Extended Abstract: Effects of Hong Kong Local Identity on

the Intention to Use Health Code during COVID-19

75-word summary

Combining Hong Kong local identity scale and health belief model, this study proposed an integrative model and confirmed the indirect and negative effect of Hong Kong people's local identity (civic and cultural domains included) on their intention to use the health QR code during COVID-19 through the mediation of perceived benefit of using the health code

Keywords: local identity, health belief model, use intention, health code, Hong Kong

Introduction

Health code is a QR code technology based on the smartphone, which allows the Chinese government to deal with COVID-19 more effectively by tracing citizens and matching their test results. However, the promotion of the health code in Hong Kong led by the Hong Kong government has caused many controversies. Supporters believe that the health code will help curb the spread of the coronavirus and restore the economy, while opponents mainly question the political surveillance, restricted freedom, and privacy leakage. Correspondingly, a growing body of research has concluded that the adoption of a health strategy is not only a health issue but also a political issue (Clinton et al., 2021). For example, Hornsey et al. (2020) have examined the relationship between people's party identity and their attitude towards vaccination. Young and Bleakley (2020) have established the ideological health spirals model to explain the relationship between political polarization and health behaviors during COVID-19. Based on the previous studies, this study integrates the Hong Kong identity scale (Chow et al., 2020) and health belief model (Rosenstock et al., 1988) to examine the effect of political factors in predicting the use of health code in Hong Kong.

Literature Review

Several studies have discussed the formation of the local identity of Hong Kong people and concluded two main mechanisms, the shared positive belief from the internal group (ingroup) and the shared negative hostility towards the external group (outgroup). Ingroup-based identity refers to Hong Kong people's yearning for freedom and democracy and outgroup-based identity refers to Hong Kong people's opposition to the authoritarian power of Mainland China (e.g., Chow et al., 2020). In the context of promoting health code in Hong Kong, the potential privacy and surveillance problem brought by the health code is incongruent with the ingroup-based identity (freedom). Meanwhile, the concern about the collection of personal data and control by the Chinese government is consistent with the outgroup-based identity (anti-authoritarian), since the promotion of health code in Hong Kong has got de facto supports from the Chinese government technically and institutionally. Correspondingly, previous literature has confirmed that the local identity of Hong Kong citizens may have a widespread and negative impact on their attitude towards the policy, economy, technology, and some other aspects which mainland China has touched on (Pang & Jiang, 2019). Thus, based on the health belief model, which can help explain the general psychological process of adopting a health service or technology, the following hypotheses were proposed (only main hypotheses are shown here):

H_1: Hong Kong citizens with sole Hong Konger identity perceive higher barrier and lower benefit of using health code, and have weaker intention to use health code than citizens with Chinese-oriented identity (Chinese / Chinese Hong Konger / Hong Kong Chinese, identity here is a categorical variable with four groups).

H_2: The degree of Hong Konger identity has a positive effect on the perceived barrier of using health code.

H3: The degree of Hong Konger identity has a negative effect on the perceived benefit of using health code.

H4: The degree of Hong Konger identity has a negative effect on the intention to use health code. (identity here is a continuous variable based on a 5-item and 7-point scale).

Method

The data were collected randomly in January 2021 based on an online survey via *QuestionPro*, a professional and academic survey service platform that provides a large pool of global samples. Eventually, this study obtained 846 valid responses with controlling the demographic structure so that the sample would be as consistent with the actual structure of Hong Kong as possible. For the measurement, both civic domain *I constantly participate in parade and protest*, *I do not like authoritarian*, and cultural domain *I always use Cantonese colloquial* were included to operationalize the Hong Konger identity in H2, H3, and H4. For health belief model-related variables, perceived benefit and perceived barrier of using health code were measured from a political perspective. For example, *I am worried that the personal data used in the health code is at risk of being surveilled by the government*. A 7-point scale from 1 = *strongly disagree* to 7 = *strongly agree* was employed for every question.

Results

Results of post hoc comparison using the Tukey HSD test of ANOVA revealed that respondents with sole Hong Konger identity perceived significantly lower benefit and higher barrier of using health code, and had lower intention to use health code than respondents of other three groups. Moreover, Hong Konger also perceived lower severity of COVID-19 and lower self-efficacy of using health code.

Tabel 1.

Results of variance analysis

Variables	Hong Konger		Chinese		Chinese Hong Konger		Hong Kong Chinese		Indicators		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	sig	*F*	η^2
Perceived severity	4.76	1.76	6.54	.48	6.61	.68	6.00	.94	**	5.85	.36
Perceived susceptibility	4.17	1.32	4.64	1.57	5.61	1.32	5.24	1.28	n.s.	1.54	.13
Perceived benefit	2.36	1.67	5.79	1.19	4.79	.99	4.12	3.36	***	12.24	.54
Perceived barrier	6.32	1.55	3.46	2.15	4.33	1.72	4.50	3.54	**	5.19	.33
Self-efficacy	4.52	2.02	6.44	.80	5.50	1.30	6.44	.80	*	3.36	.25
Use intention	1.86	1.77	6.23	.99	6.11	1.00	4.17	3.54	***	22.39	.68

*p < .05, **p < .01, ***p < .001, n.s. = non-significant

Accordingly, results of structural equation modeling analysis presented a similar and structural pattern. First, the degree of Hong Konger identity including civic and cultural domains has a negative effect on the perceived benefit (*B* = -.83, *SE* = .27, *p* < .001) and a positive effect (*B* = .55, *SE* = .22, *p* < .001) on the perceived barrier of using the health code. Second, perceived benefit has a positive effect on the intention to use health code (*B* = .77, *SE* = .22, *p* < .001). Third, the degree of Hong Konger identity could indirectly and negatively affect the intention to use health code (*B* = -.69, *SE* = .31, *p* < .001) through the mediation of perceived benefit. Finally, the self efficacy has a positive effect on the use intention (*B* = .10, *SE* = .08, *p* < .05).

Table 2.

Results of path analysis for each variable

Path	B	SE	sig	LCI	UCI
HK Local Identity → Perceived Benefit	-.83	.27	***	-1.43	-.86
HK Local Identity → Perceived Barrier	.55	.22	***	.53	.98
HK Local Identity → Use (direct)	-.06	.19	n.s.	-.36	.05
HK Local Identity → Use (indirect)	-.69	.31	***	-1.50	-.90
Perceived Severity → Use	.03	.11	n.s.	-.08	.13
Perceived Susceptibility → Use	-.07	.10	n.s.	-.21	.00
Perceived Benefit → Use	.77	.22	***	.69	1.14
Perceived Barrier → Use	-.10	.12	n.s.	-.24	.00
Self Efficacy → Use	.10	.08	*	.07	.24

*$p < .05$, **$p < .01$, ***$p < .001$, n.s. = non-significant. Model fit: $\chi^2/df = 1.13$, $p = .10$, CFI = .98, TLI = .97, RMSEA = .06. LCI and UCI are lower and upper bound of confidence interval.

Discussion and Conclusion

In conclusion, this study proposed an integrative model combining political and health belief factors (see Figure 1) and indicated that facing the COVID-19 pandemic, the local Hong Konger identity plays a role of obstacle in using health code. Specifically, though Hong Kong people understand the benefits of using the health code, the Hong Konger identity could still affect people's subjective attitude towards the health code (i.e., the evaluation of to what extent the health code is beneficial) and subsequently weaken the use intention. The limitation and more detailed discussion and conclusion (e.g., the detailed definition and mechanism of Hong Konger identity) would be included in the full paper of this study.
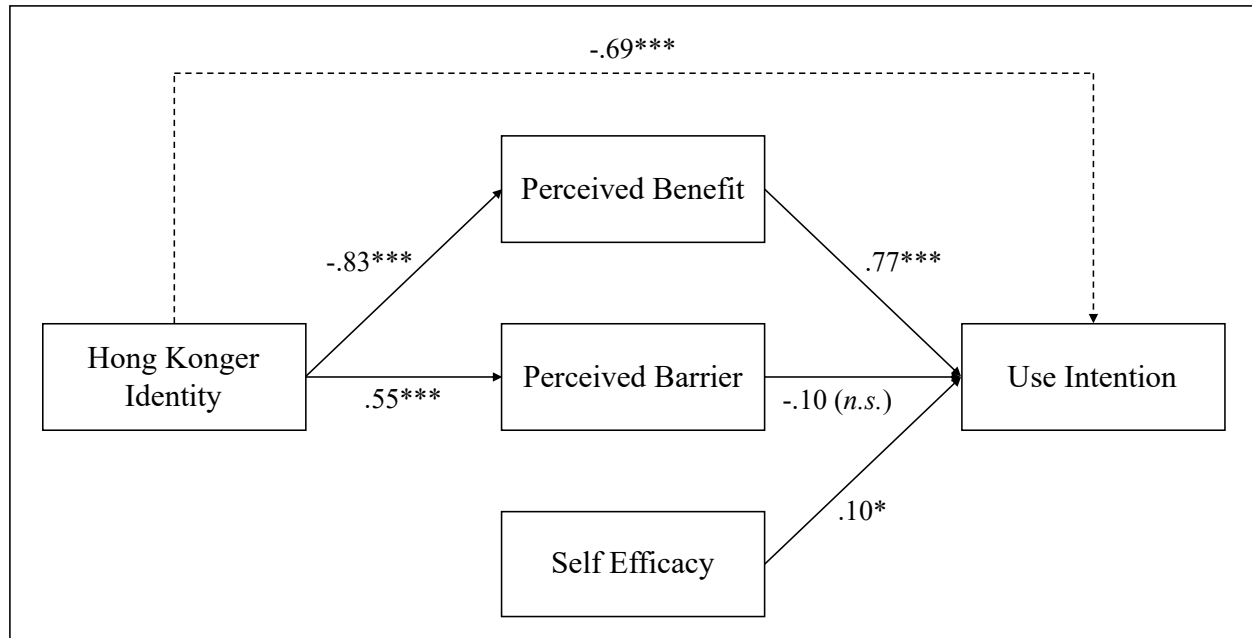
Figure 1. The final integrative model combining health belief model and Hong Kong local identity scale based on results of structural equation modeling analysis

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