness in mediated communications (Heeter, 1992; Lombard & Ditton, 1997). The present study adopted the definition from Hwang and Lim (2015) and regards perceived social presence as the extent to which dual screening facilitates the experience of being psychologically present with others and the perceptual illusion of non-mediation.

The influence of perceived social presence on user behavior or intention has been extensively studied in the context of virtual environments (Chung, Han, & Koo, 2015; Kear, Chetwynd, & Jefferis, 2014). Shin (2013) reported a positive effect of perceived social presence of STV on user attitude and intention to use. Lim et al. (2015) found that social presence, when mediated by channel commitment, predicted sports channel loyalty. A recent study found that perceived social presence of STV and its bridging social capital mediated the effect of perceived sociability on program loyalty (Lin et al., 2016).

The low entry barriers and affordances of social media allow audiences that consume similar audiovisual content to interact with one another and establish communities through bandwagon cues such as hashtags, share, or likes (Hwang & Lim, 2015; Kim & Sundar, 2014). The immediacy and responsiveness of such back-channel communication while viewing videos can create virtual co-viewing experiences (Johns, 2012). Thus, given that dual screening involves the use of social media and online channels to facilitate interpersonal communication, this study expects that the perceived social presence of dual screening will stimulate audiences to actively engage in politics. Hence, we hypothesize:

H<sub>5a</sub>: Perceived social presence is positively associated with bridging social capital.

H<sub>5b</sub>: Perceived social presence is positively associated with dual screening use.

## Media Trust and Offline Political Discussions as Control Variables

This study selects (mainstream and alternative) media trust and offline political discussions as control variables in testing the proposed hypotheses because their influences have been identified in literature over political participation and media effects (Gil de Zúñiga, Bachmann, Hsu, & Brundidge, 2013; Kaufhold, Valenzuela, & Gil de Zúñiga, 2010). Trust in news media refers to the belief in the professionalism of journalistic practices (Liebes, 2001). Past research has confirmed that media trust influenced



people's selection of news media (Johnson & Kaye, 1998; Tsftai & Capella, 2003) and moderated media effects on audiences (Jackob, 2010; Kioussis, 2001). According to Kaufhold et al. (2010), although consuming professional news and citizen journalism both led to political participation, people who trusted professional news media more were relatively less involved in political activities. In comparison, individuals who consumed and trusted citizen news more tended to engage more in online political discussions and online political participation (Rojas & Gil de Zúñiga, 2010). Additionally, Gil de Zúñiga et al. (2013) identified the influential effects of expressive online news use on political participation, especially when people engaged in active political discussions. In the context of dual screening, people conveniently utilize easy-to-use connected screens to seek diverse political content and discuss issues with other users via social media, which likely increase interpersonal discussions, engagement, and online and offline political participation. Figure 1 shows the research model to test the proposed associations between variables hypothesized in this study.

## Methodology

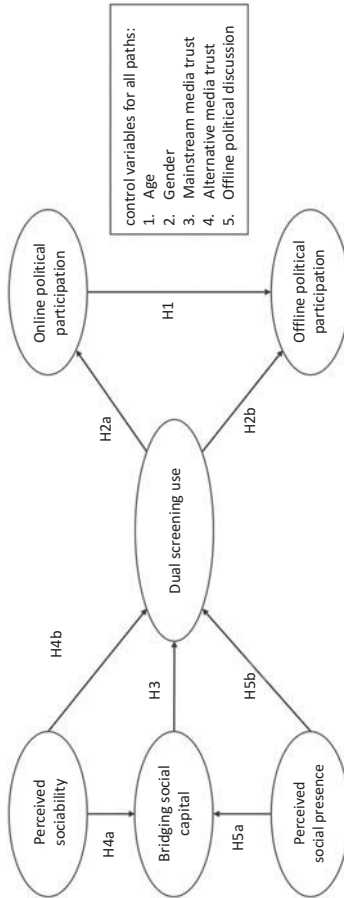
### Research Context

Taiwan has a robust democratic political system with multiple parties. The majority of Taiwanese have high levels of political interest and participate actively in a vibrant election culture (Lee, 2015; Sullivan, 2013; Wang, 2007). The results of Taiwan's 2016 general election reaffirmed the third peaceful transfer of power and elected its first female president (Lee & Schreer, 2016). Taiwan has an advanced ICT environment and over 19 million Internet users with a penetration rate of over 80% (Statista, 2016a). Industry reports have shown that 72% of multiscreen users in Taiwan owned second devices (Louisse, 2015) and 68% of Taiwanese used smartphones to consume online content while watching TV (Statista, 2016b). Overall, Taiwan provides a pertinent context for this research to investigate dual screening for political participation.

### Data Collection

The cross-sectional Web survey was conducted in March 2016, two months after Taiwan's 2016 general election. To participate, the respondents must fulfill the criteria of Internet users with prior dual screening experiences to engage in online political discussions related to political videos (e.g., news, current affairs, and talk shows). The respondents were randomly selected from a Taiwanese online panel owned by InsightXplorer. The online panel represents the age (median = 40 to 44 years old) and gender (male = 49.7%, female = 50.3%) distribution of Internet users in Taiwan (TWNIC, 2015). Although a total of 1,045 respondents completed the Web survey, this study had 961 valid respondents after data cleaning. The sample

Figure 1  
Research Model



size calculator for structural equation modeling (SEM) (Soper, 2016) shows that the final sample size ( $N = 961$ ) satisfies the required sample size for model testing ( $N = 161$ ). The gender distribution of the final sample (male = 50.2%, female = 49.8%) is close to the situation of Taiwanese Internet users. The average age of the respondents is 40.25 years old ( $Min = 20$ ,  $Max = 80$ ,  $SD = 11.98$ ) which is similar to the median age of Taiwanese Internet users.

## Measurement Items

The majority of items were adapted from past studies in English. This study adopted a rigorous language translation process (Forsyth, Kudela, Levin, Lawrence, & Willis, 2007) to retain the survey questions' meaning during translation. Considering that Mandarin is the first language in Taiwan, the items were first translated from English to Mandarin by bilingual researchers. Staff from InsightXplorer also conducted back-translation and made revisions. Several target participants and native Chinese speakers later pre-tested the questionnaire. The final review was conducted before disseminating the Web survey to ensure translation accuracy.

The analysis of the survey items shows adequate psychometric properties (Appendix 1). First, most of the factor loadings of the items were above .70, indicating adequate reliability. Next, all multi-item constructs obtained an average variance extracted value of more than .50, indicating discriminant validity. No issues related to multicollinearity exist because the tolerance values ( $> .20$ ) and variance inflation factors ( $< 5$ ) were within benchmarks. Table 1 shows the zero-order correlation matrix of the study variables.

*Online Political Participation.* Online Political Participation ( $M = 3.80$ ,  $SD = 2.63$ ) is a six-item measurement of online political participation adapted from Jung, Kim, & Gil de Zúñiga (2011) and Saldaña et al. (2015). A 10-point Likert scale was used to indicate responses (1 = *never*, 10 = *always*), when asking respondents how often they signed or shared an online petition, or participated in online political polls, and so on. The items showed excellent reliability (Cronbach's alpha = .97).

*Offline Political Participation.* The six-item measurement of offline political participation ( $M = 3.42$ ,  $SD = 2.61$ ) was adapted from three studies (Campbell & Kwak, 2010; Jung et al., 2011; Saldaña et al., 2015). A 10-point Likert scale was used to indicate responses (1 = *never*, 10 = *always*), when asking respondents how often they donated money to a campaign or political cause, attended a political rally, and so on. The reliability of the items is excellent (Cronbach's alpha = .98).

*Perceived Sociability.* Perceived sociability ( $M = 4.13$ ,  $SD = 1.72$ ) was measured by three items adapted from Shin (2013) with excellent reliability (Cronbach's alpha = .94). A 7-point Likert scale was used to indicate responses (1 = *strongly disagree*, 7 = *strongly agree*).

**Table 1**  
**Zero-order Correlation Matrix**

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	-											
2. Gender (1 = Male, 0 = Female)	.09**	-										
3. Political affiliation (1 = DPP, 0 = Non DPP)	-.02	.00	-									
4. Mainstream media trust	.09**	.00	.63*	-								
5. Alternative media trust	.01	.02	.14**	.82**	-							
6. Offline political discussion	.01	.05	-.01	.21**	.19**	-						
7. Dual screening use	.02	.01	.05	.49**	.49**	.25**	-					
8. Perceived sociability	.02	.03	.10**	.46**	.53**	.22**	.43**	-				
9. Perceived social presence	.03	.70*	.12**	.47**	.54**	.18**	.45**	.82**	-			
10. Bridging social capital	.01	.06	.12**	.44**	.54**	.22**	.44**	.81**	.84**	-		
11. Online political participation	-.01	.69*	.11**	.57**	.67**	.27**	.51**	.46**	.53**	.52**	-	
12. Offline political participation	-.02	.06	.09**	.53**	.60**	.29**	.50**	.43**	.51**	.51**	.88**	-

Note. \*  $p < .05$ , \*\*  $p < .01$

*Perceived Social Presence.* Perceived social ( $M = 4.04$ ,  $SD = 1.72$ ) presence was measured using three items adapted from Hwang and Lim (2015). A 7-point Likert scale was used to indicate responses (1 = *strongly disagree*, 7 = *strongly agree*). The reliability of the items is excellent (Cronbach's alpha = .95).

*Bridging Social Capital.* Bridging social capital ( $M = 4.09$ ,  $SD = 1.60$ ) was measured by six items adapted from Ellison et al. (2007). A 7-point Likert scale was used to indicate responses (1 = *strongly disagree*, 7 = *strongly agree*). The reliability of the remaining items was still excellent after removing one ("I feel I am part of the dual screening community") as a result of poor factor loading ( $< .60$ ), (Cronbach's alpha = .95).

*Dual Screening Use.* Dual screening use ( $M = 2.55$ ,  $SD = 1.67$ ) was measured by three items that asked respondents about their likelihood to use dual screening when watching current affairs, political live events and news, and participating in the political discussions related to content on another screen. A 4-point Likert scale was used to indicate responses (1 = *rarely*, 4 = *always*). The reliability of the items is adequate (Cronbach's alpha = .71).

*Control Variables.* Age, gender, political affiliation, mainstream and alternative media trust, and offline political discussion were used as control variables. Pertinent control variables from the literature related to political participation were identified (Gil de Zúñiga et al., 2010; Ikeda & Boase, 2011). This study treated age as a ratio variable (i.e., 20 to 80) and gender as a nominal variable (1 = male, 0 = female). Political affiliation was considered a nominal variable by asking respondents whether they voted for the presidential nominee of the Democratic Progressive Party (DPP) (Taiwan's current ruling party) in the 2016 election (1 = yes, 0 = no). The results show that 33.7% of the respondents voted for DPP ( $N = 324$ ). Items for mainstream media trust ( $M = 4.01$ ,  $SD = 1.28$ , Cronbach's alpha = .94) and alternative media trust ( $M = 3.97$ ,  $SD = 1.29$ , Cronbach's alpha = .96) were adapted from Gil de Zúñiga et al. (2015) and measured by a 7-point Likert scale (1 = *not at all*, 7 = *complete trust*). Finally, offline political discussion was assessed by asking respondents about the number of hours spent on face-to-face political discussions weekly ( $M = 3.14$ ,  $SD = 5.38$ ).

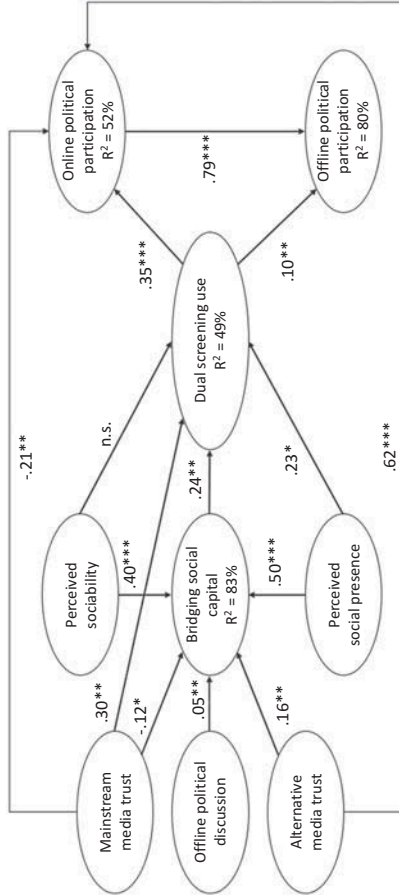
## Results

### Hypothesis Testing

SEM via Mplus 7 was performed to analyze the relationship between variables in the research model. The results of the fit indices generally indicate that the research model has a good fit to the data:  $\chi^2/df = 2.39$ , RMSEA = .04, CFI = .96, TLI = .96, SRMR = .05 (Hu & Bentler, 1999). Figure 2 shows the research model with

**Figure 2**  
**SEM Results of the Proposed Model**

Note.  $\chi^2/df = 2.39$ ,  $RMSEA = .04$ ,  $CFI = .96$ ,  $TLI = .96$ ,  $SRMR = .05$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Non-significant control variables (i.e., age, gender and political affiliation) are not shown in the figure.



standardized paths along with control variables that have significant paths (i.e., mainstream and alternative media trust and offline political discussion).

After controlling for the effects of age, gender, political affiliation, (mainstream and alternative) media trust, the results show that online political participation has a positive association with offline political participation ( $\beta = .79, p < .001$ ). Thus  $H_1$  is accepted. Next, dual screening for political participation is positively associated with online political participation ( $\beta = .35, p < .001$ ) and offline political participation ( $\beta = .10, p < .01$ ). Therefore,  $H_{2a}$  and  $H_{2b}$  are accepted. Factors predicting online and offline political participation can explain 52% and 80% of the variance, respectively.

The results also support  $H_3$  because bridging social capital is positively associated with dual screening use ( $\beta = .24, p < .01$ ). However, perceived sociability is only positively associated with bridging social capital ( $\beta = .40, p < .001$ ). Thus,  $H_{4a}$  is accepted but  $H_{4b}$  is rejected. Finally, perceived social presence is positively associated with bridging social capital ( $\beta = .50, p < .001$ ) and dual screening use ( $\beta = .23, p < .05$ ).  $H_{5a}$  and  $H_{5b}$  are accepted. Factors predicting bridging social capital and dual screening use can explain 83% and 49% of the variance, respectively. Table 2 summarizes the results of the hypothesis testing.

## Mediation Analysis

A mediation analysis via Mplus 7 was performed to further determine whether online political participation mediates the association between dual screening use and offline political participation. We compared the indirect and direct effects of dual screening use toward offline political participation via online political participation (Preacher & Hayes, 2008). The results supported online political participation as a mediator between dual screening use and offline political participation, because the value of its indirect effect ( $\beta = .28, p < .001$ ) is larger than its direct effect on offline political participation ( $\beta = .10, p < .01$ ).

## Alternative Model

As theoretically dual screening use may be regarded as a predictor of bridging social capital to foster the development of weak ties over the Internet, this study tests the reverse logic of an alternative model. The SEM results are shown in Figure 3.

Before examining the statistical significance of the associations in the alternative model, the two models' SEM model fit parameters must be compared. Table 3 shows that both models satisfy conventional benchmarks proposed by Hu and Bentler (1999) (i.e.,  $\chi^2/df$ , RMSEA, CFI, TLI and SRMR). Next, we checked their Akaike's information criterion (AIC) and Bayesian information criterion (BIC) values. As past studies suggested that the model with lower AIC and BIC values has greater model fit (Kuha, 2004; Vrieze, 2012), the initial model has greater model fit than the

**Table 2**  
**Summary of Hypothesis Testing**

	Hypothesis	$\beta$	Decision
H <sub>1</sub>	Online political participation is positively associated with offline political participation	.79***	Accept
H <sub>2a</sub>	Dual screening use is positively associated with online political participation	.35***	Accept
H <sub>2b</sub>	Dual screening use is positively associated with offline political participation	.10***	Accept
H <sub>3</sub>	Bridging social capital is positively associated with dual screening use	.24***	Accept
H <sub>4a</sub>	Perceived sociability is positively associated with bridging social capital	.40***	Accept
H <sub>4b</sub>	Perceived sociability is positively associated with dual screening use	-.11	Reject
H <sub>5a</sub>	Perceived social presence is positively associated with bridging social capital	.50***	Accept
H <sub>5b</sub>	Perceived social presence is positively associated with dual screening use	.23*	Accept

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Table 3**  
**Model Fit Comparison**

Model	AIC	BIC	$\chi^2/df$	RMSEA	CFI	TLI	SRMR
Initial	96,908.75	97,726.57	2.39	.04	.96	.96	.05
Alternative	113,247.73	114,216.46	2.58	.04	.96	.96	.04

alternative model. In sum, the results support the arguments that users’ perceived social predictors (bridging social capital, perceived social presence, and perceived sociability) elicit greater dual screening use than the reverse logic, which can influence online and offline political participation.

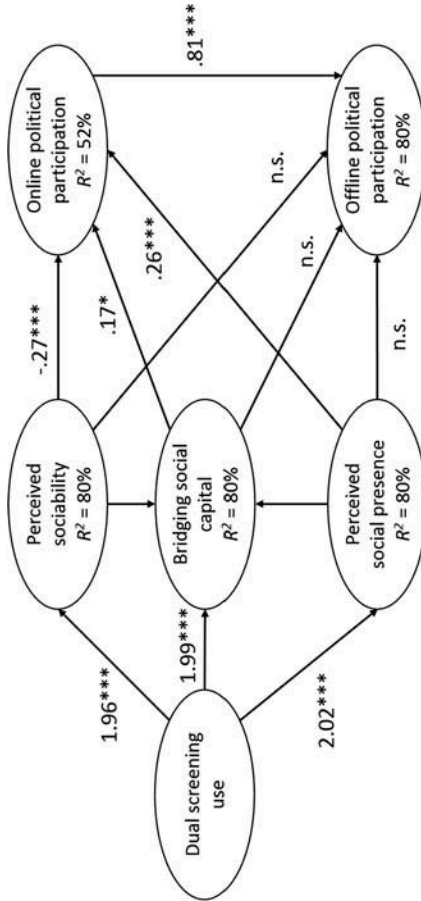
### Discussion and Conclusion

Based on CMM’s theoretical basis, this study examines the predictors of dual screening for politics-related content and the impacts on online and offline political participation among Taiwanese Internet users. Although past studies showed that perceived sociability and social presence predicted the intention to use STV (Shin, 2013; Shin & Kim, 2015), this research found social presence was the only factor



**Figure 3**  
**SEM Results of the Alternative Model**

Note.  $\chi^2/df = 2.58$ ,  $RMSEA = .04$ ,  $CFI = .96$ ,  $TLI = .96$ ,  $SRMR = .04$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , n.s. = non-significant. Control variables (i.e., age, gender, political affiliation, mainstream and alternative media trust, and offline political discussion) are not shown in the figure.



associated with dual screening for political participation. The findings indicate that feeling virtual co-viewing political videos and communicating with others have positive effects on dual screening use for political participation. According to Cameron and Geidner (2014), when individuals had the dual viewing of political videos and tweets, their judgments to conformity were heavily influenced by political ideology, personal values, and public opinions. Given that the main goals of dual screeners in the current study are to understand complex political issues or engage in political activities rather than socialization, it explains why perceived sociability that reflects users' assessment of pleasantly meeting and interacting with netizens via online screen activities shows no association with dual screening use for political participation.

Nonetheless, bridging social capital in this study is identified as the key social factor positively affecting dual screening for political participation. Past studies have suggested a link between heterogeneous online social networks and political engagement (Lake & Huckfeldt, 1998). Political participation, online or offline, requires mobilizing many people to make collective actions across social circles and geographical boundaries. These explain our results that bridging social capital motivates dual screening use for political participation, because it can facilitate users meeting weak ties or new people with shared political interests, gain awareness of diverse perspectives, and engage in different participatory activities.

Similar to past studies (Kaufhold et al., 2010; Rojas & Gil de Zúñiga, 2010), this research finds that alternative media trust has a strong positive association with online political participation, while mainstream media trust is negatively related to it. Nonetheless, they both fail to influence dual screeners' offline political participation. Mass media news (also shown on affiliated Web sites) and alternative media content (e.g., Web-only news, citizen journalism, and social media news) in Taiwan have diverse political standpoints in terms of political party support and social issues. Moreover, Taiwanese have relatively low trust in the credibility of mainstream media news. Dual screeners who distrust mass media and regard political content from alternative media as credible are likely to consume Internet political content and participate in politics online.

In addition to the positive relationship between online and offline political participation, this study finds that dual screening use has a greater association with online political participation than offline political participation. Dual screening improves user convenience to participate in political activities via the Internet (e.g., online petition and donation to political campaigns) by utilizing screen devices for communicative activities on social media. Furthermore, the mediation analysis supports the reinforcement effect of online political participation on the offline participation in relation to dual screening use. In other words, dual screeners who engage in online political participation have a strong tendency to participate in offline political activities. As Christensen (2012) argued that virtual participants in politics tend to be active and competent citizens, dual screeners are likely to reduce the negative impact of "slacktivism," improve online political engagement, and enhance offline

participation by elaborations and reflection after consuming political videos and content.

With respect to theoretical contributions, although past studies have identified social capital as a key determinant of users' political and civic participation (Kaufhold et al., 2010; Kim, 2007), the influence of social factors (e.g., social presence and sociability) on dual screening use for politics-related activities in Asia has not been explored yet. Given that the literature on the relationship between dual screening and offline political participation is lacking, this pioneering study can bridge the research gap. Political engagement is often regarded as the cornerstone of a healthy and well-functioning democracy (Mutz, 2006); thus, this study sheds light on factors affecting the use of emerging dual screening and the effects on online and offline political participation. These results can help politicians and policymakers devise effective strategies to utilize the new forms of political communication. Moreover, dual screening in social conversations about TV programs has a two-way positive causal effect on ratings (Nielsen, 2013); the dual screening insights inform TV producers and content providers of the significance of identified social factors and encourage their use of the factors to increase audience engagement across screen devices.

## Limitations and Future Research

This study has several limitations that can be addressed in future research. First, alternative models can be developed to understand this emerging dual screening phenomenon. Relevant psychological factors such as polychronicity and multitasking should be examined as potential predictors of politics-related dual screening use. Future studies may compare the platforms that influence dual screening use (e.g., smartphone, tablet, laptop, or TV) and interpersonal communication on online and offline political participation. Furthermore, research can also be conducted to investigate how dual screening adopters and non-adopters differ in their online political participation. These research models can provide various insights about how dual screening use can be translated to online and offline political participation. Second, although our three-item dual screening use scale has adequate reliability, because dual screening use is an evolving phenomenon, future research can refine the measurement to better conceptualize and operationalize this concept. For example, dual screening use can be divided into active and passive activities which likely affect users' media engagement levels and determine their online and offline participation. Some may study the associations of diverse dual screening activities on various screen devices with political participation or other applications. Finally, although using SEM to analyze survey data can predict the relationship of variables, the significant associations found in this study cannot be interpreted as causations. To overcome this limitation, experiments can be conducted to test certain aspects of the research model.

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## Appendix 1. List of Items

Dual screening use (1 = never, 5 = always)

*To what extent have you use used dual screening...*

1. When watching current affair content?
2. When watching political live events and news?
3. To participate in political discussions related to content consumed on another screen?

Online political participation (1 = never, 10 = always)

*In the past 12 months, how often did you engage in the following activities?*

1. Signed or shared an online petition.
2. Participated in online political polls.
3. Participated in an online question-and-answer session with a politician or public official.
4. Created an online petition.
5. Signed up online to volunteer to help with a political cause.
6. Donate money to a campaign or political cause via Internet.

Offline political participation (1 = never, 10 = always)

*In the past 12 months, how often did you engage in the following activities?*

1. Attended/watched a public hearing, neighborhood or school meeting.
2. Contacted an elected public official.
3. Attended a political rally.
4. Participated in any demonstrations, protests, or marches.
5. Donated money to a campaign or political cause.
6. Participated in groups that took any local action for social or political reform.
7. Get involved in public interest groups, political action groups, or political campaigns.

Perceived sociability (1 = strongly disagree, 7 = strongly agree)

1. I consider using dual screening a way to find pleasant conversations.
2. I find using dual screening pleasant to interact with the content on the device.
3. I can meet and socialize with people through dual screening activities.

Perceived social presence (1 = strongly disagree, 7 = strongly agree)

1. I feel like I was physically communicating with others when undertaking dual screening activities.
2. I feel like I was watching videos with friends undertaking dual screening activities.
3. I feel like many people were watching videos with me at the same time undertaking dual screening activities.



Bridging social capital (1 = strongly disagree, 7 = strongly agree)

1. I feel I am part of the dual screening community. (removed from analysis)
2. Interacting with people through dual screening makes me want to try new things.
3. Interacting with other dual screen users makes me feel like a part of a larger community
4. I am willing to spend time on dual screening.
5. Dual screening makes me come into contact with new people all the time.
6. Interacting with other dual screen users reminds me that everyone in the world is connected.

Mainstream media trust (1 = not at all, 10 = complete trust)

*To what extent do you trust the following mass media platforms for political information?*

1. Television news (including affiliated website)
2. Political talk show programs (including affiliated website)
3. Radio news (including affiliated website)
4. Newspapers (including affiliated website)
5. Current affairs magazines (including affiliated website)

Alternative media trust (1 = not at all, 10 = complete trust)

*To what extent do you trust the following alternative media platforms for political information?*

1. Citizen journalism news websites
2. News websites available online only
3. Public affairs critics (individual)
4. Public affairs articles (blog)
5. Opinions/comments by Facebook friends
6. Opinions/comments by Line friends
7. YouTube/Facebook videos
8. YouTube/Facebook 'live' web-casting