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Disentangling the relation among trust, efficacy and privacy management: a moderated mediation analysis of public support for government surveillance during the COVID-19 pandemic

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ABSTRACT

This study examines the effects of political/cultural beliefs and situational perceptions on public support for government surveillance amidst COVID-19, using a representative survey conducted in Hong Kong. Our results indicate that situational responses (i.e. privacy trust and self-efficacy) balance against each other in mediating the effects of political/cultural beliefs (i.e. political trust, political efficacy, democratic-individualism) and situational perceptions (i.e. perceived cost and benefit of disclosure, perceived threat of COVID-19) on surveillance support. Both perceived benefit of disclosure and political trust positively affects surveillance support indirectly by promoting the contributing mediator privacy trust while suppressing the inhibiting mediator privacy self-efficacy. Perceived cost of disclosure shows no direct effect, but a positive indirect effect on surveillance support by suppressing privacy self-efficacy; perceived threat shows a positive direct effect while a negative indirect effect by suppressing privacy trust. Internal political efficacy shows a strong negative direct effect, but no indirect effect; and external political efficacy shows a negative indirect effect by promoting privacy self-efficacy. Alternative media use, as a proxy for democratic-individualism, mitigates situational perceptions' effects on surveillance support, regardless of the directions. The findings advance our understanding of the formation process of public opinion on government surveillance.

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KEYWORDS
Privacy calculus; political trust and efficacy; privacy trust and self-efficacy; alternative media use; government surveillance

1. Introduction

In recent years, privacy has become one of the key public concerns, prompted by the passing of comprehensive surveillance laws in many countries and regions (e.g. the Patriot Act in the U.S. in 2001, Hong Kong National Security Law in 2020). Surveillance laws and policies are strategic measures by state authorities to gather personal information and are often justified for the purpose of public safety. While aiming to contain public health or security crises, surveillance measures adopted by governments simultaneously pose a potential threat to privacy and other civil rights, hence evoking privacy concerns or resistance among the public. For instance, in the fight against COVID-19 pandemic, many governments in the world swiftly announced the collection and use of people's personal data (e.g. location) either through self-developed software or collaboration with private companies (UN 2020), which has fuelled privacy concerns among civil societies (French and Monahan 2020; Lewandowsky et al. 2021).

Hong Kong, a special administrative region of the People's Republic of China, has experienced significant political turmoil in the past few years. Most recently, the passing of Hong Kong National Security Law on 30th June 2020 triggered serious concerns among the residents (Hargreaves 2021; Silver 2020) regarding the unchecked state power and its possible encroachment on citizen's individual rights. The concerns are especially grave as Hong Kong civil society organisations have been opposing similar laws for nearly two decades (Ma 2005). Later on 16 Nov 2020, Hong Kong SAR government rolled out a digital contact-tracing app 'LeaveHomeSafe' to track the spread of COVID-19 pandemic, triggering severe privacy concerns among the public again (Chan 2021).

Against this backdrop, the study of public support for government surveillance during the COVID-19

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pandemic, based on a survey of Hong Kong citizens conducted in early 2021, aims to provide a granular understanding of the public opinion dynamics of Hong Kong society regarding government surveillance amidst the political restructuration. Despite of the growing literature on public opinion on surveillance measures in recent years, most of the relevant studies are just extensions of studies on privacy management in commercial or social settings, treating public opinion on surveillance measures as an individual choice that involves situational privacy calculus only (e.g. Fernandes and Costa 2021; Hauff and Nilsson 2021). Moreover, there is a lack of an overarching theoretical framework explaining the dynamic process of public opinion formation. The present study aims to address this gap by developing a theoretical model to not only identify the antecedents of public acceptance of government surveillance, but also capture how the opinion dynamics work in granular: i.e. (1) how do the general political/cultural beliefs work together with situation-specific factors in determining public opinion on surveillance support, and (2) how do people's psychological responses to the specific situation balance against each other in mediating the effects of political/cultural beliefs and situational perceptions on surveillance support, and (3) how would situational perceptions' effects vary across groups with different political/cultural beliefs? Contextualised in the global pandemic of COVID-19, the study serves as a foundation for both researchers and policymakers to fight the current pandemic as well as future health crises using the power of digital technologies as a tool. As most of literature on surveillance acceptance focused on democratic societies such as the U.S. (Ioannou and Tussyadiah 2021; Nam 2019) or European countries (Trüdinger and Steckermeier 2017), this study also contributes to existing the literature by providing samples from Hong Kong, a post-colonial society undergoing drastic political restructuration in recent years.

2. Literature review and theoretical framework

2.1. Privacy and surveillance support: being both personal and public

Traditional privacy scholarship is mostly rights-based, which see privacy either as a negative rights 'from the prying eyes of government and society' or positive rights 'for living as full, independent and autonomous beings'(Waldman 2018, 26). Privacy as negative rights entails 'the right to be let alone' (Warren and Brandeis 1890, 193), while as positive rights privacy entails 'the control we have over information about ourselves' (Fried 1984, 209) or the right to decide what and how to disclose about oneself (Westin 1967). While the negative right approach of privacy indicates a binary opposition between the 'the private' and 'the public', the positive right approach focuses on the agentic power of human beings and the control of disclosure about oneself as being closely related to one's identity and self-presentation in society (Goffman 1959, 1963). Individuals not only would like to control what they hide from the public, but also what and how they present themselves to the public. Such control is possible through limiting self-disclosure (Derlega and Chaikin 1977) or by deciding how disclosed information will be used (Stone and Stone 1990).

As a doctrine that underlies much of the Western democratic tradition, such rights-based conceptualisation of privacy has inherent tension with government surveillance, not only because the expected benefit of information disclosure could fail to be delivered or there might be negative outcomes associated with data leakage; but more fundamentally, when citizens accept surveillance they then '*don't have the possibility to control and regulate the access to their monitored personal information*' (Taddicken 2013, 257), which means to relinquish control over their personal information and subject oneself to others' action.

Despite such intrinsic tension, people may still accept surveillance when there is sufficient justification. Like other types of individual rights, privacy is not an absolute value but needs to be balanced against other factors such as the common interest, which often justifies the personal sacrifices expected. Citizens may choose to concede individual liberties or transfer their rights to the government for common interest (e.g. public safety), and in this process many factors come into play and subsequently affect public support for surveillance policies. Earlier studies (Dinev et al. 2006; Dinev, Hart, and Mullen 2008) observed the evident perceived need for surveillance and privacy concerns among the public at the same time, noting that maintaining the balance between the need for security and fear about losing privacy is crucial for avoiding the erosion of public support for government surveillance. In this study, we'd like to explore in the times of COVID-19, how the balance change and affect public opinion on government surveillance.

2.2. An extended privacy calculus model: the impact of situational factors

Individuals' concepts of privacy are tied to concrete situations in everyday life, as people rely heavily on

situational cues to make privacy decisions. In this section, we explore the influence of situation-dependent factors, i.e. perceived cost and benefit of information disclosure, perceived threat of COVID-19, trust in data controllers, self-efficacy of privacy protection, on public support for government surveillance amidst COVID-19.

For individuals, disclosure of personal information is often considered as an exchange process that involves rational 'cost-benefit' analysis that consumers performed in '*assessing the outcomes they receive as the result of providing personal information to organizations*' (Culnan and Bies 2003, 327), which is generally referred to as the privacy calculus model (Culnan and Armstrong 1999; Krasnova et al. 2010). Privacy concerns, as perceived cost of disclosure, refer to the expected negative outcomes of information disclosure which often motivate people to take privacy protection behaviours or reduce self-disclosure (Dienlin and Metzger 2016; Wu et al. 2012). While privacy concerns do not always reduce self-disclosure, which is described as 'privacy paradox' (Barth and De Jong 2017; Barth et al. 2019; Chen and Chen 2015; Dienlin and Trepte 2015; Gerber, Gerber, and Volkamer 2018; Kokolakis 2017; Taddicken 2014), perceived benefit is often a positive predictor of self-disclosure and adoption of privacy-encroaching technologies. For example, earlier studies (Chen 2018; Dienlin and Metzger 2016; Sharma and Crossler 2014; Wilson, Proudfoot, and Valacich 2014) found the negative effect of privacy concerns on self-disclosure on social media was outweighed by the positive influence of perceived benefit (e.g. self-expression, perceived enjoyment and usefulness, and social capital). Xu et al. (2011) noted that personalised service as a perceived benefit of location-aware marketing (LAM) overrides privacy concerns in affecting mobile customers' willingness to have personal information used in LAM. Recent studies (Fernandes and Costa 2021; Fox et al. 2021; Thompson et al. 2020) also demonstrated that while privacy concerns show inconsistent effect, perceived benefit (e.g. pro-social usefulness, personal and social benefit, and social influence) consistently predict public acceptance of government surveillance before and amidst COVID-19. Therefore, we hypothesise:

> ***H1***: Perceived cost of information disclosure is negatively related to surveillance support (**H1a**) while perceived benefit is positively related to surveillance support (**H1b**).

Taking public opinion on government surveillance as a balancing process between citizen privacy and collective interests such as national security or public health, the global pandemic of COVID-19 has again altered the balance as the crisis situations justified the needs to increase governmental investigative powers, just as the 9/11 terrorist attacks did (Westin 2003). Specifically, the perceived threat of the crisis often justifies the personal sacrifice (i.e. loss of privacy) required in accepting surveillance. Earlier studies after the 9/11 attack noted the important role of perceived threat of crime and terrorism in impelling citizens to trade off individual liberties for public safety (Davis and Silver 2004), or increasing citizen's acceptance of government surveillance in the U.S. (Huddy, Feldman, and Lahav 2003; Huddy et al. 2005) and Europe (Trüdinger and Steckermeier 2017). Recent studies (Lewandowsky et al. 2021; Wnuk, Oleksy, and Maison 2020) found that the perceived threat of COVID-19 fosters public acceptance of contact-tracing technologies introduced by government. Hence, we hypothesise:

> ***H2***: Perceived threat of COVID-19 infection is positively associated with surveillance support.

As Olson, Grudin, and Horvitz (2005, 1987) noted, '*people's willingness to share depends on who they are sharing the information with*'. Previous studies (Joinson et al. 2006; Joinson et al. 2010) noted the importance of situational factors in determining privacy behaviour, in which the relationship between the discloser and recipient is crucial in determining self-disclosure. Therefore, how an individual perceive the relationship between themselves and data controllers on the matters of privacy protection is also crucial in determining their privacy attitudes.

In general, trust refers to '*the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party*'(Mayer, Davis, and Schoorman 1995, 712). As an essential part of any exchange process, trust has been considered as the foundation of sharing behaviours as it '*mitigate the vulnerabilities and power imbalances*' (Waldman 2018, 50). When there is not sufficient information or the situation is too complex for rational analysis, privacy trust that users' personal information will be properly handled serves as a '*functional alternative to rational prediction for the reduction of complexity*'(Lewis and Weigert 1985).

Here, the privacy trust doesn't necessarily imply a total sense of faith, instead, it is akin to 'strategic trust' (Uslaner 2002) or 'situational trust' (Bell 2016), which is situation-dependent and entails some expectation of reliability towards the service provider or data

controllers. Earlier studies noted the positive association between privacy trust and acceptance the decision of technology users (Dinev and Hart 2003; Mcknight et al. 2011; Pavlou 2003) or online self-disclosure (Bansal and Gefen 2015; Culnan and Armstrong 1999; Culnan and Bies 2003; Kumar, Kumar, and Bhasker 2018; Metzger 2004; Wu et al. 2012), also that the positive influence of privacy trust often outweighs the negative influence of privacy concerns (e.g. Dinev and Hart 2006; Wu et al. 2012). Recent studies (Lewandowsky et al. 2021; Sarin et al. 2022) also found that privacy trust in government is the most important contributor to public acceptance of privacy-encroaching technologies (e.g. contact-tracing and vaccination certificate) amidst COVID-19.

While trust indicates one's willingness to subject oneself to the actions of another party (Mayer, Davis, and Schoorman 1995), self-efficacy refers to people's belief that they can '*… exert control over their level of functioning and events that affect their lives*' (Bandura 2001a, 270), which has been considered as the foundation of human agency (Bandura 1997, 2001b). In the context of online privacy management, privacy self-efficacy refers to individuals' confidence in their capability to manage and protect their personal data properly, which has been examined under different names in previous studies. For example, some studies noted the positive influence of 'perceived ability to control' or 'perceived control of information' on internet usage (Dinev and Hart 2003, 2004) or online information disclosure (Agaku et al. 2014; Brandimarte, Acquisti, and Loewenstein 2013; Hajli and Lin 2016). Other studies used 'privacy self-efficacy' (Chen 2018; Chen and Chen 2015; Dienlin and Metzger 2016) to capture people's confidence and desire to control over their personal data, finding its strategic role in SNS users' privacy management: i.e. privacy self-efficacy promotes privacy protection through self-withdrawal behaviour (e.g. deleting posts, making profile unsearchable) and self-disclosure in social media at the same time. The important role of privacy self-efficacy in strategic privacy management reflects the agentic power of human beings in privacy management, i.e. human beings may manage their personal information strategically according to their own needs. Despite the different names used, we see the sense of control is essential for one to take privacy protection actions. In this study we will follow the previous research and conceptualise privacy self-efficacy as reflecting one's desire to exercise personal agency, we expect people with high privacy self-efficacy will be less likely to subject themselves to the surveillance of government authorities. The hypothesis is:

H3: Privacy trust is positively related to surveillance support (***32a***) while privacy self-efficacy is negatively related to surveillance support (***H3b***).

2.3. The impact of political and cultural beliefs

Unlike situational factors evoked by a particular event (e.g. terrorist attack, the COVID-19 pandemic), general political attitudes (e.g. political trust and political efficacy) and cultural beliefs (e.g. authoritarianism and individualism) are more stable over time and deeply rooted in the social and legal system (Bjørnskov 2007; Chanley, Rudolph, and Rahn 2000; Keele 2007). Earlier work (e.g. Pavone and Esposti 2012; Wynne 2006, 2008) noted that the lay public access surveillance-oriented security technologies are not only based on technical evaluation but also based on institutional, legal, moral, or social knowledge. We therefore consider the general political/cultural beliefs as a separate layer of influence on public support for government surveillance.

Political trust refers to the public belief that political and legal institutions (i.e. political parties, government, or parliament) fulfil their policy expectations (Craig, Niemi, and Silver 1990), which often serves as '*a mechanism to reduce uncertainty in circumstances where civil liberties are in jeopardy*' (Trüdinger and Steckermeier 2017, 421). Many public opinion studies noted the essential role of political trust in fostering citizens' willingness to trade-off civil liberties for security and acquiesce to the government policies after the 9/11 attack (Davis 2007; Davis and Silver 2004). Hetherington (2004) also noted that political trust is especially important for public support for government policies which are perceived as risky in their ability to achieve stated goals and also requires sacrifice without a clear benefit. Recent studies noted the important role of political trust in fostering public support for surveillance policies (Ioannou and Tussyadiah 2021; Kininmonth et al. 2018; Thompson et al. 2020; Trüdinger and Steckermeier 2017), public acceptance of tracking technologies (Altmann et al. 2020) and compliance to containment policies (Bargain and Aminjonov 2020) amidst COVID-19. Therefore, we hypothesise:

H4: Political trust is positively related to surveillance support.

As a construct closely related to political trust, political efficacy refers to the '*the feeling that individual political action does have, or can have, an impact upon the political process*' (Campbell, Gurin, and Miller 1954, 187). Unlike political trust which taps into the public belief that the system will behave as '*being more in the public interest than as a product of popular demand*' (Craig 1979, 229),

political efficacy is more about exerting one's agentic power in controlling their political environment through actions, tapping into either '*institutional responsiveness*' (i.e. that citizens' belief that authority will respond to citizens' demand) or '*personal/political effectiveness*' (i.e. the extent to which citizens believe in his own competence to understand and participate effectively in politics) (Balch 1974; Converse 1972). Political efficacy hence is conceptualised as a two-dimensional construct, with external political efficacy measures ' *expressed beliefs about political institutions rather than perceptions about one's own abilities*' while internal political efficacy measures '*individual self-perceptions that they are capable of understanding politics and competent enough to participate in political life*' (Craig and Maggiotto 1982, 86).

As a product of democratic culture and expectations, the evaluation of government performance is often linked to how the political system is responsive to public interest or demands. Therefore, external political efficacy is often observed as positively related to political trust (Balch 1974; Craig 1979) due to its focus on institutional responsiveness. Previous studies also found that external political efficacy is closely linked to public support for government policies (Craig and Maggiotto 1982; Iyengar 1980; Trüdinger and Steckermeier 2017). As a result, it is reasonable to expect that external political efficacy contributes to surveillance support.

As for internal political efficacy, although its focus on self-competence does not necessarily mean it cannot share the notion of system responsiveness with external political effficacy, people with high internal political efficacy are more likely to transfer such belief in self-competence into the action of control rather than trust and approval. As Craig (1979, 229) noted, internal political efficacy refers '*not only to feelings of competence, but also to the potential objects of effective action as perceived by the individual. However, insofar as one feels competent to manipulate his environment generally, he may tend to transfer this feeling to political life—if he perceives manipulable participatory channels as being open to him*'. Therefore, we expect that people with high internal political efficacy tend to exert personal control over personal information rather than relinquish to government authorities. Maduku (2020) also noted the important role of internal political efficacy underlying voters' resistance to privacy-encroaching political mobile marketing in South Africa. Therefore, we expect:

> ***H5***: External political efficacy is positively related to surveillance support (***H5a***), while internal political efficacy is negatively related to surveillance support (***H5b***).

Besides political attitudes, cultural beliefs also play important role in the formation process of public opinion of government surveillance. Research noted the inhibiting role of cultural beliefs such as endorsement of individual liberty and anti-authoritarianism (Cohrs et al. 2005; Huddy et al. 2005; Wnuk, Oleksy, and Domaradzka 2021; Wnuk, Oleksy, and Maison 2020) on public acceptance of surveillance technologies or policies. Davis and Silver (2004) also show that liberals are less likely to trade off civil liberties than moderates or conservatives. We therefore expect the cultural belief in democratic-individualism (Kateb 2003), in which individual freedom is the core, is negatively associated with surveillance acceptance. Instead of estimating cultural belief in democratic-individualism with self-reported measures, this study uses alternative media use as a proxy. Here, alternative media are defined as media platforms that are 'financially independent and often hold a counter-hegemonic political stance' (Poon and Tse 2022, 14). Due to the critical and radical nature, alternative media have been playing important roles in the politics of protests and resistance to dominant regimes (Downing 2000; Leung and Lee 2014; Wang 2018). Recent studies of Hong Kong media also noted that alternative media use was driven by pre-existing political attitudes (e.g. support of democratisation) and criticism towards mainstream media's self-censorship (Leung and Lee 2014), and such use contributed to the acquisition of oppositional knowledge (e.g. civil disobedience) (Lee 2015) and support as well as the participation of protests and social movements (Lee 2015; Leung and Lee 2014; Shen, Xia, and Skoric 2020). Using alternative media use as a proxy of cultural belief in democratic-individualism, we hypothesise:

> ***H6***: Alternative media use is negatively associated with surveillance support.

2.4. Trusting or controlling: the mediating role of privacy trust and self-efficacy

In everyday life individuals seek 'an intrapsychic balance between privacy and needs for disclosure and communication' (Westin 2003, 433), in this process, two psychological factors are competing with each other in forming the final decision: i.e. to subject one's privacy to the mercy of the authorities (i.e. privacy trust) or keep control of privacy in one's own hand (i.e. privacy self-efficacy)? We expect the intrapsychic balance involves the competition between privacy trust and privacy self-efficacy, which serves as a mediating mechanism in the effect path of political/cultural beliefs, privacy calculus, as well as perceived threat on surveillance support.

Drawing on the theory of trust transfer and efficacy transfer, we expect privacy trust and privacy self-

efficacy mediate the influence of general political/cultural beliefs on surveillance support. According to the trust transfer theory (Lu et al. 2011; Stewart 2003), individuals' trust in one domain can influence their initial trust in other domains that are believed to have certain links to the trusted domain. For instance, Oldeweme et al. (2021) found that political trust (i.e. trust in government that it is acting citizens' best interest) can be transferred to as the initial trust in the COVID-19 tracing app published by government institutions, which consequently contributes to the actual use of the app. We therefore expect political trust will be transferred to trust in government as data controllers, which will further contribute to the acceptance of surveillance measures. As for efficacy transfer theory, despite of the observable dearth of relevant research in privacy management or public opinion, efficacy transfer has been observed in education research. For example, studies (Fryer and Oga-Baldwin 2017; Leong 2021; Paunonen and Hong 2010) noted that students' self-efficacy could be transferred across different domains or subjects, which often positively predicts their academic performance. We therefore apply the efficacy transfer theory in privacy management to expect political efficacy will be also transferred into privacy efficacy, which in turn affects surveillance support. Additionally, given the association among the political trust, political efficacy, and cultural belief in democratic-individualism (Balch 1974; Craig 1979; Craig, Niemi, and Silver 1990; Shi 2001), we therefore expect privacy trust and self-efficacy mediate the influence of all general political/cultural beliefs on surveillance support in general.

> ***H7***: Situational responses (i.e. privacy trust and self-efficacy) mediate the influence of general political and cultural beliefs (i.e. political trust - ***H7a***, external political efficacy - ***H7b***, internal political efficacy - ***H7c***, and alternative media use - ***H7d***) on surveillance support.

Like privacy trust and privacy self-efficacy, perceived cost–benefit and perceived threat of COVID-19 are situation-dependent factors as well. However, while perceived cost–benefit and perceived threat are people's cognitive perception or judgement of the situation; privacy trust and self-efficacy are affective responses elicited by the external situation and often reflect people's behaviour intention (Bandura 1990; McKnight, Cummings, and Chervany 1998). According to the theory of planned behaviour (Ajzen 1991), we expect situational responses (i.e. privacy trust and self-efficacy) are more directly related to privacy behaviour in comparison to situational perceptions (i.e. perceived cost–benefit, perceived threat). Previous studies also noted the mediating role of privacy trust (conceptualised as situational trust) between the relationship of situational privacy (i.e. perceived anonymity and confidentiality) and disclosure (Joinson et al. 2010), privacy concerns and disclosure (Malhotra, Kim, and Agarwal 2004; Metzger 2004), perceived benefit (conceptualised as consumer quality perceptions) and location-based app use (Wang and Lin 2017). Therefore, we hypothesise:

> ***H8***: Situational responses (i.e. privacy trust and self-efficacy) mediate the influence of situational perceptions (i.e. perceived cost - ***H8a***, perceived benefit - ***H8b***, and perceived threat - ***H8c***) on surveillance support.

The research model is illustrated in below diagram (Figure 1).

Previous studies noted the interaction effect between general political/cultural beliefs and situational perceptions in affecting citizens' policy attitudes. For example, Davis and Silver (2004) reported that the perceived threat of terrorism shows no effect on citizen's willingness to trade-off civil liberties for security when conditioned with low political trust. Cohrs et al. (2005) noted that the perceived threat of terrorism predicts

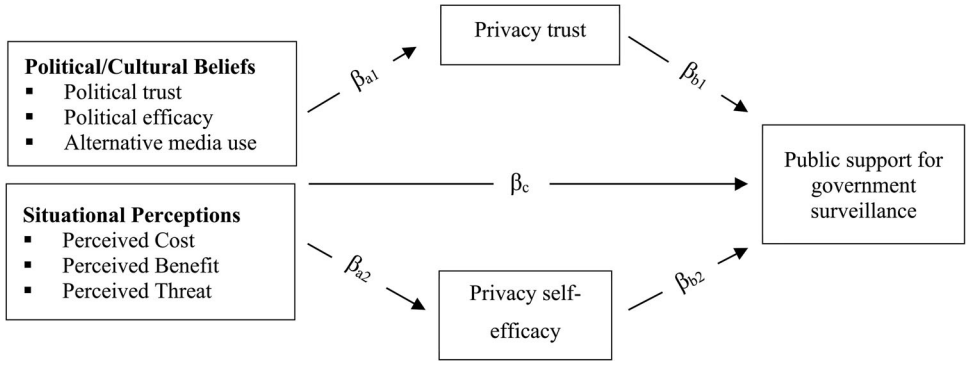

Figure 1. Conceptual framework of the mediation model.

stronger support for surveillance among authoritarian people. Recent studies noted the interaction between political trust and policy-specific information in their influence on public support for surveillance policies (Trüdinger and Steckermeier 2017) and public compliance to containment policies amidst COVID-19 (Bargain and Aminjonov 2020), the moderating role of cultural factors (e.g. power distance) in privacy concerns' effect on public acceptance of government surveillance (Thompson et al. 2020), as well as the reinforcing role of internal political efficacy in privacy concerns' effect on resistance to privacy-encroaching services such as political mobile marketing (Maduku 2020). Therefore, to explore how the direct and indirect effects of situational perceptions change across different cultural/political groups, we present below research question:

> ***RQ1***: How would general political/cultural beliefs (political trust, political efficacy, democratic individualism) condition the direct and indirect effects of situational perceptions (perceived cost, perceived benefit, perceived threat) on surveillance support?

3. Methods

3.1. Data

An online survey was conducted among Hong Kong residents by a reputable market research firm in Feb 2021. The sample was found to be broadly representative of the population of Hong Kong residents on the key demographic variables, using the quota sampling approach by age, gender, and income. The questionnaire was sent to an online proprietary panel in Hong Kong (panel size: 52,000) managed by the research firm. A total of 1135 respondents participated in the survey, among which there were 910 respondents who completed all questions and whose data was used for the analysis.

Compared with the report released by the Census and Statistics Department of Hong Kong SAR government[1], the demographics of participants in the study are close to the population, with participants in the study slightly younger (median age: 42 in the sample vs. 46.3 in population), with more male (male vs. female ratio: 1 vs. 0.91), higher income (median: HKD 20,000-24,999 vs. HKD18,700[2]), and relatively better educated.[3]

3.2. Measurement

Public support for government surveillance. Adapted from Wnuk, Oleksy, and Maison (2020), respondents were asked to indicate their level of agreement with the following statements on a 7-point Likert scale (1 = 'strongly disagree' to 7 = 'strongly agree'): in the context of COVID-19, (1) it is legitimate for governments to automatically retrieve personal data; (2) governments should have full access to data from private companies, for example, GPS location, mall's surveillance, banking transaction, etc. The responses show good internal consistency and were averaged to form an index (Cronbach's $\alpha = 0.80$, M = 3.39, SD = 1.78).

Perceived cost of disclosure. Adapted from previous work (Dinev and Hart 2006; Dinev, Hart, and Mullen 2008), respondents were asked to indicate their level of concern for below items regarding data privacy when they perform online activities on 7-point scale (1 = 'not concerned at all' to 7 = 'very concerned'): (1) your identity being used by somebody else; (2) being asked for your personal information when registering or making online purchases; (3) someone accessing your medical records electronically; (4) someone stealing of your credit card details when making online purchases. The responses showed high internal consistency and were averaged as an index (Cronbach's $\alpha = 0.80$, M = 5.71, SD = 1.08).

Perceived benefit of disclosure. Adapted from Davis (1989), perceived benefit is measured in terms of the perceived usefulness of disclosure. Respondents were asked to indicate their level of agreement with the four statements on a 7-point Likert scale (1 = 'strongly disagree' to 7 = 'strongly agree'): (1) When I share personal information for using an app, I benefit; (2) Collecting data about consumers enables companies to make better offers to their customers. (3) A government with detailed personal data about its citizens is more effective. (4) The collection of personal data should be as easy as possible for society to progress. The four questions showed good internal consistency and were thus averaged as an index (Cronbach's $\alpha = 0.83$, M = 3.39, SD = 1.36).

Political trust. Adapted from Trüdinger and Steckermeier (2017), respondents were asked to answer 'In general, how much trust do you have in the institutions in your country?' in regard to four institutions on a 7-point scale (1 = 'not at all' to 7 = 'very much'): (1) the political parties, (2) the public administration, (3) the Hong Kong government, (4) the Hong Kong legislative Council. The four items showed good internal consistency and were averaged to form an addictive index of political trust (Cronbach's $\alpha = 0.81$, M = 2.9, SD = 1.28).

(Internal and external) political efficacy. Sourced from previous work (Clarke and Acock 1989; Craig, Niemi, and Silver 1990), respondents were asked to indicate their level of agreement with the following statements on a 7-point scale (1 = 'strongly disagree' to

Table 1. Regressions testing the direct effects of political attitudes, privacy calculus on mediators, direct effects of political attitudes, privacy calculus and mediators on surveillance support, total effects of political attitudes, privacy calculus on surveillance without mediators.

	Model 1 Privacy trust B(SE)	Model 2 Privacy self-efficacy B(SE)	Model 3 (Direct Effect) Surveillance support B(SE)	Model 4 (Total Effect) Surveillance support B(SE)
(Intercept)	.327 (.402)	4.173 (.586) ***	1.281 (.392) **	1.012 (.424) *
Age	.008 (.003) *	.006 (.005)	.014 (.003) ***	.017 (.003) ***
Gender (male 0)	.059 (.080)	.075 (.117)	.177 (.076) *	.195 (.085) *
Education	.023 (.030)	- .082 (.044)	- .064 (.029) *	- .046 (.032)
Income	- .008 (.014)	.010 (.020)	- .009 (.013)	- .013 (.015)
ΔR^2 (%)	**5.17** ***	**.51**	**8.31** ***	**8.31****
Political trust	.695 (.039) ***	- .161 (.056) **	.095 (.043) *	.410 (.041) ***
External political efficacy	.056 (.035)	.250 (.051) ***	.048 (.034)	.047 (.037)
Internal political efficacy	- .037 (.037)	.026 (.053)	- .101 (.035) **	- .114 (.039) **
Alternative media use	- .348 (.051) ***	.109 (.074)	- .229 (.050) ***	- .390 (.054) ***
ΔR^2 (%)	**51.3** ***	**5.03** ***	**36.86** ***	**36.86** ***
Perceived benefit of disclosure	.363 (.034) ***	- .141 (.050) **	.262 (.034) ***	.432 (.036) ***
Perceived cost of disclosure	- .017 (.040)	- .142 (.058) *	- .028 (.038)	- .021 (.042)
Perceived threat of Covid-19	- .051 (.024) *	.020 (.035)	.053 (.023) *	.029 (.025)
ΔR^2 (%)	**5.21** ***	**1.25** **	**7.94** ***	**7.94** ***
Privacy trust			.431 (.032) ***	
Privacy self-efficacy			- .098 (.022) ***	
ΔR^2 (%)			9.26 ***	
Total R2 (%)	**61.68** ***	**6.79** ***	**62.36** ***	**53.1** ***

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

7 = 'strongly agree'): (1) I don't think public officials care much what people like me think (*reversed coded*). (2) People like me don't have any say about what the government does (*reversed coded*). (3) Voting is the only way people like me can have any say about how the government runs things (*reversed coded*). (4) Sometimes politics and government seem so complicated that a person like me can't really understand what's going on (*reversed coded*). (5) I am very knowledgeable about political and public affair issues in Hong Kong. (6) I understand how the political system functions in Hong Kong. Exploratory factor analysis on the six items revealed the six items are grouped into two distinct factors (factor 1: questions 1–3, factor 2: questions 4–6). Questions in each factor are highly correlated with each other (Cronbach's $\alpha = 0.70$ and *0.67* respectively), we therefore averaged them to an index for external political efficacy (M = 3.21, SD = 1.17) and internal political efficacy (M = 3.83, SD = 1.12) respectively.

Privacy trust. Adapted from Kininmonth et al. (2018), respondents were asked to indicate how much they agree with the statement on a 7-point scale (1 = 'strongly disagree' to 7 = 'strongly agree'): 'I trust that my personal data is collected and used appropriately by my government' (M = 3.2, SD = 1.87).

Privacy self- efficacy. Adapted from previous work (Krasnova et al. 2010; LaRose and Rifon 2007), respondents were asked to answer how much they agree with the statement on a 7-point Likert scale (1 = 'strongly disagree' to 7 = 'strongly agree'): 'I have no choice in how much my personal data is collected by the government' (reversed coded) (M = 3.42, SD = 1.74).

Perceived threat. Sourced from Wnuk, Oleksy, and Maison (2020), respondents were asked to answer this question on a 7-point scale (1 = 'not at all' and 7 = 'extremely'): 'How worried are you that COVID-19 will infect you?' (M = 4.63, SD = 1.67).

Alternative media use. Using a 7-point scale ranging from 1 = 'never' to 7 = 'all the time', respondents were asked to answer one question 'How often do you use the following media to get information about public issues and politics?' in regard to a comprehensive list of 19 news media at Hong Kong. According to existing literature (Chan 2017; Fung 2007; Lee 2018; Leung 2015; Shen, Xia, and Skoric 2020; Wang 2018), those media are divided into alternative and conservative media group respectively based on whether they hold a counter-hegemonic political stance. With six media categorised into alternative media group (i.e. *Apple Daily, Stand News, HK In-media, Passion Times, VJMedia, Post852)* and 13 news media into the conservative media group (*i.e. Hong Kong Economic Journal, Headline Daily, Oriental Daily News, South China Morning Post, Sing Tao Daily, Ta Kung Pao, China Daily, Hong Kong Commercial daily, HKG Pao, Sing Pao Daily News, Wenweipo, Silent Majority, Speakout HK*) . The items in each group are highly correlated with each other (Cronbach's $\alpha = 0.89$ for alternative media group and *0.93* for conservative media group). We take the ratio of averaged use of alternative to conservative media as the index for alternative media use (M = 1.46, SD = 0.94).

Control variables. Demographic measures including age (M = 43.03, SD = 13.9), gender (50% male, 50%

female), education level (M = 3.92, SD = 1.60), and personal monthly income (M = 5.79, SD = 3.31) were employed as control variables. Gender is coded as a binary variable with 0 refers to male and 1 refers to female; education is an ordinal variable measured on a 6-point scale (1 = 'less than high school', 6 = 'graduate degree'); personal monthly income is also an ordinal variable measured on a 14-point scale (1 = 'under HKD 7,999', 14 = 'HKD 100,000 and over').

3.3. Data analysis

A series of ordinary least squares hierarchical regression models were adopted to test the direct effect of general political/cultural beliefs and situational perceptions on situational responses and surveillance support respectively. Demographic variables (i.e. gender, age, education, income) as control variables were entered in Block 1, general political/cultural beliefs (i.e. political trust, political efficacy, alternative media use) were entered in Block 2, situational perceptions (i.e. perceived cost and benefit, perceived threat) were entered in Block 3, and situational responses (i.e. privacy trust, privacy self-efficacy) were entered in Block 4.

The indirect and conditional indirect effects were tested with Hayes (2017) PROCESS macro in R with 10,000 bias-corrected bootstrap samples and 95% confidence interval (BootCI). PROCESS macro Model 4 was employed for the mediation test, and model 59 was employed to examine the moderation effect of general political/cultural beliefs on both the indirect (i.e. β_{a1}, β_{b1}, β_{a2}, β_{b2}) and direct (i.e. $\beta_{c)}$ effects of situational perceptions on surveillance support.

4. Results

Table 1 summarises the direct effects of concerned independent variables (i.e. general attitudes and situational perceptions) on the two mediators privacy trust (Model 1) and privacy self-efficacy (Model 2), direct effects of independent variables and mediators on the outcome variable surveillance support (Model 3), total effects of independent variables only on surveillance support (Model 4), which equals to the sum of their direct effects and the indirect effects.

4.1. Direct effects of general political/cultural beliefs and situational perceptions

Hypotheses 1 and 2 predict the direct effects of situational perceptions (i.e. perceived cost–benefit, perceived threat) on surveillance support. As displayed in Table 1 (see model 3), the perceived cost of disclosure shows no direct effect (***H1a*** not supported), while perceived benefit shows a positive direct effect (support of ***H1b***: B = .261, *SE* = .034, $p < .001$), and the perceived threat of COVID-19 shows a positive direct effect (support of ***H2***: B = .040, SE = .017, $p < .05$) on surveillance support.

Hypothesis 3 predicts the direct effects of situational responses (i.e. privacy trust and self-efficacy) on surveillance support. Results (see model 3) shows that privacy trust exerts a positive direct effect (support of ***H3a***: B = .431, SE = .032, $p < .001$) and privacy self-efficacy shows a negative direct effect on surveillance support (support of ***H3b***: B = - .098, *SE* = .022, $p < .001$). As privacy trust and self-efficacy, the two parallel mediators in the research model (see Figure 1), exert oppositional direct effect on surveillance support, we will refer to privacy trust as the contributing mediator and privacy self-efficacy as the inhibiting mediator in the following sections.

Hypotheses 4, 5 and 6 test the direct effects of general political and cultural beliefs (i.e. political trust, political efficacy) on surveillance support. Results (see model 3) show that (1) political trust exerts a positive direct effect on surveillance support (support of ***H4***: B = .095, SE = .043, $p < .05$); (2) while external political efficacy shows no direct effect on surveillance support (***H5a*** not supported), internal political efficacy shows a negative direct effect on surveillance support (support of ***H5b***: B = - .101, SE = .035, $p < .01$); (3) alternative media use shows a negative direct effect on surveillance support (support of ***H6***: B = -.229, SE = .050, $p < .001$).

4.2. Indirect effects of political/cultural beliefs

Hypotheses 7 predicts the indirect effects of general political/cultural beliefs on surveillance support. The mediation tests show that (1) political trust shows a positive indirect effect on surveillance support, mediated by both privacy trust (B = .299, BootSE = .032, 95% BootCI [.239, .366]) and privacy self-efficacy (B = .016, BootSE = .007, 95% CI [.004, .032]) at the same time (support of ***H7a***); (2) external political efficacy shows a negative indirect effect on surveillance support, mediated by privacy self-efficacy (B = - .016, BootSE = .005, 95% BootCI [-.027, -.007]) rather than privacy trust (partial support of ***H7b***); (3) internal political efficacy shows no indirect effect on surveillance support either through privacy trust or privacy self-efficacy (***H7c*** not supported); (4) alternative media use shows a negative indirect effect on surveillance support, mediated by privacy trust (B = -.149, BootSE = .025, 95% BootCI [-.203, - .103]) rather than privacy self-efficacy (partial support of ***H7d***).

A closer look at Table 1 explains the underlying process of the mediation: (1) political trust exerts its positive indirect effect on surveillance support (***H7a***) by promoting the contributing mediator privacy trust (see model 1: B = .695, SE = .039, $p < .001$) and suppressing the inhibiting mediator privacy self-efficacy (see model 2: B = -.161, SE = .056, $p < .05$); (2) external political efficacy exerts its negative indirect effect on surveillance support (***H7b***) by promoting the inhibiting mediator privacy self-efficacy (see model 2: B = .250, SE = .051, $p < .001$); (3) internal political efficacy shows no effect on either privacy trust or self-efficacy; (4) alternative media use exerts its negative indirect effect on surveillance support (***H7d***) by suppressing the contributing mediator privacy trust (see model 1: B = -.348, SE = .051, $p < .001$).

It is also notable that (1) given the direct effect (***H4***), we conclude political trust exerts only part of its positive influence on surveillance support indirectly through privacy trust and privacy self-efficacy. The direct and indirect effects together constitute the positive total effect of political trust on surveillance support (see model 4: B = .410, SE = .041, $p < .001$); (2) despite of the negative indirect effect mediated by privacy self-efficacy, external political efficacy shows no total effect on surveillance support; (3) the total effect (see model 4: B = -.114, SE = .039, $p < .01$) and direct effect (***H5b***) of internal political efficacy are almost the same, indicating that internal political efficacy exerts a negative effect on surveillance support directly (***H5b***) rather than indirectly (***H7c*** not supported); (4) given the direct effect (***H6***), alternative media use exerts only part of its negative influence on surveillance support indirectly through privacy trust. The direct and indirect effects together constitute its total effect (see model 4: B = -.390, SE = .054, $p < .001$).

4.3. Indirect effects of situational perceptions

Hypotheses 8 predicts the indirect effects of situational perceptions on surveillance support. The mediation tests with PROCESS macro model 4 show that (1) perceived cost of disclosure shows a positive indirect effect on surveillance support, mediated by privacy self-efficacy (B = .014, BootSE = .007, 95% BootCI [.002, .029]) rather than privacy trust (partial support of ***H8a***); (2) perceived benefit of disclosure exerts a positive indirect effect on surveillance support, mediated by privacy trust (B = .156, BootSE = .023, 95% BootCI = [.114, .204]) and privacy self-efficacy (B = .014, BootSE = .007, 95% BootCI = [.003, .028]) in parallel (support of ***H8b***); (3) perceived threat of COVID-19 shows a negative indirect effect on surveillance support, mediated by privacy trust (B = -.022, BootSE = .011, 95% BootCI [-.045, -.001]) rather than privacy self-efficacy (partial support of ***H8c***).

A closer look at Table 1 explains the mechanism of the mediation: (1) perceives cost exerts its positive indirect effect on surveillance support by suppressing the inhibiting mediator privacy self-efficacy (see model 2: B = -.142, SE - .058, $p < .05$) only; (2) perceived benefit exerts its positive indirect effect on surveillance support by promoting the contributing mediator privacy trust (see model 1: B = .363, SE = .034, $p < .001$) and suppressing the inhibiting mediator privacy self-efficacy (see model 2: B = -.141, SE = .050, $p < .01$) in parallel; and (3) perceived threat of COVID-19 exerts its negative indirect effect on surveillance support by suppressing the contributing mediator privacy trust (see model 1: B = -.051, SE = .024, $p < .05$) only.

Furthermore, it is notable that (1) despite of the positive indirect effect, perceived cost shows no total effect on surveillance support (see model 4); (2) given the direct effect (***H1b***), perceived benefit of disclosure exerts part of its positive influence on surveillance support indirectly via privacy trust and privacy self-efficacy. The direct and indirect effects together constitute its total effect on surveillance support (see model 4: B = .432, SE = .036, $p < .001$); (3) perceived threat exerts a positive direct effect (***H2***) while a negative indirect effect (***H8c***) on surveillance support at the same time, which cancels out each other and, in the end, leads to a non-significant total effect (see model 4).

4.4. Conditional direct and indirect effects of situational perceptions

To answer how the effects of situational perceptions on surveillance support differ across groups with different general/cultural beliefs (**RQ1**), moderated mediation tests with Process macro model 59 was employed. Results show that while neither political trust or (internal and external) political efficacy moderate situational perceptions' effect on surveillance support, alternative media use, as a proxy for people's cultural belief in democratic individualism, effectively explains how situational perceptions' influence differs across different cultural groups.

As indicated by the increasingly steeper slopes in Figure 2, the insignificant direct effect of perceived cost on surveillance support, as in the groups with low (-SD) and average alternative media use, turns to be significantly negative in the group with high (+ SD) alternative media use (B = -.121, SE = .056, 95% CI [-.231, -.011]). Further examination shows there is

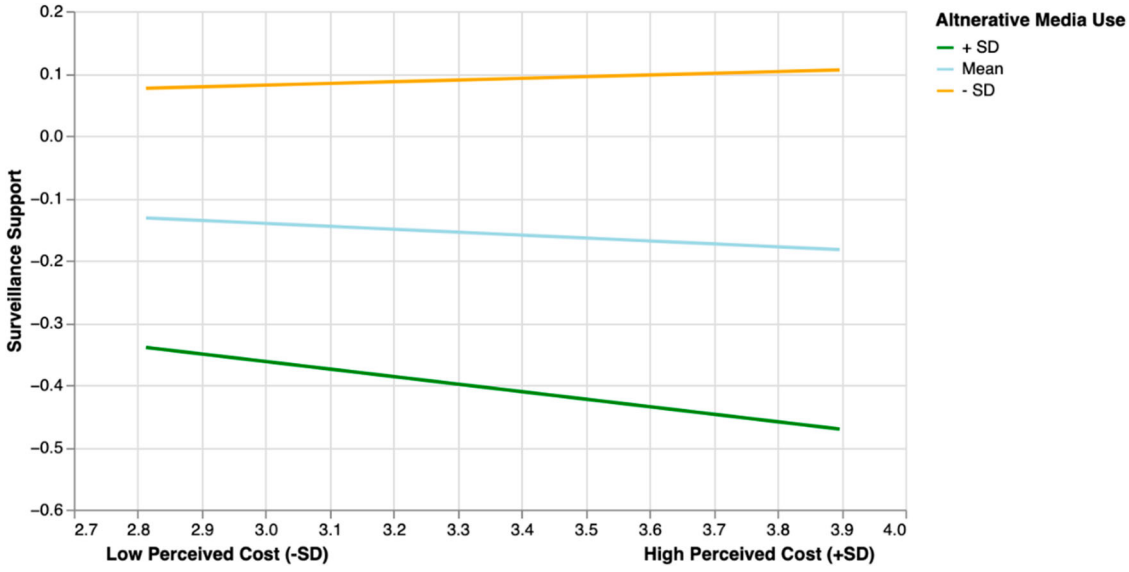

Figure 2. Conditional direct effect of perceived cost of disclosure on surveillance support across three levels of alternative media use.

negative interaction (B = -.079, SE = .040, $p < .05$) between perceived cost and alternative media use on surveillance support, which explains the moderation effect of alternative media use.

Alternative media use diminishes the positive (both direct and indirect) effects of perceived benefit on surveillance support. Conditioning the direct effect across three levels of alternative media use (Figure 3, left) shows that the positive direct effect is gradually reduced as alternative media use increase: starting in the group with low (- SD) alternative media use (B = .346, SE = .049, 95% CI [.251, .442]), to the average group (B = .268, SE = .034, 95% CI [.201, .335]) and the group with high (+ SD) alternative media use (B = .190, SE = .048, 95% CI [.096, .284]). Further examination shows there is negative interaction effect (B = -.083, SE = .037, $p < .05$) between perceived benefit and alternative media use on surveillance support.

Also, as indicated by the increasingly flattened slopes in Figure 3 (right), the positive indirect effect of perceived benefit (mediated by privacy trust) is reduced as alternative media use increase: starting as negative in the group with low (- SD) alternative media use (B = . 224, BootSE = .036, 95% BootCI = [.159, .298]), to the average group (B = .141, BootSE = .023, 95% BootCI = [.099, .187]), then the group with high (+ SD) alternative media use (B = .076, BootSE = .024, 95% BootCI = [.034, .126]). Further examination shows the moderation occurs in both first-stage (β_{a1} in Figure 1) and second-stage (β_{b1} in Figure 1) of the indirect effect, as there is negative interaction between perceived benefit and alternative media use on privacy trust (B = -.134, SE = .033, $p < .001$), and between privacy trust and alternative media use on surveillance support (B = -.073, SE = .031, $p < .05$).

Interestingly, alternative media use also diminishes the negative indirect effect of perceived threat of COVID-19 on surveillance support (mediated by privacy trust), as indicated by the increasingly flattened slopes in Figure 4. Starting as negative in the group with low (- SD) alternative media use (B = -.038, BootSE = .019, 95% BootCI [-.078, -.004]), the negative effect is weakened in the average group (B = . -.020, BootSE = .010, 95% BootCI [-.040, -.001]) and then becomes non-significant in the high (+ SD) alternative media use group. Further examination shows the moderation effect occurs in the second-stage of the indirect effect (β_{b1} in Figure 1), as there is negative interaction (B = -.108, SE = .026, $p < .001$) between alternative media use and the contributing mediator privacy trust on surveillance support.

5. Discussion

The study investigated the mechanism of the formation process of public opinion on government surveillance, in a society undergoing both political restructuration and global health crisis in the past few years. Most of the proposed hypotheses have been supported (H1b, H2, H3a & b, H4, H5b, H6, H7a, H8b) or partially supported (H7b, H7d, H8a, H8c), only three hypotheses (H1a, H5a, H7c) failed to be supported.

Our results show that both political/cultural beliefs and situational factors predict surveillance support. As in line with previous studies (Kininmonth et al. 2018; Trüdinger and Steckermeier 2017), this study confirmed

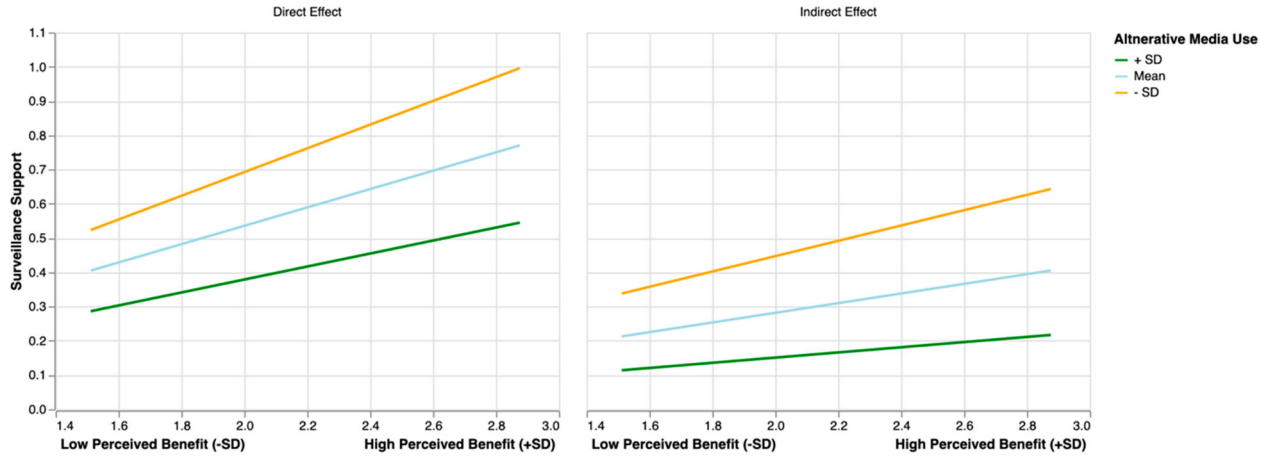

Figure 3. Conditional direct effect (left) and indirect effect (right) of perceived benefit on surveillance support across three levels of alternative media use.

that, compared with situation-specific factors, political/cultural beliefs are the strongest predictors in determining public policy attitudes — the variance explained by political and cultural beliefs is twice of that explained by all situation-specific factors (see model 3). Moreover, with situation-specific factors further distinguished as situational perceptions and situational responses, the study validated the competing role of two psychological factors in mediating the effects of political/cultural beliefs and situational perceptions on surveillance support, i.e. people's trust intention in data collectors (privacy trust) and confidence in their own capability to exercise personal control over privacy (privacy self-efficacy). This uncovers the psychological mechanism underlying the process of public opinion formation: i.e. public support of government surveillance can be driven by either people's trust in government as data controllers (i.e. promoting privacy trust) or voluntary resignation on their control over personal information (i.e. suppressing privacy self-efficacy).

Among all situational perceptions, perceived benefit of disclosure exerts the strongest influence on surveillance support, which is positive and around half is indirect effect via the two competing mediators. While the direct positive effect of perceived benefit is consistent with extant studies (Fernandes and Costa 2021; Fox et al. 2021; Thompson et al. 2020), the indirect positive effect indicates that provision of expected benefit will increase people's trust in government's intention or capability to safeguard their personal information and

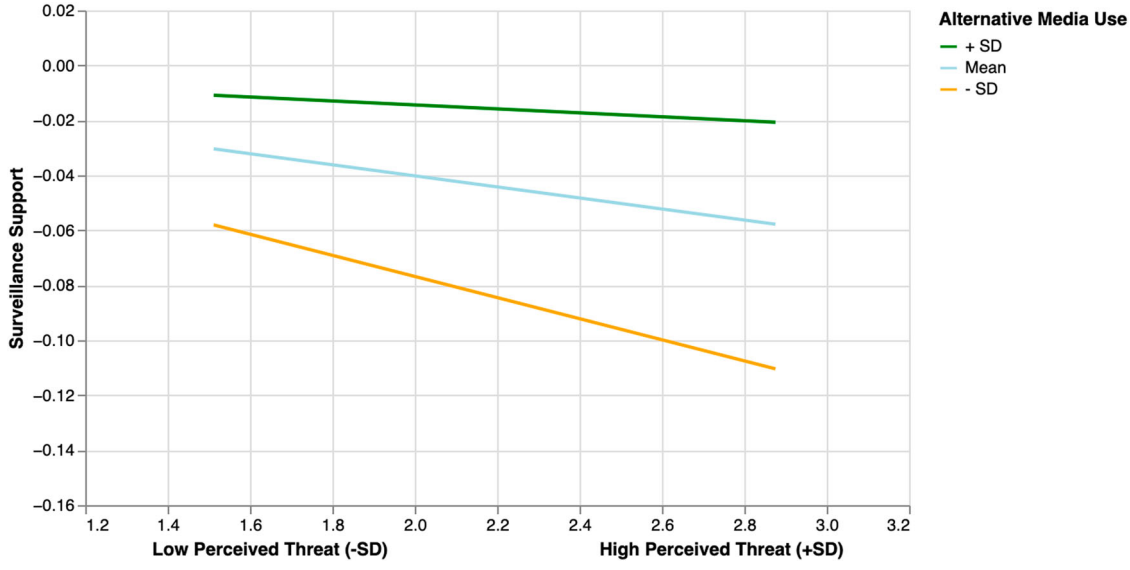

Figure 4. Conditional indirect effect of perceived threat of COVID-19 on surveillance support (mediated by privacy trust) across three levels of alternative media use.

lower people's sense of personal control over their privacy at the same time. Also, as in line with previous studies (Dienlin and Metzger 2016; Taddicken 2014), perceived cost of disclosure shows neither direct or total effect on surveillance support. However, that perceived cost yields a weak positive indirect effect on surveillance support by suppressing the inhibiting mediator privacy self-efficacy indicates that people perceiving higher cost of information disclosure tends to resign personal control, leading a higher support for government surveillance measures. This can be explained by the 'rational fatalism' theory (Xie, Fowler-Dawson, and Tvauri 2019) that people with higher concerns over privacy risks may develop a sense of 'learned helplessness' (Clarke, MacPherson, and Holmes 1982) and therefore passively deny personal control or become more risk-taking in privacy management. This finding also corroborates to the role of 'privacy cynicism' as a coping mechanism in privacy management (Hoffmann, Lutz, and Ranzini 2016; Lutz, Hoffmann, and Ranzini 2020), i.e. the inaction and even carefree behaviour of internet users despite heavy privacy concerns might because they consider privacy protection behaviour subjectively futile when facing privacy threats. Lastly. The perceived threat of COVID-19 infection shows a positive direct effect on surveillance support, as consistent with previous studies (Lewandowsky et al. 2021; Trüdinger and Steckermeier 2017), but a negative indirect effect via its negative impact on the contributing mediator privacy trust. This unveils the complex mechanism in which human beings cope with external crisis: i.e. while perceived threat on one hand justified the necessity of surveillance measures, it also induces distrust among the public therefore lowers public support for government surveillance. A possible explanation for the negative impact of perceive threat of COVID-19 on privacy trust is that fear of possible loss in crisis situations usually make people more suspicious or distrustful (Dimoka 2010).

Among the political and cultural beliefs, political trust shows the strongest effect on surveillance support, 77% of which is indirect effect via its positive association with the contributing mediator privacy trust and negative association with the inhibiting mediator privacy self-efficacy. This indicates that people's institutional trust in legal and public administrations not only can be transferred as specific trust in government as data controllers, but also contribute to people's resignation of personal control over their personal information (i.e. suppressing privacy self-efficacy). Alternative media use, as a proxy of people's cultural belief in democratic individualism, negatively affects surveillance support both directly and indirectly, as people with a stronger belief in democratic individualism tend to respect individual privacy and liberties from government authorities. Both external political efficacy and alternative media use show a negative indirect influence on surveillance support, but the mechanism is different — alternative media use negatively affect surveillance support indirectly by nurturing privacy distrust among the public, indicating that people with a stronger belief in democratic individualism tender to have lower trust in government authorities, leading to a lower support for government surveillance; external political efficacy exerts a negative indirect effect on surveillance support via its positive effect with the inhibiting mediator privacy self-efficacy, which not only corresponds to the efficacy transfer theory but also reflects its focus on the agentic power of human beings (Balch 1974; Craig 1979). The focus of external political efficacy on the agentic power of human beings helps to explain the polarisation of policy preference, as observed in Sulitzeanu-Kenan and Halperin (2013), in which external political efficacy strengthens the existing effect of political ideology on policy preference regardless of the directions. Likewise, while people with higher external political efficacy tend to have a more positive rating regarding government responsiveness, they may also be more likely to have a stronger tendency to exercise personal agency in controlling personal information instead of subjecting themselves to the mercy of the authorities.

Although the negative effect of internal political efficacy on surveillance support is consistent with existing literature (e.g. Maduku 2020), it is to our surprise to see that internal political efficacy exerts no direct impact on the inhibiting mediator privacy self-efficacy, despite of their common focus on human beings' self-competence in exerting agency power and control. One possible explanation is that privacy self-efficacy is a multidimensional concept composed of both the 'internal' confidence and 'external' difficulty in performing control over personal information, while internal political efficacy mainly taps the internal confidence and desire to exert control over political issues.

Lastly, the moderated mediation tests show that alternative media use, as a proxy for democratic individualism, mitigates the direct or indirect effects of all situational perceptions on surveillance support, regardless of the directions. That only among people with high (+SD) alternative media use can perceived cost yield a significant negative effect on surveillance support indicates that while privacy concern itself is not enough for people to articulate their disapproval of government surveillance, people with both higher privacy concerns and stronger democratic individualism are most likely

to be advocates against government surveillance. That alternative media use mitigates the positive effect of perceived benefit and the negative effect perceived threat on surveillance shows that people with stronger belief in democratic individualism are less likely to be convinced to relinquish their right to privacy by the positive consequence of disclosure and tend to retain some rational thinking when they become very suspicious due to the threat of external crisis. Furthermore, alternative media use mitigates both perceived benefit and perceived threat's indirect effects through the mediator privacy trust, but not privacy self-efficacy, indicating that alternative media use could be effective in nurturing distrust towards political authorities but may not be effective in triggering actions to safeguard their personal information from the government surveillance.

6. Theoretical and practical implications

The present study contributes to the literature in a number of ways. The primary contribution of this study is the integration of both political/cultural factors and situation-specific factors into a coherent model that jointly predict public support for government surveillance. Previous studies noted the contextual nature of privacy (Margulis 2003; Solove 2008; Xu et al. 2011), i.e. privacy in a specific situation is more understandable than it is in the abstract. This study highlighted the importance of situation-specific factors without denying the crucial importance of the enduring values, either it political or cultural, in determining public opinion on government surveillance. By unveiling the mediating role of situational psychological responses (i.e. privacy trust and self-efficacy), the study provides a novel perspective to understand how general political/ cultural beliefs function in people's decision-making.

From a theoretical perspective, this study attempts to develop and validate a new model to explain the public opinion dynamics on government surveillance. As with all cross-sectional surveys, this study provides only a snapshot of the beliefs and attitudes related to information privacy management. Still, the study advances our understanding on formation process of public opinion on government surveillance by unveiling the mediation mechanism. To the best of our knowledge, this is the first study systematically examining the role of privacy trust and self-efficacy, as two competing situational psychological responses prompted by government surveillance amidst COVID-19, in mediating the effect of political/cultural beliefs and situational perceptions on surveillance support. Previous studies focused on either the direct effects of political trust (Trüdinger and Steckermeier 2017) or privacy trust (Joinson et al. 2010) per se on privacy attitudes or behaviour intentions. This study connect the two layers of influencers by conceptualising privacy trust, the situational trust in data controllers, as the trustor's intention to trust (Gill et al. 2005; McKnight, Cummings, and Chervany 1998) and is influenced by either the trustor's general beliefs or situational perceptions. Likewise, lots of studies have taken privacy self-efficacy or perceived control as antecedents to privacy concerns (Dinev and Hart 2004; Zhang et al. 2022) or privacy behaviours (Chen 2018), instead of as people's desire or active choice to exercise personal agency (Bandura 1990) that can be affected by lots of general beliefs or environmental cues. Taking a psychological approach, this study conceptualises both privacy trust and privacy self-efficacy as a situational psychological response to government surveillance amidst global pandemic and investigated how they are affected by people's enduring cultural/political beliefs and cognitive evaluation of the external environment, and how they compete in affecting people's surveillance attitude.

This study also contributes to the broader literature on privacy by clarifying the psychological mechanism of privacy management. Despite of extensive studies, the concept of privacy is still waiting for clarify as it is often used as a 'shorthand umbrella term' (Solove 2007, 760) for a variety of privacy problems resulted from human communication. Among all the efforts to clarify how privacy was formed or how it functions, some studies reasoned that privacy is actually one's control over their own personal information (Westin 1967, 2003; Xie, Fowler-Dawson, and Tvauri 2019) or even trust in data controllers (Waldman 2018), this study shows that privacy trust and self-efficacy are competing with each other in determining one's privacy attitude. Future studies may delve deeper to see how the two constructs are related to human beings' sense of privacy, as so far most studies focus on the determining role of perceived information control on perceived privacy only (Dinev et al. 2013).

By providing a nuanced understanding of the opinion dynamics regarding government surveillance, the study has the following policy implications. First, the results indicate that the younger, male, and more educated groups tend to disapprove government surveillance, therefore segmenting the public to understand each demographic groups' perspectives will contribute to more effective public consultation regarding privacy-encroaching policies. Both general political/cultural beliefs and situational factors affect public support of government surveillance, among which the most effective influencer are political trust and perceived benefit

of disclosure. Therefore, apart from focusing on the policy issue itself (e.g. promoting the expected benefit of surveillance measures in fighting COVID-19), policymakers may seek public support through means beyond the policy itself (i.e. nurturing political trust) in the long term. In addition, given the crucial role of privacy trust as a contributing mediator in the indirect effects of political/cultural beliefs and situational perceptions, when focusing on policy itself, policymakers need to convince the public that their personal information will be safeguarded in the process of both collection and use. Lastly, the opposite direct and indirect effect (via privacy trust) of perceived threat on surveillance support shows that while health crisis helps to justify the need of government surveillance, it also evokes suspicion among and make people less trustful in data collectors in protecting their privacy properly. Hence, threat appeal is not an effective communication strategy to seek public support of government surveillance.

7. Limitations and suggestions for future research

Whilst the findings pave the way to the understanding of public opinion on government surveillance, we acknowledge that this study bear some important limitations.

Firstly, the study is based on cross-sectional data, therefore the relationships among the constructs are associational rather than causal. Future studies might consider employing experiential designs or longitudinal data to articulate causal relationship among the constructs.

Secondly, some variables (e.g. privacy trust, privacy self-efficacy, perceived threat) were measured with one single item, which might affect the accuracy of the estimated relationships. For example, although the effects are significant, only 6.28% variance of privacy self-efficacy is explained by political/cultural beliefs and situational perceptions (see model 2). Using single-item measurement might fail to capture the multi-dimensional nature of privacy self-efficacy. As Trafimow et al. (2002) noted, self-efficacy or perceived control can be distinguished into two positively correlated dimensions: i.e. 'perceived control' and 'perceived difficulty', with the former tapping into one's internal confidence and desire to take voluntary control, the latter tapping into the external difficulty people perceive when performing control. Noting the dichotomous nature of privacy self-efficacy will help us to understand its positive effects on privacy protection behaviours but inconsistent effects on information disclosure (Brandimarte, Acquisti, and Loewenstein 2013; Chen 2018; Chen and Chen 2015; Hajli and Lin 2016). Therefore, future studies may consider refining the measures to capture the 'internal' and 'external' dimensions of privacy self-efficacy and explore their different roles in privacy management respectively.

Thirdly, some studies (Hauff and Nilsson 2021) noted the various roles different types of perceived benefits (e.g. hedonic, utilitarian, and pro-social) played in public acceptance of government surveillance, noting that pro-social benefits will offset one's privacy concerns in determining acceptance of a contact-tracing app. Although this study has measured multiple dimensions of perceived benefits, for the parsimonious sake we've aggregated the different types of perceived benefits of information disclosure before exploring their influence on surveillance support. Future studies might be interested to explore which aspect of privacy calculus affect people's privacy attitudes or behaviour intentions in specific.

Last, this study incorporated political trust, political efficacy, and alternative media use in an integrated view of general cultural differences in privacy management. Though previous studies noted the reinforcing relationship between democratic-individualism and alternative media use (Leung and Lee 2014), we should bear in mind the proxy might not be able to account for all the variance in the latent construct it means to represent when generalising the relationship observed in this study.

Notes

1. 2021 Census: https://www.census2021.gov.hk/doc/pub/21c-summary-results.pdf; 2021 Wages and Labour Earnings Report: https://www.censtatd.gov.hk/en/scode210.html
2. The Census and Statistics Department of Hong Kong SAR government reported the monthly wage instead of monthly personal income as in this survey.
3. The proportion of post-secondary education in the sample is 66.3% (minimum age at 19), while 2021 Census data from Hong Kong government reported the proportion of population aged 15 and over with post-secondary education is 34.6%. As 2021 Census data didn't release education attainment across age groups, we therefore resort to 2016 Census data. Comparison of people aged 25-54, accounting for 52.9% of census data and 67% of the sample respectively, shows that participants in the survey are better educated than the population (proportion of post-secondary education: 72.9% vs. 42%).

Disclosure statement

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