EVALUATING HONG KONG PEOPLE'S PERCEPTIONAL AND BEHAVIORAL PATTERNS IN VISITING DIFFERENT TYPES OF PUBLIC SPACES AFTER THE OUTBREAK OF COVID-19 PANDEMIC

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Research Background

- The outbreak of the coronavirus disease took place in 2019
- The Government imposed restrictions and measures to control the COVID-19 condition according to the Prevention and Control of Disease Ordinance [Cap. 599]
- The pandemic and the corresponding governmental responses have had important implications for public space

Research Objectives

1. **To explore the behavioral and perceptional patterns** of Hong Kong people in visiting different types of public spaces after the outbreak of the COVID-19 pandemic
2. **To examine the motives** of people in Hong Kong in visiting the above-mentioned public spaces
3. **To investigate the significant factors** that influence their visit to public spaces, more than the rest of the factors, during the pandemic

Research Significance

1. Knowledge:
Advance our understanding of public places and related features during the epidemic to address the current research gap in the subject
2. Policy and Management:
Reform the current public space management policies in accordance with the changes in public spaces to accommodate the new normal

Major Findings on Hong Kong People's Travelling Behaviors

- In terms of visiting frequency, the patterns of visiting different public spaces are varied (n =217).
- The most frequently visited public spaces were Urban non-park public spaces (Type 3).
- In terms of duration, the amount of time people spent in different types of public spaces also varied (n =217).
- People spent the longest time in rural non-park public spaces (Type 4).

Frequency				
Total	Mean	S.D.		
	2.89	1.596		
Scheffe	F	df_between groups	df_within groups	Sig.
	86.883	3	864	<.001
Types of Public Spaces (Mean, S.D.)	Types of Public Spaces	Mean Difference	Sig	
Type 1 (3.62, 1.72)	Type 2	1.166	<.001	
	Type 3	-.009	1.000	
	Type 4	1.774	<.001	
Type 2 (2.46, 1.254)	Type 1	-1.166	<.001	
	Type 3	-1.175	<.001	
	Type 4	.608	<.001	
Type 3 (3.63, 1.431)	Type 1	.009	1.000	
	Type 2	1.175	<.001	
	Type 4	1.783	<.001	
Type 4 (1.85, 1.122)	Type 1	-1.774	<.001	
	Type 2	-.608	<.001	
	Type 3	-1.783	<.001	

Duration				
Total	Mean	S.D.		
	2.63	1.222		
Scheffe	F	df_between groups	df_within groups	Sig.
	156.831	3	864	<.001
Types of Public Spaces (Mean, S.D.)	Types of Public Spaces	Mean Difference	Sig	
Type 1 (1.68, .858)	Type 2	-1.452	<.001	
	Type 3	-.512	<.001	
	Type 4	-1.820	<.001	
Type 2 (3.13, 1.016)	Type 1	1.452	<.001	
	Type 3	.940	<.001	
	Type 4	-.369	.002	
Type 3 (2.19, .805)	Type 1	.512	<.001	
	Type 2	-.940	<.001	
	Type 4	-1.309	<.001	
Type 4 (3.5, 1.21)	Type 1	1.820	<.001	
	Type 2	.369	.002	
	Type 3	1.309	<.001	

Methodology

Four types of recreational public spaces
- Type 1: Urban Park public spaces
- Type 2: Rural Park public spaces
- Type 3: Urban Non-Park public spaces
- Type 4: Rural Non-Park public spaces

Primary Data:
1. Online Questionaire
2. Face-to-face interview

Secondary data:
1. Books and academic literature
2. Governmental and Organisational Publications
3. News report

Data Analysis:
1. One-way ANOVA
2. Bivariate Correlation
3. Linear Regression

Major Findings on Hong Kong People's Perceptions

- In terms of rewards, the Reward Index in the four types of public spaces in general (7 out of 8) positively correlate with the visiting frequency and duration respectively
- In terms of context, the Regulation Index also has a positive correlation (8 out of 8) with visiting frequency and duration of the four types of public spaces.
- However, in terms of risks, no significant correlation is identified as the correlation coefficients of the eight cases fail to meet the significant level of 0.05.
- In 6 out of 8 cases, Regulation Index has a stronger positive correlation than Reward Index (n=217).

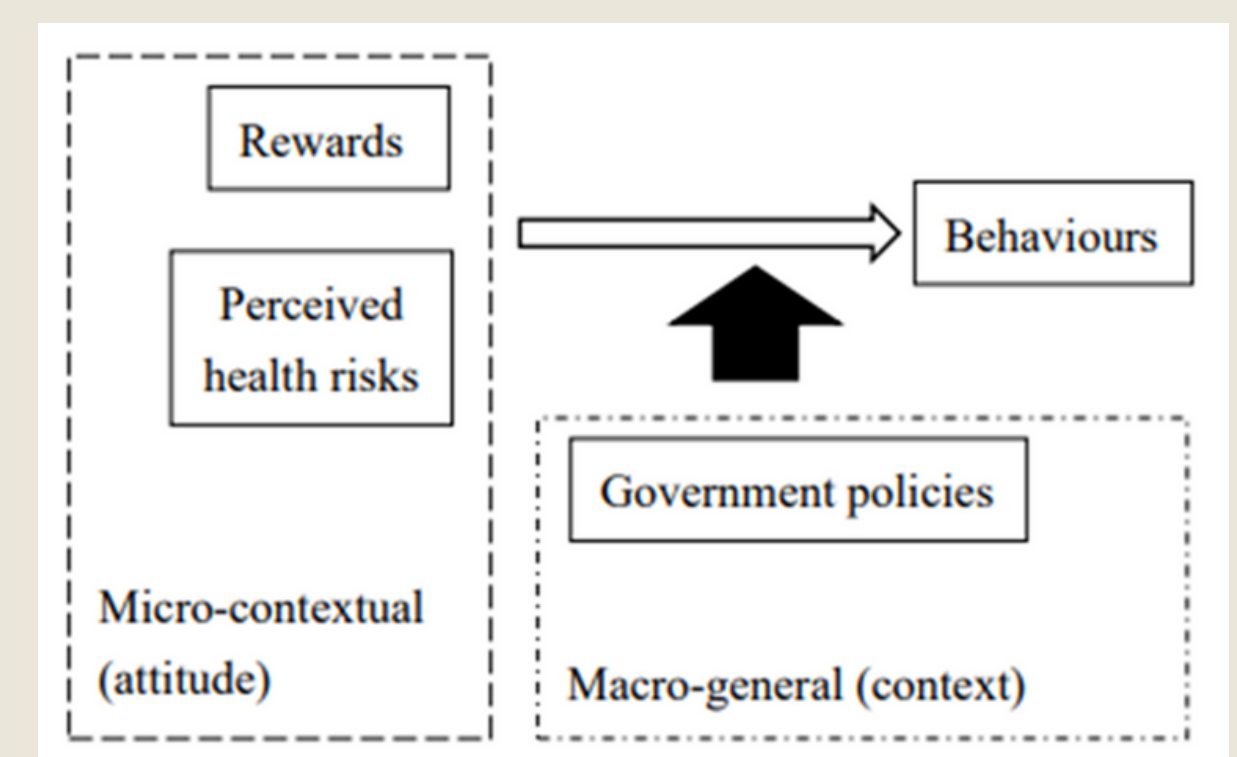|		Reward Index	Risk Index	Regulation Index
Type1: visiting frequency	Pearson Correlation	.385***	.009	.441***
Type1: visiting duration	Pearson Correlation	.315***	-.113	.315***
Type2: visiting frequency	Pearson Correlation	.324***	-.046	.480***
Type2: visiting duration	Pearson Correlation	.313***	-.088	.333***
Type3: visiting frequency	Pearson Correlation	.247***	.043	.287***
Type3: visiting duration	Pearson Correlation	.281***	.028	.182**
Type4: visiting frequency	Pearson Correlation	.132	.083	.351***
Type4: visiting duration	Pearson Correlation	.281***	-.060	.196**

- The eight linear regression models share similar findings with the bivariate correlation analysis (n=217).
- For 6 out of 8 regression models, Regulation Index is the most influencing indicator that influences the visiting pattern of Hong Kong people amid Covid-19.

Public Space 1	Unstandardized Beta	Coefficient Standard error	Standardized Coefficients Beta	t	P value
Frequency (R Square =.255)					
(constant)	.324	.512		.632	.528
Reward Index	.455	.110	.266	4.134	<.001
Risk Index	.105	.099	.064	1.067	.287
Regulation Index	.451	.084	.344	5.399	<.001
Duration (R Square =.149)					
(constant)	.650	.272		2.389	.018
Reward Index	.185	.058	.218	3.161	.002
Risk Index	-.058	.053	-.071	-1.105	.270
Regulation Index	.151	.044	.231	3.390	<.001

Public Space 2	Unstandardized Beta	Coefficient Standard error	Standardized Coefficients Beta	t	P value
Frequency (R Square =.251)					
(constant)	.254	.478		.532	.595
Reward Index	.221	.095	.154	2.330	.021
Risk Index	-.013	.083	-.010	-.157	.875
Regulation Index	.379	.059	.418	6.431	<.001
Duration (R Square =.151)					
(constant)	1.513	.412		3.669	<.001
Reward Index	.236	.082	.204	2.886	.004
Risk Index	-.048	.072	-.043	-.673	.502
Regulation Index	.184	.051	.250	3.620	<.001

Public Space 3	Unstandardized Beta	Coefficient Standard error	Standardized Coefficients Beta	t	P value
Frequency (R Square =.119)					
(constant)	1.401	.512		2.733	.007
Reward Index	.286	.098	.212	2.914	.004
Risk Index	.133	.090	.102	1.470	.143
Regulation Index	.232	.075	.214	3.111	.002
Duration (R Square =.101)					
(constant)	.873	.291		2.999	.003
Reward Index	.223	.056	.294	4.000	<.001
Risk Index	.088	.051	.120	1.723	.086
Regulation Index	.050	.042	.082	1.172	.242

Public Space 4	Unstandardized Beta	Coefficient Standard error	Standardized Coefficients Beta	t	P value
Frequency (R Square =.132)					
(constant)	.481	.441		1.090	.277
Reward Index	.106	.078	.094	1.367	.173
Risk Index	.064	.080	.072	1.054	.293
Regulation Index	.255	.052	.325	4.925	<.001
Duration (R Square =.101)					
(constant)	1.631	.484		3.369	<.001
Reward Index	.310	.085	.253	3.624	<.001
Risk Index	-.004	.088	-.003	-.046	.963
Regulation Index	.127	.057	.150	2.232	.027

Conceptual Framework

- Modified Attitude-behavior-context (MABC) model

Implications

- In general, people visit urban recreational public spaces more frequently than visiting rural recreational public spaces while people stayed at rural recreational public spaces longer than at rural recreational public spaces under COVID-19.
- Macro-general factors i.e., government regulations are the most crucial factor to explain people visiting behaviors, compared with COVID risk factors, and reward factors, implying anti-COVID measures have critical implications for people's mobility.
- The government failed to consider and properly react to the public response.
- Shifting mobility and differentiated degree of enforcement create two geographically distinct worlds between urban and rural areas.
- Resulted in unexpected problems with carrying capacity and caused environmental disasters.
- Public spaces without government management and control turned into pollution hotspots.

Future directions for Improvement

- Require context-dependent management approaches for each type of public space. Manpower planning and resource allocations should depend on the site-specific visiting frequency and duration at specific types of public spaces
- Implement holistic cautious, and responsive public space management policies: Periodic review and proactive corrective actions are necessary to minimize potential environmental problems.