

Motivation and Trust: How Dual Screening Influences Offline Civic Engagement Among Taiwanese Internet Users

TRISHA T. C. LIN¹

National Chengchi University, Taiwan
Taiwan Institute for Governance and Communication Research

With growing multiscreen video consumption and civic engagement, Taiwan serves as a suitable context to investigate the motivations of dual-screening use and its effects on Internet users' civic engagement attitudes and behaviors. Structural Equation Model was applied on a national web survey involving 741 dual screeners. Results show that discussion motivation and social media trust have a strong, positive association with dual-screening use, whereas information-seeking motivation has not. In addition, the dual-screening use that is strongly and positively associated with users' civic engagement attitudes can positively predict offline civic engagement. Moreover, the youngest dual screeners are likely more motivated to discuss civic issues than their older counterparts. Implications of dual-screening use for civic engagement are discussed.

Keywords: dual-screening use, information-seeking motivation, discussion motivation, social media trust, civic engagement attitudes, civic engagement behaviors

With the advancements of screen and network technologies, an increasing number of global digital consumers use multiple screen devices to consume various multimedia contents and interact with others on social media conveniently. Dual screening or second screening, is an emerging but prevalent type of media consumption, in which people use one digital device to watch videos while simultaneously using another screen to engage in social media interactions (Gil de Zúñiga, García-Perdomo & McGregor, 2015; Vaccari & Valeriani, 2018). This study focuses on the dual screening scenario wherein users swiftly shift attention between screens for passive video viewing and active social media discussions without identifying primary or secondary devices. The widespread use of dual screens in the networked society has been interwoven in many aspects of individual lives, including political participation (Lin & Chiang, 2017) and likely civic engagement.

Trisha T. C. Lin: trishlin@nccu.edu.tw

Date submitted: 2018–11–14

¹ The author thanks the guest editor, Professor Terry Flew and anonymous reviewers for their constructive feedback to improve the paper quality. She also thanks Dr. John Robert Bautista (Ph.D., National Nanyang Technological University) for his statistical support and discussions.

Copyright © 2019 (Trisha T. C. Lin). Licensed under the Creative Commons Attribution Non-commercial No Derivatives (by-nc-nd). Available at <http://ijoc.org>.

As the proliferation of social media use led to influential impacts on politics (H. Chen, Chan, & Lee, 2016) and facilitated political participation (Saldaña, McGregor, & Gil de Zúñiga, 2015), dual screening, that is, audiovisual consumption with social media interactions yields positive impacts on politics (Gil de Zúñiga et al., 2015). The practice of dual screening creates a hybridized media environment for digital consumers to gain information, interact socially, and exchange thoughts or discussions. According to Gil de Zúñiga and Liu (2017), who investigated dual screening in political communication, evidence from 20 countries shows that people use social media for seeking information, discussing public affairs, and participating in political protests. Through the process, social media discussions positively affect dual screeners' political persuasions (Barnidge, Gil de Zúñiga, & Diehl, 2017) and political participation (Gil de Zúñiga et al., 2015; Vaccari & Valeriani, 2018). Vaccari, Chadwick, and O'Loughlin (2015) also find that the active, lean-forward practices of commenting and exchanging thoughts or discussions on social media have strong and consistent positive associations with political engagement.

Apart from political purposes, dual screening likely increases civic participation, a form of community-oriented engagement that can be arranged by nongovernment organizations (NGOs) (H. Chen et al., 2016). Civic engagement refers to individuals' efforts to make changes to communities (Doolittle & Faul, 2013). As a user-friendly and multitasking media behavior, dual screening can facilitate user engagement in civic affairs. In the context of civic engagement, dual screening in this study is defined as using a screen device to consume videos on current affairs, while using another screen to search video-related information online or engage in relevant discussions via various social media. Video viewing is classified as a lean-back activity, whereas information seeking and social media interactions are lean-forward practices (Vaccari et al., 2015). Previous research has examined the effects of social media use on democratic engagement in Taiwan, Hong Kong, and China (H. Chen et al., 2016). Thus far, research has scarcely focused on the relationship between online dual-screening use and offline civic engagement's attitudes and behaviors, especially in Asian contexts. To address this research gap, the present study aims to examine if dual screening facilitate toward Internet users' offline civic engagement attitudes and behaviors in a digital-savvy, democratic society.

Taiwan is a suitable research site for studying dual screening and civic engagement. Its advanced ICT infrastructure and popularity of multiscreen use convinced prior studies that Taiwanese use various technologies and platforms to engage in politics (Hsieh & Li, 2014). Dual-screening use positively influences users' online and offline political participation in Taiwan (Lin & Chiang, 2017). The 2014 Sunflower Movement signifies a breakthrough in Taiwan's civic participation in which civic technologies pave innovative ways to support and mobilize thousands of protesters (Chao, 2014). This movement also raises citizens' awareness of government transparency and openness. In recent years, many civic groups in Taiwan held hackathons to develop technological solutions for improving civic issues or community development. Hence, this study focuses on investigating how motivations and social media trust influence Taiwanese dual-screening use and shape civic engagement attitudes and behaviors. Theoretically, the contributions of this study lie in applying Communication Mediated Model (CMM) and Uses and Gratifications Theory (UGT) to investigate the effects of dual-screening use on civic engagement. Practically, it will provide insights into how civic engagement can be enhanced through dual-screening use and translated into offline civic participation. The results can help civic groups use dual screening to mobilize people's participation on targeted issues.

Literature Review

The current study describes dual screening as an emerging media multitasking behavior where people use a screen device to consume videos on current affairs, while using another screen to access relevant online information or engage in related discussions or interactions via social networking sites (SNS) such as Facebook, Twitter, and Weibo; mobile instant messaging (MIM) such as WhatsApp, Line, and WeChat; and TV apps. According to Gil de Zúñiga, Jung, and Valenzuela (2012), patterns of social media use likely increase users' participation in civic and political causes and events, when they are related to information acquisition (e.g., video use), informal discussion (e.g., social media), and online community building. In the context of civic engagement, dual screening encompasses lean-back civic media consumption (primarily videos) and lean-forward online behaviors, such as information seeking and discussions via civic technologies. The combination of video consumption and participation in online public opinions renders dual screening an influential new media in shaping users' perspectives on civic issues (Vacarri & Valeriani, 2018).

This study integrates CMM and UGT as the theoretical foundation to investigate dual screening and civic engagement. CMM is employed to understand how dual screening influences or mediates individuals' motivations for information seeking and social media discussions, as well as video consumption on separate screens. CMM originally explained how media messages had been reinforced by the mediation of interpersonal face-to-face communication (Shah et al., 2017). Gil de Zúñiga et al. (2015) explicate that CMM paves the way between news media use and political participation in European contexts. The study of McGregor and Mourão (2017) also uses CMM to explain the association between second screening and political participation in the United States. Social media discussions are found to mediate dual screeners' understanding of political news and current affairs, as well as increase their online and offline political participation in Taiwan (Lin & Chiang, 2017). However, McGregor and Mourão (2017) argue that user attitudes toward political content will influence the effects of second screening. When second screeners disagree with the dominant messages on mainstream media or social media, deliberation via second screening results in political disengagement and a decrease in online and offline political participation. This study examines dual screeners' passive consumption of current affairs videos and their active participatory practices (e.g., video-related information seeking and social media interactions). In a similar vein, CMM is used as a theoretical lens to investigate if dual-screening use can mediate civic engagement to expand the scope of political participation.

Next, this study uses UGT to examine what motivates people in their concurrent use of separate screens for video viewing and social media interactions for civic engagement. Dual screeners prefer to multitask on multiple screens, which provides higher gratifications than exclusively using a single screen. When people engage in media multitasking with reciprocal dynamics (Wang & Tchernev, 2012), their attention is constantly shifted back and forth between activities on separate screen devices (Gil de Zúñiga et al., 2015). Based on UGT, when Dias (2016) examines user gratifications for multiscreening or simultaneous media use, she identifies utilitarian motivation (related to making good use of time and accomplishing tasks effectively) and affective motivation (associated with the updating need of happenings and feeling of connectedness to networked relationships). Video consumption, information seeking, and social media discussions that are able to fulfill users' utilitarian and affective gratifications tend to enhance

dual screeners' user experiences. This study intends to further investigate factors motivating the dual screeners' use of this emerging media behavior for civic engagement.

Social Media, Public Sphere, and Civic Engagement

According to Rheingold (2008), Habermas's public sphere, which serves as the foundation of a democratic society, is formed to cultivate the free exchange of ideas and civic discussions to maintain connection among webs of free, informal personal communications. The increasing adoption of easy-to-use participatory media, such as blogs, SNSs, and MIMs, fosters citizens' civic engagement, especially among digitally native youths (Rheingold, 2008). Civic engagement means that an individual belonging to a community can make positive enhancements for the community through collective actions (Doolittle & Faul, 2013; D. Chen & Lee, 2008). According to Hassan (2017), civic engagement is crucial for democracy because it is a form of governance by the people to ensure the well-being of other citizens, which requires the community's collective effort to partake in decision-making. Participating in civic activities can cultivate a sense of collective identity, social responsibility, and mutual respect; notably, such engagement is considered the critical basis for collective action (Nah & Yamamoto, 2017). Enhancing communities requires people to possess the necessary knowledge, skills, values, and technologies in making a difference on civic issues, which are reflected in their attitudes and behaviors (Doolittle & Faul, 2013).

Civic engagement involves directing individual efforts toward collective action in solving problems through a political process (Chen & Lee, 2008). Well-informed citizens are exposed to diverse public opinions on social media platforms and can reflect on different issues, resulting in enhanced democratic engagement (H. Chen et al., 2016). Social media has functioned as a mean of mobilization and civic engagement as empowered users create a myriad of user-generated contents and interactions for different social causes. Social media hashtags assemble individuals from diverse backgrounds and physical spaces, which represents a decentralized logic of aggregation for specific civic issues, such as #Occupy movements (Juris, 2012). Additionally, Lee, So, and Leung (2015) find that social media form an insurgent public sphere in the Umbrella Movement, and political news consumption via social media is positively correlated with the support for the movement and adversely with the trust of political authorities. Some scholars, such as Diller (2001), argue that civic engagement encompasses broader actions than traditional political activities (e.g., voting or being involved in the workings of government). Similarly, this study differentiates political engagement from civic engagement that leans toward community-based activities arranged by NGOs (H. Chen et al., 2016).

Civic Engagement in Taiwan

Taiwan has a dynamic participatory culture that encourages NGOs or citizens to engage in community-based social issues. The 2014 Sunflower Movement, led by Taiwanese students, was an unprecedented, large-scale protest against the illegal procedure of passing the Cross-Strait Trading Act. It is the second student demonstration for democracy in Taiwanese history after the 1990 Wild Lily Movement. During the 23 days when dozens of protesters forcibly occupied Taiwan's legislative chamber, protests and supporters used various civic media and technologies (e.g., live streaming, citizen journalism, collective intelligence in live blogs, and locational technologies) to provide on-site updates regarding the occupiers'

real-time claims and actions in Legislative Yuan (Lin, 2014) and to communicate their causes to the public and to the international society. Social media (e.g., Facebook and the PTT Bulletin Board System) essentially distributed the latest news and discussed the happenings at the demonstration site (Chao, 2014). Additionally, the crowdfunding websites were developed by Taiwanese citizens for purchasing advertisements on *The New York Times* and *Apple Daily* to raise international and local awareness about the government's unlawful police brutality against the protestors (Rowen, 2015). The Sunflower Movement has cultivated the civic engagement culture and civic tech and media practices in Taiwan. Civic tech groups, such as g0v, were formed voluntarily to solve issues concerning the Sunflower Movement's ICT infrastructure and communication channels. Utilizing the Internet and social media enables the civic tech to enhance the outcome of civic engagement online and offline (Nah & Yamamoto, 2017). Supported by tech-savvy NGOs, the protest could sustain and gather an increasing number of citizens as well as enhance both their domestic and international presence.

After the Sunflower Movement, Taiwanese civic groups have awakened and proactively participated in crucial civic issues and transparency in government. Since the 2016 presidential election, the new government, led by the Democratic Progressive Party (DPP), has emphasized the importance of open data as part of the democratization movement (Tseng & Lee, 2017) and met some of the protestors' demands on the open data government approach (Coca, 2018). Open government and open data can boost civic engagement in Taiwan. Launched in 2015, vTaiwan is an online engagement system that allows citizens to partake in the decision-making process of public issues (Apolitical, 2017). Through the creation of polls and opening discussions for the general public (Barry, 2016), vTaiwan has solved several civic issues in Taiwan. In addition, this platform allows Taiwanese citizens to express their concerns and propose solutions to the government. Recently, six of Taiwan's municipalities began endorsing an open data charter by making data open by default, timely, comprehensive, accessible, usable, comparable, and with interoperability (Pan & Hsu, 2018). The dedication to creating an open government resulted in Taiwan being ranked first globally from 2015 to 2017, based on the Global Open Data Index. Taiwan excelled with its open government and data in three aspects, namely, free press, formalized mechanism for public consultations, and dataset production (Devulapalli, 2017). The open government data and platforms encourage and facilitate the empowered Taiwanese to use ICTs in engaging with civic affairs and sociopolitical issues. The development of civic tech in Taiwan is not limited to national-level platforms that facilitate participation in government policymaking and relevant issues. Many tech-savvy activists continue harnessing civic technologies and media to express and support their stance on controversial social and community-based issues ranging from antinuclear and annuity reform to marriage equality.

Motivations for Dual Screening

Based on UGT, this research investigates the motivations for dual-screening use in the context of civic engagement. Dual-screening use gratifies the needs for passive video consumption and active video-related social media discussions on sites such as Twitter (Giglietto & Selva, 2014; Gil de Zúñiga et al., 2015). When dual screeners perceive the social presence of dual-screening use, such media behavior which facilitates user needs in information seeking, online discussions, and social interactions is positively associated with online and offline political participation (Lin & Chiang, 2017).

Information-seeking motivation refers to the motivation to consume news videos and confirm individual stance toward specific issues (Gil de Zúñiga et al., 2015). This motivation stems from people's needs to get updated with key sociopolitical issues and keep tabs on the government (Diddi & LaRose, 2006; A. M. Lee, 2013). Media multitaskers tend to seek or consume information while undertaking other activities (Wang & Tchernev, 2012). Some dual screeners are gratified when their informational needs are fulfilled for knowledge acquisition (McGregor, Mourão, Neto, Straubhaar, & Angeluci, 2017). Others satisfy their information needs by consuming news and subsequently obtaining insights into current affairs (Barnidge et al., 2017). Dual screeners can simultaneously obtain information from both screen devices, which increases users' political participation (Vaccari & Valeriani, 2018). A rising dual-screening use will also increase the level of offline political activities (Gil de Zúñiga & Liu, 2017). Gil de Zúñiga et al. (2015) also find that information-seeking motivation is positively associated with second screening in political participation. Thus, this study extends dual screening to civic engagement and proposes the following:

H1: Information-seeking motivation is positively associated with dual-screening use for civic issues.

Discussion motivation means the motivation to participating in social media discussions about specific issues (Gil de Zúñiga et al., 2015). Online discussions on politics and civic issues increase political participation (Hsieh & Li, 2014). Additional screens provide convenience for users to discuss and share viewpoints about concerning issues via social media (McGregor et al., 2017). Multiscreen news consumption is also driven by the need to discuss news content and exchange opinions for social purposes (A. M. Lee, 2013). In a study of second screens and political participation, Giglietto and Selva (2014) showed that people employed Twitter to express opinions and interpret the TV programs they watched. Dual screening enriches user experiences by exposing users to different perspectives and encouraging discussions about videos (Giglietto & Selva, 2014). Moreover, dual screening facilitates users' roles as informed citizens to create content (Vaccari & Valeriani, 2018) as well as engage in participatory culture and behaviors (Gil de Zúñiga et al., 2015). Dual screeners can be involved in political discussions that increase online and offline political participation (Lin & Chiang, 2017). As discussion motivation predicts dual-screening use in political participation (Gil de Zúñiga et al., 2015), this study extends it to the context of civic engagement and proposes the next hypothesis:

H2: Discussion motivation is positively associated with dual-screening use for civic issues.

Social Media Trust and Dual Screening

Media trust means believing that journalists produce accurate, fair, unbiased, and honest news (Coleman, Morrison & Anthony, 2012). Media trust contains three dimensions: trust in news, media professionals for news making, and news organizations (Williams, 2012). Social media create digital spaces with a hybrid of online mainstream news and user-generated contents (UGC) in which users can be passive media consumers or active publishers (Ardèvol-Abreu & Gil de Zúñiga, 2017). People with low levels of trust tend to prefer nonmainstream news sources such as social media (Fletcher & Park, 2017). This study focuses on investigating the influence of social media trust on dual-screening use for civic engagement. Dual screeners use two screens to conveniently obtain information and discuss videos on social media (Gil de Zúñiga et al., 2015). Trust in social media is positively associated with its use

(Ardèvol-Abreu & Gil de Zúñiga, 2017). When users highly trust social media, they tend to use dual screening in discussing video-related content on social media during video viewing. Accordingly, this study proposes:

H3: Social media trust is positively associated with dual-screening use for civic issues.

Dual Screening and Civic Engagement

This study adopts the civic engagement scale (CES) of Doolittle and Faul (2013) to measure two dimensions of civic engagement, namely, attitude and behavior. Civic attitude is defined as how individuals feel about their personal involvement and their abilities to make changes (Doolittle & Faul, 2013). Civic attitude reflects how people perceive themselves as members of communities when they have sufficient pride to assume civic responsibility and trust their fellow civic members to perform their responsibilities (Gastil & Xenos, 2010). The formation of civic attitude occurs through information exposure and culmination (Gastil & Xenos, 2010). Individuals' opinions can be reinforced or changed through online information exchange; thus, their civic attitudes are shaped after learning and elaborating on civic issues (Gil de Zúñiga et al., 2012).

According to Chen et al. (2016), social media can encourage participation when people can obtain positive reinforcement from their social networks, thus motivating them to express their opinions and even participate. When exposed to other users' opinions, dual screeners' perspectives are likely influenced by others' interpretations of the issues, such as viral hashtags on Twitter (Chadwick, O'Loughlin & Vaccari, 2017). Within the dual-screening environment, media content is a hybrid of audiovisual content, information, and social media opinions, which can indirectly influence user attitudes in politics (Barnidge et al., 2017). In the context of civic engagement, this study proposes that:

H4: The extent of dual-screening use is positively associated with users' civic engagement attitudes toward certain communities or civic issues.

New media technologies provide novel approaches for people to participate in civic movements and online public discussions (Chadwick et al., 2017; Hassan, 2017). Civic behaviors denote the actions people take to make changes in their communities (Doolittle & Faul, 2013). To encourage or mobilize civic movements, civic behaviors can be formed on the basis of civic attitudes or a personal sense of civic responsibility.

Gastil and Xenos (2010) find a reciprocal relationship between civic attitudes and political participation. People are motivated to participate in civic-related activities because of several motivating factors, such as social exposure with like-minded people and beliefs in an individual's power to make changes (Gerodimos, 2012). Through dual screening, users obtain relevant information and learn how to participate in civic activities (Chadwick et al., 2017). According to Saldaña et al. (2015), social media activities allow users to create groups or campaigns and thus foster online civic behaviors. Social media use may lead to offline civic participation when it triggers people's reasoning with proposed actions (Gil de Zúñiga et al., 2012). For example, Gil de Zúñiga and Liu (2017) find that dual screening behaviors are related to the

relationship between political expressions in social media and offline political participations. Lin and Chiang (2017) also showed that dual-screening use of political news and social media simultaneously positively influence online and offline political participation. Hence, this study extends to the civic engagement domain and hypothesizes that:

H5: Civic engagement attitudes positively predict offline civic engagement behaviors.

Figure 1 shows the proposed model that integrates CMM and UGT.

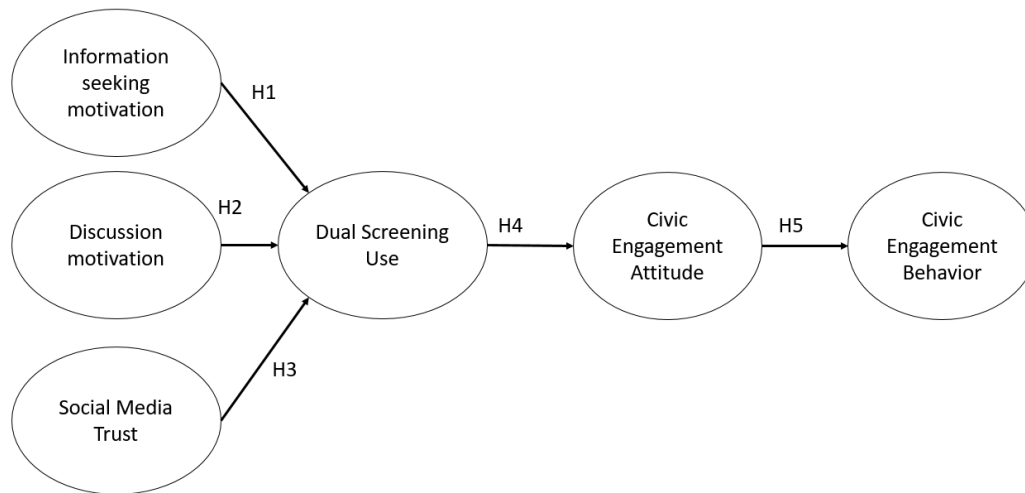


Figure 1. Research model.

Method

This study aims to examine the relationship between dual-screening use and civic engagement in Taiwan. Taiwan is a suitable research site with an 82.3% Internet penetration rate; 97.4% of its users accessed the Internet and social media through mobile phones (C. Chen & Yen, 2017). Dual screening is increasingly gaining relevance in this country, with 72% being multiscreen owners (Lin & Chiang, 2017) and with a 89% mobile social media-penetration rate in January 2019 (Hootsuite, 2019). Relatively, Taiwan has conservative traditional media with clear political stances, but new media provides a digital space for alternative information, diverse viewpoints, and vibrant discussions of civic issues (H. Chen et al., 2016). After the Sunflower Movement, civic participatory culture has been grown by developing civic tech and media to aid citizens' engagement (Tseng & Lee, 2017). Taiwan uses cross-platform media to exhibit civic participation (Hsieh & Li, 2014). According to Gil de Zúñiga and Liu (2017), second screening use in Taiwan is positively associated with political participation.

Data Collection

This Web survey was conducted in March 2016, two months after Taiwan's presidential election. The respondents were recruited randomly from InsightXplorer's online panel to reflect the 2015 Taiwanese

Internet users' quota in age ($Mdn = 40-44$) and gender distribution, with males at 49.7% and females at 50.3% (TNIC, 2015). The filtering criteria for the respondents included Internet users with prior experiences in accessing online or social media for information and social media discussions during video viewing. Age, gender, and political affiliations were treated as control variables. A total of 1,045 qualified respondents participated in the survey. After removing those who refused to reveal which party they voted for in the 2016 presidential election, the final sample has 741 valid respondents. Structural Equation Model (SEM) was used for data analysis. SEM sample size calculator (Soper, 2016) shows that the current sample size exceeds the minimum sample size for model testing ($N_{minimum} = 161$). The gender (male = 51.3%, female = 48.7%) and age ($M = 41.21$, $SD = 11.94$) distribution of the final sample is relatively close to that of the online panel, reflecting the 2015 Taiwanese Internet user profile.

Measurement

Most of the measurements were adapted from past studies. The items in English were translated to Mandarin for the web survey. The translation and item verification were carried out by two bilingual researchers and confirmed by Mandarin native speakers. The analysis shows that each item has a good standardized factor loading ($> .60$). Considering that the tolerance ($> .20$) and variance inflation factor (< 5) values are within the benchmarks, multicollinearity is not an issue. Interestingly, each construct is normally distributed as the kurtosis, and skewness values are within $+2$ (Kline, 2011). Appendix 1 shows the list of measurements and their corresponding values.

Information-seeking motivation. ($M = 5.49$, $SD = 2.36$). Two items measuring information-seeking motivation were adapted from Gil de Zúñiga et al. (2015). The third item was added to say, "I want to use dual screening to search more information about the videos I watched." Responses were based on a 10-point Likert scale with 1 as "strongly disagree" and 10 as "strongly agree." The reliability of the items are excellent ($\alpha = .97$).

Discussion motivation. ($M = 4.82$, $SD = 2.33$). Two items measuring discussion motivation were adapted from Gil de Zúñiga et al. (2015). The third item was added to say, "I want to use dual screening to discuss with others about the videos I watched." Responses were based on a 10-point Likert scale with 1 as "strongly disagree" and 10 as "strongly agree." The items show excellent reliability ($\alpha = .96$).

Social media trust. ($M = 4.09$, $SD = 1.14$). Five items measuring social media trust were adapted from Gil de Zúñiga et al. (2015). Responses were based on a 10-point Likert scale with 1 as "not at all" and 10 as "completely trust." The items have excellent reliability ($\alpha = .93$).

Dual-screening use. ($M = 2.88$, $SD = 1.02$). Four items measuring dual-screening use were self-generated when asking the extent to use various social media platforms (e.g., mobile instant messaging and social networking sites, such as Facebook, Weibo, and Instagram; video and TV sites/apps) while viewing current affair-related videos on two screen devices. Responses were based on a 5-point Likert scale with 1 as "never" and 5 as "always." The reliability of the items is good ($\alpha = .88$).

Civic engagement attitudes. ($M = 5.68$, $SD = 2.03$). Eight items measuring civic engagement attitudes were adapted from Doolittle and Faul (2013). Responses were based on a 10-point Likert scale with 1 as "strongly disagree" and 10 as "strongly agree," showing excellent reliability ($\alpha = .95$).

Civic engagement behaviors. ($M = 3.43$, $SD = 1.47$). Six items measuring civic engagement behaviors were adapted from Doolittle and Faul (2013). Responses were based on a 7-point Likert scale with 1 as "never" and 7 as "always," indicating excellent reliability ($\alpha = .96$).

Control variables. Age ($M = 41.21$, $SD = 11.94$), gender (male = 51.3%), and political affiliation were used as control variables. Political affiliation was measured by asking if respondents voted for the presidential nominee of the Taiwan's ruling party (DPP) during the 2016 election ($n = 258$, 34.8%).

Results

Dual screening in this study examines how active users utilize a screen device to consume videos related to current affairs while using another screen to search online information or engage in social media interactions via SNSs, MIMs, or apps. Respondents who fit the Taiwanese Internet user profile averagely spent 7.68 hours per week ($SD = 10.46$) on dual screen activities, and their dual screening for specific civic affairs information and discussions took 4.60 hours weekly ($SD = 6.99$). Time spent on dual screening for civic engagement is less than the weekly average on viewing videos of current affairs (9.22 hours weekly; $SD = 10.23$), but it is more than face-to-face discussions of civic affairs (3.19 hours weekly; $SD = 4.91$).

SEM was utilized to test the hypotheses in the proposed model. The analysis of the fit indices shows that the model has a good fit with the observed data: $\chi^2/df = 2.50$, $RMSEA = .045$, $90\% CI = .042, .048$, $CFI = .96$, $TLI = .96$, $SRMR = .06$ (Hu & Bentler, 1999). Therefore, the path coefficients are valid for hypothesis testing. Figure 2 shows the SEM results represented by standardized path coefficients.

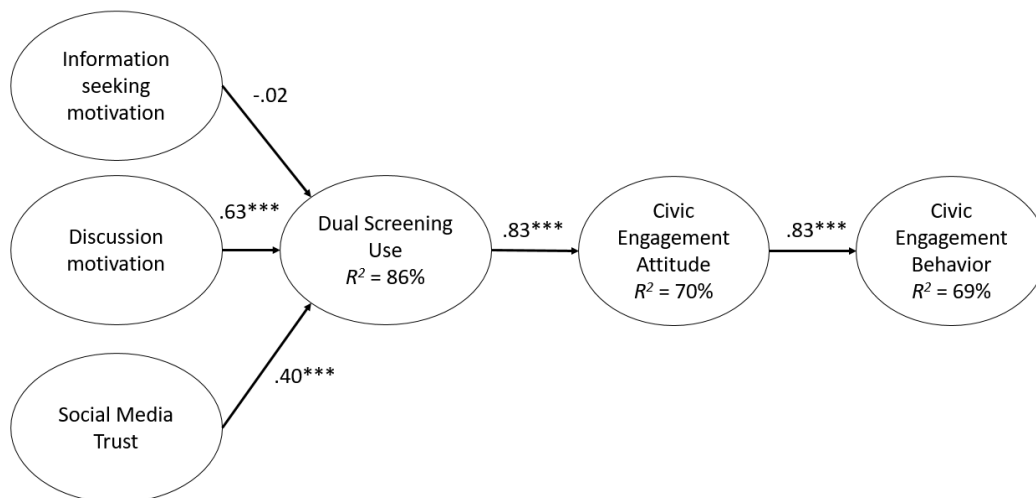


Figure 2. SEM results. Note: $\chi^2/df = 2.50$, $RMSEA = .045$, $90\% CI = .042, .048$, $CFI = .96$, $TLI = .96$, $SRMR = .06$. **Standardized path coefficients are shown. *** $p < .001$.**

SEM results show that discussion motivation had a strong positive association with dual-screening use for civic engagement ($b = .18, \beta = .63, p < .001$), even if information-seeking motivation was not significant. Therefore, H1 is rejected, but H2 is supported. Social media trust was positively associated with dual-screening use for civic engagement ($b = .26, \beta = .40, p < .001$), indicating that H3 is supported. The three factors predicting dual-screening use explained 86% of the variance. Also, dual-screening use was positively associated with civic engagement attitude ($b = 2.68, \beta = .83, p < .001$), thereby supporting H4. As civic engagement attitude was positively associated with civic engagement behavior ($b = .57, \beta = .83, p < .001$), H5 is supported. None of the control variables (age, gender, and political affiliation) had any significant association with civic engagement attitude. However, younger respondents tended to report a higher level of civic engagement behavior than their older counterparts ($b = -.01, \beta = -.07, p < .01$). The combination of factors predicting civic engagement behaviors explained 69% of the variance. Table 1 summarizes the hypothesis testing results, based on unstandardized and standardized path coefficients.

Table 1. Summary of Hypothesis Results.

Hypothesis	<i>b</i>		β		Decision
	value	95% CI	value	95% CI	
H1 Information-seeking motivation → Dual-screening use	-.01	-.03-.02	-.02	-.13-.08	Reject
H2 Discussion motivation → Dual-screening use	.18***	.14-.22	.63***	.52-.73	Support
H3 Social media trust → Dual-screening use	.26***	.19-.32	.40***	.31-.48	Support
H4 Dual-screening use → Civic engagement attitude	2.68***	2.30-3.07	.83***	.79-.88	Support
H5 Civic engagement attitude → Civic engagement behavior	.57***	.52-.61	.83***	.80-.87	Support

Note: *b* = unstandardized path coefficients. β = standardized path coefficients. 95% CI = 95% confidence interval. *** $p < .001$

Discussions and Conclusions

Civic engagement has gained increasing importance in Taiwan after the 2014 Sunflower Movement, because many have started participating in social or community-based civic issues, such as open government activities and marriage equality referendum. Recently, IT-savvy NGOs used civic technologies to facilitate human right issues and combat fake news for computational propaganda (Liao, 2019). Dual-screening use can be regarded as a type of civic technologies as individuals use separate screen devices to consume videos containing current affairs and simultaneously seek information and discuss related civic issues on social media. The SEM results show that discussion motivation and social media trust have strong positive associations with dual-screening use for civic engagement, whereas information-seeking motivation has no influence. The online dual-screening use for civic issues positively affects users' civic engagement attitudes, which predict offline civic engagement behaviors. Therefore, dual screening, the convergence of video viewing, and social media interactions substantially influence offline, community-based civic participatory behaviors.

Passively viewing videos is not very influential in encouraging offline participatory behaviors; however, dual screeners using social media for interactions were reported to improve participatory behaviors (Gil de Zúñiga et al., 2015). That is, dual screeners' motives for lean-forward practices enhance civic engagement attitudes and behaviors. Although past studies support information-seeking motivation and discussion motivation as crucial predictors for dual-screening use in political participation (Gil de Zúñiga et al. 2015), the study finds that the discussion motivation matters more in driving dual screening for civic engagement than information-seeking motivation. Chen et al. (2016) state that social media as a public sphere facilitate interpersonal and mass communication for groups and organizations by providing relevant information and political discussions, which positively affects democratic engagement. Such social media interactions can encourage people's open attitudes for changing their stances (Barnidge et al., 2017) and, thus, facilitate civic engagement. Aforementioned literature explains why discussion motivation has a strong, positive association with dual-screening use for civic issues. In addition, community-based civic engagements are not likely to require abundant information to keep people informed, as citizens are familiar with the issues surrounding them. Nonetheless, such civic engagement requires substantial deliberation and interactions to exchange opinions among community members and concerned netizens, especially communicating with those holding different perspectives, to reach a consensus. Furthermore, as the survey was held right after the 2016 presidential election, the high media exposure on candidates, political parties, and their political views on key issues likely stimulate dual screeners' discussion motivation, thereby propelling their civic participation.

In this study, SEM results show that younger dual screeners tend to have a higher level of civic engagement behavior than their older counterparts. Despite dual-screening use in civic participation yielding positive results, the findings confirm that the generational gap on civic engagement exists. For the older generation, civic behavior means to perform duties of being a good citizen, such as voting (Sveningsson, 2015). By contrast, to the younger generation, the actualizing type of citizens puts less importance on governmental obligations and extra emphasis on individual purposes such as community volunteering or activism. Taiwanese young people who witnessed or experienced the Sunflower Movement show deep concerns about the country's future and feel adequately enthusiastic to engage in civic issues, such as, government transparency, open data, and marriage equality.

Past studies find that the youth not only use social media to pass the time, but also treat them as crucial information sources for public affairs (Sveningsson, 2015). With savvy Internet skills, young people search for online information and discuss relevant issues on social media (Kahne & Bowyer, 2018). Keating and Melis (2017) state that social media allow people to become curators and to express their political thoughts, thereby empowering the youth to voice out their political views. Moreover, young people tend to use dual screening to discuss specific issues than their older counterparts (Gil de Zúñiga et al., 2015). To further clarify age influences, this study ran additional ANOVA tests to investigate the age differences in motivations of dual-screening use among three age clusters: Group 1, the respondents who experienced the Sunflower Movement when they were young (35 and below; $n = 265$); Group 2, those who encountered the Wild Lily Movement during their younger ages (36 to 50; $n = 288$), and Group 3, the oldest group under traditional Kuomintang education (50; $n = 188$). Scheffe post hoc analysis was used for multiple comparisons to account for unequal sample sizes per age group (Verma, 2013). ANOVA results show significant age differences in discussion motivation ($F [2, 738] = 3.17, p < .05$) rather than information-

seeking motivation. Although marginally significant ($p = .051$), post hoc analysis finds that those aged 35 and below ($M = 5.10, SD = 2.34$) reported higher discussion motivations than those aged 36 to 50 ($M = 4.62, SD = 2.20$). That is, the youngest Taiwanese dual screeners who experienced the Sunflower Movement are motivated to discuss civic issues via dual screening, particularly on social media.

As trust in social media is positively associated with its usage (Ardèvol-Abreu & Gil de Zúñiga, 2017), this study finds that social media trust is a positive predictor for dual screening for civic issues. In May 2018, Facebook's Cambridge Analytica scandal raised global social media users' awareness of personal data protection and security, while the unexpected voting results of Brexit and the 2016 American presidential election provided warning signs regarding the negative impacts of social media algorithms that exacerbate filtering bubbles and cause polarization in sociopolitical issues (Flew, 2018). Despite Taiwan's press freedom topping Asia, polarized media presentations on different mass media, including pro-DPP, pro-KMT, or pro-China stances, have existed for years to appeal to targeted audiences and reinforce their attitudes toward political or civic issues (Hsiao, 2014). Notably, SEM results show that political affiliation, treated as a control variable, has no significant influence on dual-screening use, civic engagement attitude, and offline civic engagement behavior. Being aware of social media risks, the majority of Taiwanese users continued using Facebook as the key social media platform for consuming news, seeking civic information, and following the whereabouts of their "friends" within social networks. Nonetheless, the results reveal the importance of social media trust as a positive predictor for Taiwanese dual-screening use for civic issues. It is worth observing whether the decreasing of social media trust may lead to decreased dual-screening use for seeking civic issues or discussing them via social media platforms.

Theoretically, this study first contributes to the integrated framework of CMM and UGT to understand dual-screening use for civic issues. Secondly, it develops the SEM model to clearly show the pathways from individuals' motivations and social media trust for dual-use screening and their impacts on civic engagement. In the context of civic engagement, discussion motivation is the only predictor for dual-screening use, whereas information seeking has no influence. Discussion motivation strengthens the dual screening's mediating role for users' attitudes and offline behaviors to participate in civic issues. Such findings about discussion motivation are also related to UGT's affective gratification (feeling connected with virtual community and keeping updated about happenings). They identify the research gaps of using the CMM and UGT framework for future research. Finally, this study builds on existing dual screening or second screening scholarly work (e.g., Gil de Zúñiga & Liu, 2017) and further confirms how contemporary media screen users' behaviors in dual screening affect civic engagement attitudes and offline behaviors. The findings also support that age differences among dual screeners have associations with their discussion motivations and offline civic engagement behaviors. Similar to McGregor and Mourão (2017), future research can examine the impacts of messages regarding civic issues on dual screening on both online and offline civic engagements.

As for practical contributions, this study provides insights into how civic engagements can be enhanced through dual-screening use and then translated into offline civic behaviors. The findings will shed light into the government, politicians, NGOs, campaigners, or community leaders to strategize discussions and interactive opportunities by utilizing civic tech (e.g., dual screening, social media, or apps) to shape civic attitudes and improve civic engagements. As for limitations, a mixed-method approach is advisable to

be utilized to understand the nuances and specifics about using civic tech/media to enhance civic engagements in different contexts. Future research can investigate engagements on specific civic issues and include variables such as characteristics of civic tech/media or sociopsychological user traits in the model.

References

- Apolitical (2017). *Taiwan is using social media to crowdsource legislation*. Retrieved from https://apolitical.co/solution_article/taiwan-using-social-media-crowdsource-legislation/
- Ardèvol-Abreu, A., & Gil de Zuniga, H. (2017). Effects of editorial media bias perception and media trust on the use of traditional, citizen, and social media news. *Journalism & Mass Communication Quarterly*, 94(3), 703–724.
- Barnidge, M., Gil de Zúñiga, H., & Diehl, T. (2017). Second screening and political persuasion on social media. *Journal of Broadcasting & Electronic Media*, 61(2), 309–331.
doi:10.1080/08838151.2017.1309416
- Barry, E. (2016). vTaiwan: Public participation methods on the cyberpunk frontier of democracy. *Public Governance Quarterly*, 4(4), 84–98.
- Chadwick, A., O'Loughlin, B., & Vaccari, C. (2017). Why people dual screen political debates and why it matters for democratic engagement. *Journal of Broadcasting & Electronic Media*, 61(2), 220–239.
doi:10.1080/08838151.2017.1309415
- Chao, V. Y. (2014, April 15). *How technology revolutionized Taiwan's sunflower movement*. Retrieved from <https://thediplomat.com/2014/04/how-technology-revolutionized-taiwans-sunflower-movement/>
- Chen, C., & Yen, W. (2017, December 29). Internet usage in Taiwan up to 82.3 percent. *Focus Taiwan*. Retrieved from <http://focustaiwan.tw/news/asoc/201712290024.aspx>
- Chen, D., & Lee, C. (2008). To reinforce or to mobilize? *Proceedings of the 2nd International Conference on Theory and Practice of Electronic Governance—ICEGOV 08*, 394–401.
doi:10.1145/1509096.1509178
- Chen, H., Chan, M., & Lee, F. L. (2016). Social media use and democratic engagement: A comparative study of Hong Kong, Taiwan, and China. *Chinese Journal of Communication*, 9(4), 348–366.
doi:10.1080/17544750.2016.1210182
- Coca, N. (2018, April 10). Building an open, digital democracy in Taiwan. *Equal Times*. Retrieved from <https://www.equaltimes.org/building-an-open-digital-democracy?lang=en#.W1rqAtIzY2w>

- Coleman, S., Morrison, D. E., & Anthony, S. (2012). A constructivist study of trust in the news. *Journalism Studies, 13*(1), 37–53. doi:10.1080/1461670X.2011.592353
- Devulapalli, H. (2017, August 29). *Oceans of data — gov.tw and Taiwan's open data model*. Retrieved from <https://medium.com/open-and-shut/oceans-of-data-gov-tw-and-taiwans-open-data-model-6a27f3203b0>
- Dias, P. (2016). Motivations for multi-screening: An exploratory study on motivations and gratifications. *European Journal of Communication, 31*(6), 678–693. doi:10.1177/0267323116674111
- Diddi, A., & Larose, R. (2006). Getting hooked on news: Uses and gratifications and the formation of news habits among college students in an Internet environment. *Journal of Broadcasting & Electronic Media, 50*(2), 193–210. doi:10.1207/s15506878jobem5002_2
- Diller, E. C. (2001). Citizens in service: The challenge of delivering civic engagement training to national service programs. *Washington, DC: Corporation for National and Community Service*.
- Doolittle, A., & Faul, A. C. (2013). Civic engagement scale: A validation study. *SAGE Open, 3*(3), 1–7. doi:10.1177/2158244013495542
- Fletcher, R. & Park, S. (2017). The impact of trust in the news media on online news consumption and participation. *Digital Journalism, 5*(10), 1281–1299. doi:10.1080/21670811.2017.1279979
- Flew, T. (2018). Platforms on trial. *Intermedia, 46*(2), 24–29.
- Gastil, J., & Xenos, M. (2010). Of attitudes and engagement: Clarifying the reciprocal relationship between civic attitudes and political participation. *Journal of Communication, 60*(2), 318–343. doi:10.1111/j.1460-2466.2010.01484.x
- Gerodimos, R. (2012). Online youth civic attitudes and the limits of civic consumerism. *Information, Communication & Society, 15*(2), 217–245. doi:10.1080/1369118x.2011.572983
- Giglietto, F., & Selva, D. (2014). Second screen and participation: A content analysis on a full season dataset of tweets. *Journal of Communication, 64*(2), 260–277. doi:10.1111/jcom.12085
- Gil de Zúñiga, H., Garcia-Perdomo, V., & McGregor, S. C. (2015). What is second screening? Exploring motivations of second screen use and its effect on online political participation. *Journal of Communication, 65*(5), 793–815. doi:10.1111/jcom.12174
- Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individual's social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication, 17*(3), 319–336. doi:10.1111/j.1083-6101.2012.01574.x

- Gil de Zúñiga, H., & Liu, J. H. (2017). Second screening politics in the social media sphere: Advancing research on dual screen use in political communication with evidence from 20 countries. *Journal of Broadcasting & Electronic Media*, 61(2), 193–219. doi:10.1080/08838151.2017.1309420
- Hassan, L. (2017). Governments should play games: Towards a framework for the gamification of civic engagement platforms. *Simulation & Gaming*, 48(2), 249–267. doi:10.1177/1046878116683581
- Hootsuite. (2019). *Digital 2019 Taiwan*. Retrieved from <https://www.slideshare.net/DataReportal/digital-2018-taiwan-january-2018>
- Hsiao, Y. C. (2014). Analyzing Taiwanese political participation from political party's emotional thermometer. *Journal of Electoral Studies*, 21(2), 1–42.
- Hsieh, Y. P., & Li, M. (2014). Online political participation, civic talk, and media multiplexity: How Taiwanese citizens express political opinions on the web. *Information, Communication & Society*, 17(1), 26–44. doi:10.1080/1369118x.2013.833278
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. doi:10.1080/10705519909540118
- Juris, J. S. (2012). Reflections on #Occupy Everywhere: Social media, public space, and emerging logics of aggregation. *American Ethnologist*, 39(2), 259–279. doi:10.1111/j.1548-1425.2012.01362.x
- Kahne, J., & Bowyer, B. (2018). The political significance of social media activity and social networks. *Political Communication*, 35(3), 470–493. doi:10.1080/10584609.2018.1426662
- Keating, A., & Melis, G. (2017). Social media and youth political engagement: Preaching to the converted or providing a new voice for youth? *The British Journal of Politics and International Relations*, 19(4), 877–894. doi:10.1177/1369148117718461
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guildford Press.
- Lee, A. M. (2013). News audiences revisited: Theorizing the link between audience motivations and news consumption. *Journal of Broadcasting & Electronic Media*, 57(3), 300–317. doi:10.1080/08838151.2013.816712
- Lee, P. S. N., So, C. Y. K., & Leung, L. (2015). Social media and Umbrella Movement: insurgent public sphere in formation. *Chinese Journal of Communication*, 8(4), 356–375. doi:10.1080/17544750.2015.1088874

- Liao, C. H. (2019, February 28). *How does Taiwan face the fierce challenge of fake news? Civic tech combating fake news: Cofacts practices and experiences*. Retrieved from <https://www.feja.org.tw/44818>
- Lin, T. T. C. (2014, April 20). New media cast spotlight on Taiwan's Sunflower Movement, Scholar Perspective, View section, *LianHe Zaobao*. Retrieved from <https://www.zaobao.com.sg/forum/views/opinion/story20140420-334453>
- Lin, T. T., & Chiang, Y. (2017). Dual screening: Examining social predictors and impact on online and offline political participation among Taiwanese Internet users. *Journal of Broadcasting & Electronic Media*, 61(2), 240–263. doi:10.1080/08838151.2017.1309419
- McGregor, S. C., & Mourão, R. R. (2017). Second screening Donald Trump: Conditional indirect effects on political participation. *Broadcasting & Electronic Media*, 61(2), 264–290. doi:10.1080/08838151.2017.1309418
- McGregor, S. C., Mourão, R. R., Neto, I., Straubhaar, J. D., & Angeluci, A. (2017). Second screening as convergence in Brazil and the United States. *Journal of Broadcasting & Electronic Media*, 61(1), 163–181. doi:10.1080/08838151.2016.1273924
- Nah, S., & Yamamoto, M. (2017). Civic technology and community building: Interaction effects between integrated connectedness to a storytelling network (ICSN) and Internet and mobile uses on civic participation. *Journal of Computer-Mediated Communication*, 22(4), 179–195. doi:10.1111/jcc4.12189
- Pan, T., & Hsu, E. (2018, July 31). Taiwan's six municipalities endorse open data charter. *Focus Taiwan*. Retrieved from <http://focustaiwan.tw/news/aeco/201807310017.aspx>
- Rheingold, H. (2008). Using participatory media and public voice to encourage civic engagement. In W. Lance Bennett, D. John, & T. Catherine (Eds.), *In Civic life online: Learning how digital media can engage youth* (pp. 97–118). Cambridge, MA: MIT Press. doi:10.1162/dmal.9780262524827.097
- Rowen, I. (2015). Inside Taiwan's sunflower movement: Twenty-four days in a student-occupied parliament, and the future of the region. *The Journal of Asian Studies*, 74(1), 5–21. doi:10.1017/s0021911814002174
- Saldaña, M., McGregor, S. C., & Gil de Zúñiga, H. (2015). Social media as a public space for politics: Cross-national comparison of news consumption and participatory behaviors in the United States and the United Kingdom. *International Journal of Communication*, 9, 3304–3326. doi:1932-8036/20150005

- Shah, D. V., McLeod, D. M., Rojas, H., Cho, J., Wagner, M. W., & Friedland, L. A. (2017). Revising the communication mediation model for a new political communication ecology. *Human Communication Research, 43*(4), 491–504. doi:10.1111/hcre.12115
- Soper, D. S. (2016). *Calculator: A-priori sample size for structural equation models*. Retrieved from <http://www.danielsoper.com/statcalc/calculator.aspx?id=89>
- Sveningsson, M. (2015). "It's Only a Pastime, Really": Young people's experiences of social media as a source of news about public affairs. *Social Media Society, 1*(2), 1–11. doi:10.1177/2056305115604855
- Taiwan Network Information Center (TNIC). (2015). *2015 Taiwan broadband usage survey*. Retrieved from <http://www.twnic.net.tw/download/200307/20160108e.pdf>
- Tseng, P. & Lee, M. (2017). *Taiwan 2014>2016 open government report: Opportunities and challenges in digital democracy*. Retrieved from <https://opengovreport.ocf.tw/en/report/#tab-0>
- Vaccari, C., Chadwick, A., & O'Loughlin, B. (2015). Dual screening the political: Media events, social media, and citizen engagement, *Journal of Communication, 65*(6), 1041–1061. doi:10.1111/jcom.12187
- Vaccari, C., & Valeriani, A. (2018). Dual screening, public service broadcasting, and political participation in eight western democracies. *The International Journal of Press/Politics, 23*(3), 1–22. doi:10.1177/1940161218779170
- Verma, J. P. (2013). *Data analysis in management with SPSS software*. Prades, India: Springer.
- Wang, Z., & Tchernev, J. M. (2012). The "myth" of media multitasking: Reciprocal dynamics of media multitasking, personal needs, and gratifications. *Journal of Communication, 62*, 493–513. doi:10.1111/j.1460-2466.2012.01641.x
- Williams, A. E. (2012). Trust or Bust? Questioning the relationship between media trust and news attention. *Journal of Broadcasting & Electronic Media, 56*(1), 116–131. doi:10.1080/08838151.2011.651186

Appendix 1. Survey Items

- Information-seeking motivation (Skewness = -.07, Kurtosis = -.79, tolerance = .37, VIF = 2.73)
1. I use dual screening because I can get more up-to-date information about an event (.92)
 2. I use dual screening to get additional information about an event I'm watching (.97)
 3. I want to use dual screening to search more information about the videos I watched (.95)

Discussion motivation (Skewness = .19., Kurtosis = -.79, tolerance = .29, VIF = 3.51)

1. I use dual screening because I like to share my thoughts about an event (.94)
2. I use dual screening because I like to participate in a conversation about an event I'm watching (.95)
3. I want to use dual screening to discuss with others about the videos I watched (.94)

Social media trust (Skewness = -.07, Kurtosis = .27, tolerance = .51, VIF = 1.96)

To what extent do you trust the following media platforms for political information/public affairs?

1. Citizen journalism news websites (.74)
2. Opinions/comments by Facebook friends (.84)
3. Opinions/comments by Line friends (.87)
4. YouTube/Facebook videos (.90)
5. YouTube/Facebook 'live' web-casting (.85)

Dual-screening use (Skewness = .10, Kurtosis = -.70, tolerance = .62, VIF = 1.62)

When watching current affairs-related video, how frequently do you interact with people by using the following media?

1. Mobile instant messaging (e.g., WhatsApp, Line) (.60)
2. Social networking sites (e.g., Facebook, Weibo, Instagram) (.60)
3. Video sites/apps (e.g., YouTube, Dailymotion) (.64)
4. TV station or channel sites/apps (e.g., TV station apps, TV program apps) (.64)

Civic engagement attitude (Skewness = -.18, Kurtosis = -.34, tolerance = .49, VIF = 2.03)

1. I feel responsible for my community (.89)
2. I believe I should make a difference in my community (.89)
3. I believe that I have a responsibility to help the poor and the hungry (.80)
4. I am committed to serve in my community (.92)
5. I believe that all citizens have a responsibility to their community (.75)
6. I believe that it is important to be informed of community issues (.74)
7. I believe that it is important to volunteer (.63)
8. I believe that it is important to financially support charitable organizations (.70)

Civic engagement behavior (skewness = .25, kurtosis = -.54, tolerance = n.a., VIF = n.a.)

1. I am involved in structured volunteer position(s) in the community (.87)
2. When working with others, I make positive changes in the community (.88)
3. I help members of my community (.90)
4. I stay informed of events in my community (.92)
5. I participate in discussions that raise issues of social responsibility (.91)
6. I contribute to charitable organizations within the community (.88)

n.a. = not applicable