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Internet use, support for democracy and political participation: a comparative study of Chinese mainland and Taiwan

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The rapid development of internet infrastructure and the prevalence of democratic attitudes in East Asia have been extensively studied. However, limited research has explored the relationship between internet use, democratic attitudes, and political participation in Chinese mainland and Taiwan. This comparative study aims to examine the associations between internet use, support for democracy, and political participation in the two Chinese societies. Analysis of data from World Values Survey revealed that internet usage has a slight positive correlation with support for democratic values in both societies studied, though this relationship is not statistically significant. Internet use promotes political participation in both Chinese mainland and Taiwan. Further, support for democracy influences political participation only in Taiwan, not in Chinese mainland. These findings highlight the contextual nature of the relationship between democratic values and political participation.

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Introduction

The advancement of internet infrastructure and the promotion of democracy in East Asia have received considerable scholarly attention. The Asia-Pacific region is currently experiencing a rapid growth in the adoption of mobile and social media platforms. As of January 2024, the number of internet users in East Asia reached a staggering 1270 million, with a penetration rate of 76.8% (Internet World Stats, 2024). This figure continues to rise steadily. Concurrently, the region consistently demonstrates a notable prevalence of democratic attitudes. Surprisingly, Dalton and Tong (2005, p. 13) discovered that there are no significant disparities in orientations towards democratic regimes and democratic processes between citizens in East Asia and their counterparts in Western democracies within the Pacific Rim. In fact, Chinese mainland and Taiwan even exhibit higher levels of support for democracy compared to countries such as the United States and Australia. However, before celebrating the democratic progress in these two Chinese societies, it is imperative to address two fundamental questions: Does internet use contribute to the cultivation of democratic attitudes? And does the high level of support for democracy effectively stimulate political participation?

The internet's potential to promote democracy has received considerable scholarly attention, especially regarding democratic transitions and emerging democracies. A study by Nisbet et al. (2012) explored the relationship between internet usage and democratic attitudes, utilizing survey data collected from 29 African and Asian countries. Their findings revealed a modest yet statistically significant positive correlation between internet use and support for democracy. However, it is essential to highlight that their research only included Hong Kong, casting doubt on the applicability of their results to Chinese mainland. While many studies have emphasized the internet's democratic potential within Chinese mainland by examining various aspects such as civil society and online activism (e.g., Tai, 2007; Yang, 2003, 2009), it is important to recognize that these investigations were conducted during the early stages of internet development. As the internet has become increasingly integrated into daily life, the virtual space in Chinese mainland has come under tighter government control (Repnikova and Fang, 2018). Hence, it is critical to update our understanding of internet use, democratic attitudes, and political participation in this changing context.

This study also explores the relationship between support for democracy and political participation. Though prior studies have reported a close association between political attitudes and political participation (Almond and Verba, 1989; LaPiere, 1934), it remains unknown whether this rule can be applied the relationship between support for democracy and political participation in Chinese societies. This study assumes that their relationship is contingent on political context. That is, support for democracy can be transferred into action in an open and free political environment, while it fails in politically limited society. Therefore, the present study investigates the relationship between support for democracy and political participation in Chinese mainland and Taiwan. The two Chinese societies have adopted distinct political systems. The comparative analysis would highlight the role of macro political context in shaping the micro relationships between internet use, support for democracy, and political participation.

Literature review

Internet use and political participation. Communication mediation theory (Shah et al., 2007) posits that media use is closely associated with political participation. Media platforms thus play a crucial role in shaping and disseminating the influence of social, cultural, and other factors on individuals' engagement in politics.

The internet serves as a prominent example in this regard, offering an alternative channel through which people can stay informed about political and current affairs—a prerequisite for mobilization. This is particularly true for the younger generation, as they are more inclined to seek political information online. Bakker and de Vreese (2011) conducted a study in the Netherlands focusing on individuals aged 16–24 and found that various internet activities, including news consumption, email usage, and forum participation, exhibited positive associations with both traditional forms of political participation (e.g., signing petitions and participating in protests and demonstrations) and digital participation (e.g., visiting websites with political content). Similarly, Bimber (2001) discovered that access to online political information in the United States significantly increased the likelihood of making campaign donations. This can be attributed to the fact that internet use enhances users' political interest, trust, and efficacy, thereby motivating them to take action (Johnson and Kaye, 2000).

Given that traditional media in Chinese mainland are government-controlled, the internet has to some extent eroded the centralized media system, serving as a platform for the dissemination of alternative information and the expression of diverse opinions (Hassid, 2012; Tong and Zuo, 2014). Despite the increasingly strict government control over the Chinese internet in recent years (Xu and Yu, 2022), empirical evidence suggests that internet usage continues to foster political participation in Chinese mainland (Wang and Meng, 2022; Zhang et al., 2024). For instance, Zhang et al. analyzed the 2021 Chinese Social Survey and demonstrated that internet use positively correlates with both citizen-initiated and government-sanctioned participation, with a notably stronger effect on the former.

There are three possible reasons for this persistent relationship. First, strict censorship practices can improve users' awareness of censorship. Awareness of censorship in certain circumstances is able to increase users' interest in accessing censored content (Nabi, 2014; Pan and Siegel, 2020), and motivate them to develop circumvention strategies (Roberts, 2020). That is, online censorship may not completely eliminate users' access to the censored content. Second, censorship strategies inadvertently create spaces for political participation among internet users. Chinese government's internet policy emphasizes monitoring content creators rather than the content itself (Gallagher and Miller, 2021). Furthermore, its scaling of internet censorship is primarily driven by political events such as ceremonial occasions, policy changes, or leadership transitions, rather than in response to mass protests or major disasters (Han and Shao, 2022). Those factors hence suggest that internet use in Chinese mainland can still exert positive influences on users' political participation.

In Taiwan, politicians and activists have also embraced new media technologies, shifting their interactions with followers to the internet. This has transformed the internet into a mobilization platform for various social movements, including the Sunflower Student Movement (Yang and Kang, 2017). Lee and Fu (2019) demonstrated a positive association between internet use and the willingness to engage in actions such as attending demonstrations and participating in boycotts among individuals in Taiwan. Therefore, it is expected that internet use will be positively correlated with political participation in both Chinese mainland and Taiwan.

H1: Internet use is positively associated with political participation.

Support for democracy. According to the Communication Mediation Theory, the impact of media use on political

participation is mediated by political reasoning and attitudes (Shah et al., 2007). Media use plays a pivotal role in shaping political attitudes by providing information on public affairs and expanding citizens' understanding of politics (Chang, 2017). Kaye and Johnson (2002) found that internet use for news consumption and seeking arguments for interpersonal discussions increases political interest and efficacy. Furthermore, internet use also facilitates democratic values. Based on data collected from 11 Asian societies, Shen and Tsui (2018) demonstrated a positive association between internet use and support for freedom of expression. Nisbet et al. (2012) found that higher internet use frequency is associated with increased demand for democracy among citizens in 29 African and Asian countries. Scholar reported similar findings in Taiwan that there is a positive relationship between media use, including the internet, and supporting democratic values such as individualism, freedom and pluralism (Chang, 2017).

Studies show that internet use is also positively associated with liberal democratic orientations in Chinese mainland. Using data from the 2007 World Values Survey, Lei (2011) found that Chinese netizens were significantly less likely to respond with "don't know" compared to traditional media users and those with no media consumption, indicating a higher level of political opinion awareness. Furthermore, these internet users are more likely to support democratic norms and criticize domestic political conditions, demonstrating their potential and active participation in collective action. In another study, Huhe, Tang, and Chen (2018) showed that citizens in Chinese mainland are more likely to support democratic values when they more frequently use internet. The authors measured democratic values through people's attitudes toward rights consciousness, valuation of political liberty, support for participatory norm, and support for competitive election. Their analysis revealed a positive correlation between internet usage and these democratic values. These studies suggest that the internet can promote liberal democratic values in the political context of Chinese mainland. The primary reason is that the rise of the internet and communication technologies has led to a relatively decentralized media system, fostering a more critical and politically engaged citizenry (Lei, 2011).

According to the reinforcing spirals model (Slater, 2007, 2015), the relationship between internet use and democratic attitudes may be bidirectional and mutually reinforcing over time. Exposure to alternative information through the internet helps users develop and maintain democratic attitudes, which, in turn, strengthens their internet use. Therefore, it is expected that internet use will be positively associated with citizens' commitment to democratic values in both Chinese mainland and Taiwan.

H2: Internet use is positively related to support for democracy.

In this study, political participation refers specifically to non-institutional behaviors, such as signing petitions and participating in boycotts, in contrast to institutional forms of participation like voting and engaging with government officials. Research suggests that democratic values can effectively spur political action, particularly when governments fail to fulfill citizens' expectations (Foley and Edwards, 1996; Inglehart and Welzel, 2005; Norris et al., 2005). In this context, support for democracy serves as a motivating factor for individuals to engage in political activities aimed at challenging and influencing governmental authority.

In Chinese mainland, studies have indicated that internet use directly impacts users' levels of support for the regime by shaping their appreciation of fundamental democratic values (Huhe et al., 2018). As a result, individuals with a stronger inclination toward democratic principles are likely to be more politically active than those with less support for such values. Similarly, research conducted in Taiwan reinforces this notion, demonstrating that

individuals who possess a positive attitude towards democratic values are more inclined to engage in various forms of political participation (Chang, 2017). Overall, the evidence suggests that individuals who show higher levels of support for democratic norms and values tend to be more politically active compared to those who exhibit weaker support in both Chinese mainland and Taiwan. Two hypotheses are therefore proposed:

H3: Support for democracy is positively associated with political participation.

H4: The relationship between internet use and political participation is mediated by support for democracy.

The social context of Chinese mainland and Taiwan. Scholars have long recognized that macro political structures play an important role in shaping individual political behaviors (Verba et al., 1995), and the important of contextualization in social science research (Rojas and Valenzuela, 2019). It is therefore necessary to contextualize the relationships between internet use, support for democracy and political participation in Chinese mainland and Taiwan.

Despite the shared cultural similarities between Chinese mainland and Taiwan, the two Chinese societies have undergone distinct trajectories due to unique social and political circumstances that have emerged since 1949. This would facilitate diverse dynamics between internet use, support for democracy, and political participation. Firstly, the impact of internet use on support for democracy may differ due to varying internet policies in Chinese mainland and Taiwan. Chinese mainland enforces internet censorship and promotes positive political coverage (Li, 2004), whereas Taiwan experiences relatively unrestricted internet access. Additionally, Taiwan's political landscape is marked by polarization, leading to significant political gridlock and entrenched partisan rivalry (Huang, 2011). Consequently, internet users may frequently encounter negative information regarding partisan politics, such as partisan attacks and negative campaigning, potentially influencing their support for democratic values.

Secondly, internet use and support for democracy may also form different associations with political participation due to differences in the tolerance of political participation within the two societies. We posit that the extent to which democratic values motivate participation vary across different political systems. This is particularly true for risky political actions, such as boycotts, demonstrations, and strikes, which are often permitted in Taiwan but restricted in Chinese mainland. The underlying reason lies in how the political system shapes individuals' motivation to engage in political action. According to the theory of planned behavior (Ajzen, 1988, 1991), human behavior is guided by considerations of anticipated consequences, normative expectations, and facilitating or inhibiting factors. In Chinese mainland's context, despite a high level of public support for democracy, collective action may not materialize due to the relative difficulty of executing such behavior and the potential severe consequences, especially with regards to illegal assembly activities. Conversely, political participation is more prevalent in Taiwan, where opposition party members organize rallies to express their discontent with the ruling party. Thus, it is reasonable to expect that support for democracy exerts a stronger influence on political participation in Taiwan. A research question is then asked:

RQ1: How the relationships between internet use, support for democracy, and political participation vary in Chinese mainland and Taiwan?

Method
The data for this study were collected through the 2017–2020 World Values Survey, targeting adults aged 18 years and older in

Chinese mainland and Taiwan. A multistage stratified sampling method was employed to ensure a representative sample. In Chinese mainland, data collection took place from July to October 2018, using the paper-and-pencil interviewing (PAPI) method. The sample size for Chinese mainland was 3036 participants. In Taiwan, data collection occurred from March to June 2019, utilizing computer-assisted personal interviewing (CAPI). The sample size for Taiwan was 1223 participants. The gender distribution in both samples was relatively balanced, with male respondents comprising 49.5% in Chinese mainland and 49.3% in Taiwan. The average age of respondents was 42.6 years (SD = 14.2) in Chinese mainland and 46.2 years (SD = 16.6) in Taiwan. In terms of educational attainment, 16.7% of respondents in Chinese mainland reported having received a university-level education or above, while in Taiwan, 36.1% of respondents had achieved a university-level education or above. Regarding internet use, 55.2% of respondents in Chinese mainland reported having ever used the internet, whereas in Taiwan, a higher proportion of 76.7% of respondents reported having ever used the internet.

The selection of these two societies for this study is based on three key reasons. First, comparative analyses of Chinese mainland and Taiwan have frequently been employed to investigate the impact of new media use on political participation within Chinese societies (e.g., Chan et al., 2017; Chen et al., 2016). Second, both regions share historical and cultural connections, yet they have developed under distinct political systems since the end of the Chinese Civil War. This political contrast provides an opportunity for analyzing how internet use, democratic support, and political behavior intersect within different political regimes, thereby highlighting the influence of political context on these relationships. Third, existing literature predominantly focuses on internet use and political participation within democratic contexts. By incorporating Chinese mainland into the analysis, this research seeks to enhance our understanding of internet usage in a society characterized by stricter governmental control.

Measures

Criterion variables. Political participation was measured by asking respondents how frequently they attend offline actions (i.e., signing a petition, joining in boycotts, attending peaceful demonstrations, and joining strikes) and online actions (i.e., searching political information, signing electronic petition, encouraging others to take actions, and organizing political activities). Responses ranged from 1 (have done) to 3 (would never do). After reversed, the scale was created by taking the mean of the eight items (Chinese mainland: $M = 1.47$, SD = 0.45, Cronbach's $\alpha = 0.817$; Taiwan: $M = 1.39$, SD = 0.37, Cronbach's $\alpha = 0.862$).

Predictor variables. The independent variable was *internet use*. It was measured by two items: internet use and social media use, ranging from 1 (daily used) to 5 (never used). The two items were first reversed and then averaged to form a scale (Chinese mainland: $M = 3.12$, SD = 1.48, Spearman-Brown $\rho = 0.701$; Taiwan: $M = 3.58$, SD = 1.61, Spearman-Brown $\rho = 0.835$).

The mediator, *support for democracy*, was calculated by five items according to the method of Cho (2014). The first four items asked respondents to rate on a 4-point scale (1 = very good to 4 = very bad) how good it is if their country is governed by following political systems: strong leader, experts, army, and a democratic political system. In order to improve the measurement, this study integrated another item into the scale, which asked respondents how important to live in a democratic country by 10-point scale (1 = not at all important to 10 = absolutely important). Following the steps of Cho (2014): the question about a democratic political system was first reversed and the last item

was recoded (1, 2 = 1; 3, 4, 5 = 2; 6, 7, 8 = 3; 9, 10 = 4). The scale was generated by averaging the five items (Chinese mainland: $M = 2.86$, SD = 0.45; Taiwan: $M = 2.92$, SD = 0.41).

Control variables. This study controlled for the following demographic variables: age, gender, income (a categorical measure ranging from 1 = lowest group to 10 = highest group, Chinese mainland: Mdn = 4; Taiwan: Mdn = 5) and education.

As an internal factor, support for democracy is more difficult to measure comparing other behavioral variables. According to prior studies, it is influenced by multiple factors, including political interest, interpersonal trust, personal financial satisfaction, and political trust (Mattes and Bratton, 2007; Nisbet et al., 2012; Sing, 2010): and emancipative values (Inglehart and Welzel, 2005; Welzel, 2013): and democratic understanding, civic organization membership, and media use (Cho, 2014). In order to explore the relationships between internet use, support for democracy, and political participation more accurately, all these variables were controlled in this study.

Political interest was measured by a single item, asking respondents to rate how interested they are in politics (1 = very interested to 4 = not at all interested). The scale was generated by reversing it (Chinese mainland: $M = 2.49$, SD = 0.82; Taiwan: $M = 2.05$, SD = 0.85). *Interpersonal trust* was operationalized by three items, asking respondents how much they trust their family, neighborhood, and the people they know personally (1 = trust completely to 4 = do not trust at all). After reversed, the scale was formed by averaging the three items (Chinese mainland: $M = 3.28$, SD = 0.37, Cronbach's $\alpha = 0.570$; Taiwan: $M = 3.27$, SD = 0.38, Cronbach's $\alpha = 0.522$). *Life standard* asked respondents to compare their life standard with their parents (1 = better off, 2 = worse off, 3 = about the same): which indicates how respondents satisfied with their lives. The scale was created by dummy coding the item (1 = 1; 2, 3 = 0). Among the respondents in Chinese mainland, 87.9% answered better off while the number was 64.0% in Taiwan. *Political trust* was measured by six items asking respondents to rate how much trust they have in the following political institutions: the armed forces, the police, the courts, government, political parties, and parliament (1 = a great deal to 4 = none at all). After reversed, the scale was formed by taking the mean of the six items (Chinese mainland: $M = 3.28$, SD = 0.50, Cronbach's $\alpha = 0.866$; Taiwan: $M = 2.48$, SD = 0.55, Cronbach's $\alpha = 0.832$).

Emancipative values were generated following prior studies (Inglehart and Welzel, 2005; Welzel, 2013; see details https://bit.ly/2RYOlpN). According to Inglehart and Welzel (2005): emancipative values have the potential to create democratic support by eroding the legitimacy of authoritarianism and boosting the cultural foundation of democracy. *Democratic understanding* was assessed by three items asking respondents the essential characteristics of democracy, including people choose their leaders in free elections; civil rights protect people from state oppression; women have the same rights as men, and another three items asking respondents the characteristics of non-democracy, including religious authorities ultimately interpret the laws; the army takes over when government is incompetent; and people obey their rulers (1 = not an essential characteristic of democracy to 10 = an essential characteristic of democracy). An individual who has high level of support for democracy should clearly distinguish the characteristics of democracy from the features of non-democracy (Cho, 2014; Gibson and Caldeira, 2009). Thus, the gap between the mean of democracy items and the mean of non-democracy items was used to indicate a citizen's democratic understanding. After the last two items reversed, the scale was formed by averaging all the items (Chinese mainland: $M = 3.42$, SD = 2.29; Taiwan: $M = 4.69$, SD = 2.52).

Theories of social capital argue that vibrant civic activities provide a social foundation for democratization and democratic governance (Putnam, 1993). This study thus controlled social capital by *civic organization membership*. It was operationalized by asking whether respondents belong to five civic organizations (religious, consumer, mutual aid, recreational, and art organizations) with three choices (0 = don't belong to, 1 = inactive member, 2 = active member). The scale was formed by taking the mean of the five items (Chinese mainland: $M = 1.09$, SD = 0.21, Cronbach's $\alpha = 0.592$; Taiwan: $M = 1.31$, SD = 0.42, Cronbach's $\alpha = 0.766$).

Media use asked respondents how often they read news from following resources: *daily newspaper*, *TV news*, and *radio news* (1 = daily to 5 = never). After reversed, the scale was generated by averaging the three items (Chinese mainland: $M = 2.57$, SD = 0.89, Cronbach's $\alpha = 0.461$; Taiwan: $M = 3.11$, SD = 1.01, Cronbach's $\alpha = 0.478$).

In order to compare the associations between the main variables in the two societies, this study pooled the datasets of Chinese mainland and Taiwan together and created a new variable—*social context*. The variable was dummy coded, where 1 refers to Chinese mainland while 0 represents Taiwan. In the analysis, *social context* was controlled and used to interact with internet use and support for democracy, which allows us to investigate how the effects of internet use and support for democracy vary in Chinese mainland and Taiwan.

Results

Hierarchical modeling was used to test the hypotheses and answer the research question (see Tables 1 and 2). In Table 1, the hierarchical modeling checked whether internet use (H2) has a positive relationship with support for democracy. In Table 2, the hierarchical modeling examined whether internet use (H1) and support for democracy (H3) are positively associated with political participation. It also tested the mediation role of support for democracy in the relationship between internet use and political participation (H4), and the moderation role of social context (H5).

H2 expected that internet use is positively associated with support for democracy. However, the results of Table 1 show that internet use had a very slight influence on support for democracy and the effect was not statistically significant ($b = 0.004$,

$p = 0.547$). H2 was thus not supported. To answer the research question, the interactive effect of internet use and social context on support for democracy was tested. It was not significant ($b = 0.019$, $p = 0.053$), which indicates that there is no difference between the effects of internet use on support for democracy in Chinese mainland and Taiwan. The conditional effects test in Table 3 also confirmed this conclusion. Internet use does lead to support for democracy in both Chinese mainland ($b = 0.012$, SE = 0.007, 95% CI = [−0.001, 0.025]) and Taiwan ($b = −0.005$, SE = 0.009, 95% CI = [−0.022, 0.013]).

H1 hypothesized that internet use is positively associated with political participation. As Table 2 shows, internet use was positively and significantly related to political participation ($b = 0.052$, $p < 0.001$). H1 was therefore supported. The results of conditional effects test (see Table 3) further show that internet use can promote political participation in both Chinese mainland ($b = 0.045$, SE = 0.006, 95% CI = [0.034, 0.055]) and Taiwan ($b = 0.070$, SE = 0.007, 95% CI = [0.055, 0.084]). The interaction of internet use and social context has a significantly negative effect on political participation ($b = −0.022$, $p < 0.01$). It indicates that internet use displays a slightly stronger effect on political participation in Taiwan than that in Chinese mainland (see Fig. 1).

H3 assumed that support for democracy is positively associated with political participation. The results of Table 2 show that support for democracy has a significantly positive effect on political participation ($b = 0.028$, $p < 0.05$). H3 was then supported. According to the results of conditional effects test (see Table 3), support for democracy only increases political participation in Taiwan ($b = 0.111$, SE = 0.026, 95% CI = [0.060, 0.162]), whereas its association with political participation is not significant in Chinese mainland ($b = 0.006$, SE = 0.016, 95% CI = [−0.024, 0.036]). The interactive effect of support for democracy and social context on political participation was significantly negative ($b = −0.165$, $p < 0.001$). It suggests that support for democracy exerts a strong effect on political participation in Taiwan and the effect is not significant in Chinese mainland (see Fig. 2).

The indirect effects and conditional effects were examined using the PROCESS macro (Model 59). The data were

Table 1 Predicting support for democracy in Chinese mainland and Taiwan.

	Model 1	Model 2	Model 3	Model 4
	b (SE)	*b (SE)*	*b (SE)*	*b (SE)*
(Intercept)	2.53***(0.034)	1.95***(0.080)	1.93***(0.083)	1.98***(0.085)
Sex (ref = female)	0.063*** (0.014)	0.060*** (0.014)	0.061*** (0.014)	0.059*** (0.013)
Age	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Education	0.043*** (0.004)	0.025*** (0.005)	0.024*** (0.005)	0.024*** (0.005)
Income	0.015*** (0.004)	0.016*** (0.004)	0.015*** (0.004)	0.015*** (0.004)
Social context (ref = Taiwan)		0.086*** (0.022)	0.086*** (0.022)	0.021 (0.040)
Political interest		0.014 (0.009)	0.014 (0.009)	0.014 (0.009)
Political trust		0.022 (0.014)	0.022 (0.014)	0.022 (0.014)
Interpersonal trust		0.024 (0.019)	0.024 (0.019)	0.024 (0.019)
Life standard		−0.065*** (0.018)	−0.065*** (0.018)	−0.064*** (0.018)
Emancipative values		0.479*** (0.060)	0.477*** (0.060)	0.488*** (0.060)
Democracy understanding		0.048*** (0.003)	0.048*** (0.003)	0.048*** (0.003)
Civic membership		−0.034 (0.023)	−0.035 (0.023)	−0.034 (0.023)
Media use		0.020** (0.008)	0.019* (0.008)	0.018* (0.008)
Internet use (IV)			0.004 (0.006)	−0.009 (0.009)
IV*social context				0.019 (0.010)
R^2 (%)	4.6***	14.1***	14.1***	14.2***

Unstandardized coefficients reported. Standard errors in parentheses.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, #$p < 0.10$ (two-tailed).

Table 2 Predicting political participation in Chinese mainland and Taiwan.

	Model 1	Model 2	Model 3	Model 4
	b (SE)	b (SE)	b (SE)	b (SE)
(Intercept)	1.50***(0.029)	1.19***(0.068)	0.950***(0.074)	0.567***(0.095)
Sex (ref = female)	0.002 (0.012)	−0.008 (0.011)	−0.008 (0.011)	−0.007 (0.011)
Age	−0.006*** (0.001)	−0.007*** (0.001)	−0.005*** (0.001)	−0.005*** (0.001)
Education	0.056*** (0.003)	0.035*** (0.004)	0.024*** (0.004)	0.023*** (0.004)
Income	0.008* (0.003)	0.002 (0.003)	−0.001 (0.003)	−0.001 (0.003)
Social context (ref = Taiwan)		0.001 (0.018)	−0.003*** (0.018)	0.554*** (0.089)
Political interest		0.077*** (0.007)	0.073*** (0.007)	0.069*** (0.007)
Political trust		−0.022 (0.012)	−0.016 (0.011)	−0.017 (0.011)
Interpersonal trust		−0.026 (0.016)	−0.027 (0.016)	−0.030 (0.016)
Life standard		0.045** (0.015)	0.049*** (0.015)	0.043** (0.015)
Emancipative values		0.450*** (0.051)	0.409*** (0.050)	0.388*** (0.050)
Democracy understanding		0.012*** (0.002)	0.010*** (0.003)	0.007*** (0.003)
Civic membership		0.094*** (0.020)	0.081*** (0.019)	0.082*** (0.019)
Media use		0.039*** (0.007)	0.025*** (0.007)	0.027*** (0.007)
Internet use (IV)			0.052*** (0.005)	0.068*** (0.007)
Support for democracy (M)			0.028* (0.014)	0.155*** (0.026)
IV*social context				−0.022** (0.008)
M*social context				−0.165*** (0.029)
R^2 (%)	19.1***	26.3***	28.6***	29.4***

Unstandardized coefficients reported. Standard errors in parentheses.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$ (two-tailed).

Table 3 The indirect effects and conditional effects test.

	Effect	BootSE	LLCI	ULCI
Indirect effect (internet use → support for democracy → political participation)				
Taiwan	−0.001	0.001	−0.003	0.001
Chinese mainland	0.001	0.001	−0.001	0.001
Conditional effects of internet use on support for democracy				
Taiwan	−0.005	0.009	−0.022	0.013
Chinese mainland	0.012	0.007	−0.001	0.025
Conditional effects of internet use on political participation				
Taiwan	0.070	0.007	0.055	0.084
Chinese mainland	0.045	0.006	0.034	0.055
Conditional effects of support for democracy on political participation				
Taiwan	0.111	0.026	0.060	0.162
Chinese mainland	0.006	0.016	−0.024	0.036

Statistical significance (*$p < 0.05$) is achieved when lower bound (LL) and upper bound (UL) CI does not include zero. Bootstrapped at sample size = 5000.
LL lower limit, CI confidence interval, UL upper limit.

bootstrapped to 5,000 resamples and the results were presented in Table 3. The indirect effects of internet use on political participation through support for democracy were not significant in Chinese mainland ($b = 0.001$, SE = 0.001, 95% CI = [−0.001, 0.001]) and Taiwan ($b = −0.001$, SE = 0.001, 95% CI = [−0.003, 0.001]). Hence, H4 was not supported.

Discussion and conclusion

This study examines the relationships between internet use, support for democracy, and political participation in two Chinese societies. Using data from the World Values Survey wave 7, it was found that internet use has tiny positive relationships with support for democracy in both Chinese mainland and Taiwan though they are not statistically significant. Further, internet use

promotes political participation in both Chinese mainland and Taiwan. Interestingly, support for democracy influences political participation only in Taiwan, not in Chinese mainland. These findings highlight the contextual nature of the relationship between democratic attitudes and political engagement.

Although the association between internet use and support for democracy in both Chinese mainland and Taiwan are not statistically significant, they are positively related with extremely small coefficients. This is in line with the conclusions of Nisbet et al. (2012) and Huhe et al. (2018) that personal internet use has a very tiny influence on citizens' democratic values. Additionally, Communication Mediation Theory (Shah et al., 2007) suggests that support for democracy can be considered as a type of social orientation, which is influenced by both media use and reasoning process, like political discussion. The results of this study therefore suggest that the relationship between internet use and support for democracy in Chinese mainland and Taiwan is likely to be indirect rather than direct.

The insignificant relationship between internet use and support for democracy in Chinese mainland may be attributed to two possible reasons. First, the operationalization of support for democracy or democratic values matters in the political context of Chinese mainland. Both Nisbet et al. (2012) and this study adopted the widely used variables measured by WVS and Barometer surveys, while with different results. It is possibly that the scale is not able to clearly and completely differentiate liberal democratic values and the democratic values advocated by Chinese government (Lu et al., 2014). Instead, Huhe et al. (2018) developed their own measurements according to the research of both Chinese and other non-liberal democratic settings in order to capture the core universal elements of democracy, which suggests that internet use is significantly related to democratic values in Chinese mainland. This discrepancy indicates the importance of conceptualization of support for democracy in Chinese mainland context.

Second, some scholars argued that the mainland government attempted to transform the internet into an integral part of its established media system. The virtual space is considered a new battleground for ideological control (Yin and Liu, 2014). As a result, the government exerts significant influence over the
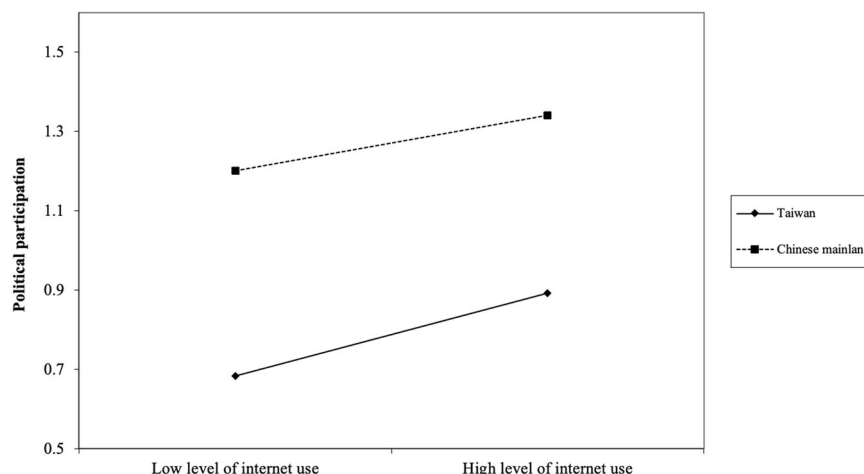
Fig. 1 The effects of internet use on political participation.
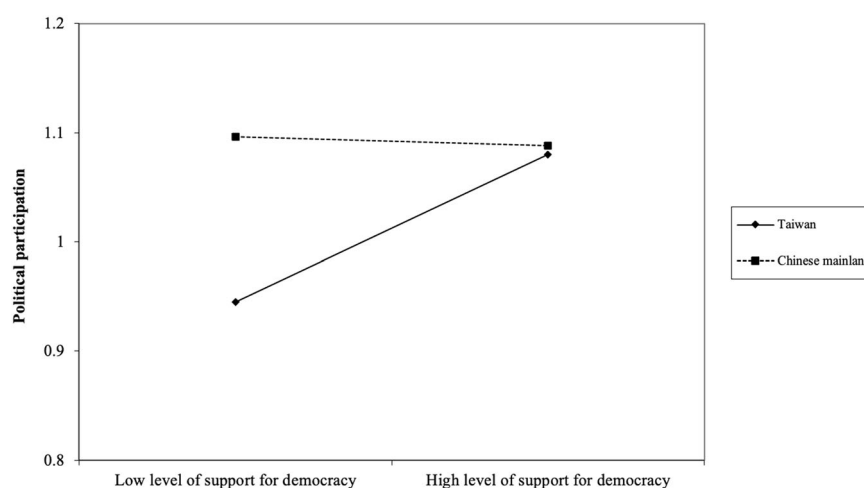

Fig. 2 The effects of support for democracy on political participation.

internet by promoting the digitalization of traditional media and encouraging the development of digital native media. For instance, state-run digital native media try to create a new form of journalism that appeals to internet users while disseminating the official ideology (Repnikova and Fang, 2019). However, it is also necessary to note that ordinary people, including internet users, in non-democratic nations of East Asia, do not necessarily hold beliefs in line with what their leaders prefer (Dalton and Tong, 2005; Sen, 1999). Although it is observed that the mainland government attempted to exert more influences on internet users through strict control policy, to what extent the group have been influenced demands more research. Research shows that the internet space of Chinese mainland is more likely a sphere conjointly shaped by multiple forces, including the government and users (Wang, 2020). Therefore, the relationship between internet use and support for democracy should be studied by taking external contextual factors into consideration (Mou et al., 2011).

In the case of Taiwan, one possible explanation for the non-significant effect of internet use on support for democracy is that the public may take democratic governance for granted. This suggests that the strong support for democracy in Taiwan may be deeply ingrained and not significantly influenced by internet use. Similar findings were reported by Stoycheff (2020) in the context of the United States, where the deliberative use of the internet (e.g., criticizing the government, searching for sensitive political

information) even led to less support for democracy among respondents. This dissatisfaction with democracy caused by internet use may be particularly pronounced in politically polarized societies, where partisan politics' negative aspects can erode citizens' political trust and interest (Ansolabehere and Iyengar, 1995). Furthermore, other factors may have stronger influences on citizens' democratic attitudes than internet use in well-established democracies, such as the perception of governmental performance (Magalhães, 2014) and perceptions of the economy (Cordero and Simón, 2016).

This study uncovers that while support for democracy is significantly and positively related to political participation in Taiwan, it does not yield the same effect in Chinese mainland. This finding is inconsistent with prior conclusion that political attitudes are closely associated with political behaviors (Almond and Verba, 1989; LaPiere, 1934; Quintelier, Van Deth (2014)). The possible reason is that the association is also contingent on macro political context. In a political system that allows and encourages political action, political attitudes may possess greater potency in driving such behavior. In Chinese mainland, individuals may engage in a deliberative process, as posited by the theory of planned behavior (Ajzen, 1988, 1991), wherein they weigh the potential consequences of their actions and consider the expectations of others before deciding to take political action. This cognitive process may impede their willingness to engage in political activities. This finding

underscores the significance of considering the social context when examining the relationship between political attitudes and political participation as what Rojas and Valenzuela (2019) advocated in public opinion research.

Despite ordinary citizens expressing a high level of support for democracy, some scholars have pointed out that people's understanding of democracy in Chinese mainland may differ from Western liberal democracy. Chinese government tends to advocate its own conception of democracy with Chinese characteristics (Lu et al., 2014), such as "whole-process democracy". This type of democratic values may not necessarily lead to political participation. This study therefore suggests to investigate netizens' understanding of democratic values in Chinese political communication research. Additionally, the finding of an insignificant association between support for democracy and political participation cannot be used to generalize that netizens in Chinese mainland are not politically participatory. Instead, other studies (e.g., Mou et al., 2011; Mou et al., 2013) often utilized political discussion to indicate the level of political participation in the context of Chinese mainland due to strict control on collective actions. For example, the use of online forum and social media is positively associated with online political discussion (Mou et al., 2013). In this sense, how to conceptualize political participation in certain societal contexts needs more scholarly attention in political communication studies.

Our findings reveal that support for democracy exerts a significant influence on noninstitutional participation in Taiwan, suggesting that individuals employ these actions as a means to safeguard democratic principles. This aligns with previous arguments proposing that a high level of support for democracy can drive noninstitutional participation in democratic societies (e.g., Foley and Edwards, 1996; Inglehart and Welzel, 2005; Norris et al., 2005). One potential explanation for this relationship is the presence of political polarization in Taiwan, which may contribute to increased noninstitutional participation (Hsiao and Yu, 2020). When individuals perceive heightened party polarization, they are more inclined to engage in political activities, including protests (Wang and Shen, 2018). However, the extent to which democratic values, such as support for democracy, translate into institutional participation in East Asian societies warrants further scholarly attention.

The study has a few limitations to consider. Firstly, the use of secondary data resulted in lower reliability for some scales. Additionally, some variables, like support for democracy and political participation, need to be contextualized and conceptualized in the local political contexts. Secondly, the fact that about half of the respondents from Chinese mainland had no internet experience may have influenced the study's results. Future research targeting Chinese internet users could provide further insights. Lastly, the study focused solely on noninstitutional participation, and incorporating institutional participation in future studies would allow for a more comprehensive analysis. Addressing these limitations will contribute to a more thorough understanding of the relationship between internet use, support for democracy, and different forms of political participation.

Despite its limitations, this study updates the findings around internet use, democratic values, and political participation in Chinese societies, suggesting that internet use generates limited direct influence on both support for democracy and political participation. It also highlights the importance of contextualization in the research of political communication.

Data availability
The data that support the findings of this study are available from the corresponding author or the official website of World Values Survey.

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Siyu Song proposed the research idea, conducted data analysis, and finished the method and result parts of this paper, while Minwei Ai wrote and revised the parts of introduction, literature review, and discussion.

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Informed consent

Informed from the global research project of World Values Survey.

Additional information

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