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賽馬會長者計劃新里程
A Jockey Club Initiative for Seniors

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A Jockey Club Initiative for Seniors

Funded by:
捐助機構:



香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust

Project Partners:
計劃夥伴:



Neighbourhood and Health Outcomes

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Background

◆ The characteristics of neighbourhood play an important role in influencing health and social outcomes through

- 1) Neighbourhood institutions and resources (e.g. health care facilities)
- 2) Stresses in the physical environment (e.g. pollutions)
- 3) Stresses in the social environment (e.g. crime)
- 4) Neighbourhood-based networks and norms (e.g. social support)

(Ellen *et al.*, 2001)

Evidence from Overseas Studies

- ◆ Self-rated health, psychological health and physical functioning are associated with
 - Amenities and facilities
 - ◆ Health services, leisure facilities, parks, banks, markets, etc.
 - Accessibility
 - ◆ Public transport, walkability etc.
 - Local problems
 - ◆ Noise, crime, air pollution, rubbish, etc.
 - Social cohesion
 - ◆ Known or trusted neighbours, etc.
 - Built environment
 - ◆ Buildings in deteriorating condition, etc.

(Sooman & Macintyre, 1995; Yen & Kaplan, 1999; Stafford & Marmot, 2003; Galea *et al.*, 2005; Bowling *et al.*, 2006; Poortinga *et al.*, 2008; Larson *et al.*, 2009; Parra *et al.*, 2010)



The Hong Kong Situation

- ◆ Hong Kong has an area of only 1104 km² and it is divided into 18 District Council Districts for administration
- ◆ Some studies examined the geographical variations in health outcomes (e.g. self-rated health, quality of life, morbidity and mortality) at district level

(Wong *et al.*, 2009; Wong *et al.*, 2010; Yu & Wong, 2004; Lloyd *et al.*, 1996)

- ◆ However, few local studies attempted to explain geographical variations of health outcomes in terms of the neighbourhood environment characteristics which vary within district



Objectives

- ◀ Examine the relationship between neighbourhood environment and health and social outcomes



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Study Design

Population

- People aged ≥ 25 living in Sham Shui Po District and Sai Kung District
- Excluding those living in the district for < 1 year

Sampling

- Random sampling based on telephone directory

Setting

- Telephone survey based on structured questionnaire

Study period

- Between 18th April 2009 and 10th June 2010

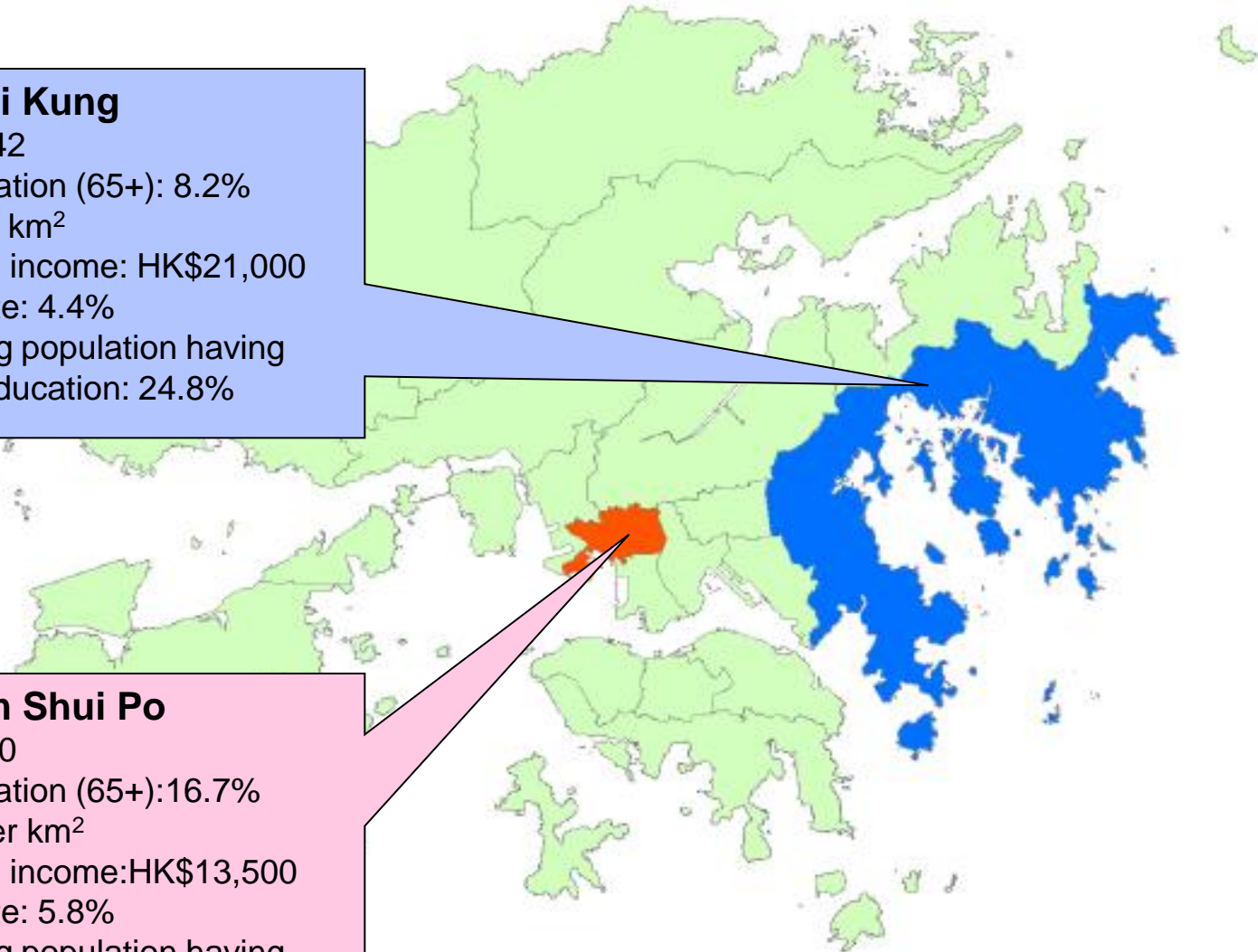
Sham Shui Po and Sai Kung

Sai Kung

Population: 406,442
% of elderly population (65+): 8.2%
Density: 3,135 per km²
Median household income: HK\$21,000
Unemployment rate: 4.4%
% of non-schooling population having received tertiary education: 24.8%

Sham Shui Po

Population: 365,540
% of elderly population (65+): 16.7%
Density: 39,095 per km²
Median household income: HK\$13,500
Unemployment rate: 5.8%
% of non-schooling population having received tertiary education: 18.8%



Explanatory Variables

◀ Perceived neighbourhood environment

- Neighbourhood Environment Index based on six domains
 - 1) General impression,
 - 2) Accessibility,
 - 3) Safety,
 - 4) Pollution-free,
 - 5) Convenience of amenities and recreation venues, and;
 - 6) Convenience of medical and social facilities
- Higher scores indicate better environment

◀ Socio-demographic variables

- Age, sex, education level, tenure of accommodation and household income

Outcome Measures

Health-related quality of life

- Physical components of SF-12 (PCS)
- Mental components of SF-12 (MCS)
- Higher scores indicate better health outcomes
(Ware *et al.*, 1996; Lam *et al.*, 2005)

Social support

- Medical Outcomes Study-Social Support Survey (MOS-SSS)
- Higher scores indicate better social outcomes
(Sherbourne & Stewart, 1991; Yu *et al.*, 2004; Lee *et al.*, 2005)

Statistical Analysis

- Multiple regression models, controlling for socio-demographic variables, were used to study the association between neighbourhood environment and the health and social outcomes



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Results

- ◆ A representative sample of 814 subjects aged ≥ 25 living in Sham Shui Po District or Sai Kung District were successfully interviewed
- ◆ Response rate = 14%



Table 1 Number of respondents by age group, sex and district

Age group	Sham Shui Po		Sai Kung	
	Male	Female	Male	Female
25-44	54	90	77	130
45-64	73	77	77	71
65+	52	49	28	36
Total	179	216	182	237



Socio-demographic Characteristics

- ◆ Better health and social outcomes were associated with
 - Younger age
 - Male
 - Higher education level
 - Ownership of accommodation
 - Higher household income

Table 2 Relationship between socio-demographic characteristics and outcomes

Characteristics	N	PCS	MCS	MOS-SSS
Age				
25-44	351	4.66** ↑	-0.36	16.28** ↑
45-64	298	3.72** ↑	-0.68	8.62** ↑
65+ (reference)	165	0	0	0
Sex				
Male	361	1.54** ↑	-0.18	-1.63
Female (reference)	453	0	0	0
Education				
Post-secondary or above	246	2.46** ↑	0.25	14.45** ↑
Post-secondary below (reference)	565	0	0	0
Tenure				
Owner-occupier	520	1.62** ↑	1.84** ↑	9.94** ↑
Rented (reference)	284	0	0	0
Household income				
≥ 15,000 HKD	484	2.78** ↑	1.34* ↑	15.84** ↑
< 15,000 HKD (reference)	295	0	0	0

*p-value <0.01, **p-value <0.001

Table 3 Neighbourhood Environment Index

	Sham Shui Po Mean (s.d)	Sai Kung Mean (s.d.)
General impression*** (range:1-5)	3.5 (0.9)	3.9 (0.7)
Accessibility** (range:1-5)	4.2 (0.6)	4.1 (0.6)
Safety*** (range:1-5)	4.2 (0.7)	4.4 (0.5)
Pollution-free*** (range:1-5)	3.6 (1.0)	4.0 (0.8)
Amenities & recreation venues* (range:1-5)	3.6 (0.7)	3.5 (0.7)
Medical & social facilities** (range:1-5)	3.3 (0.7)	3.1 (0.7)
Overall*** (range:6-30)	22.4 (2.9)	23.0 (2.4)

* p-value of independent samples t-test < 0.05

** p-value of independent samples t-test < 0.01

*** p-value of independent samples t-test < 0.001

Neighbourhood Environment

- ◆ After controlling for the socio-demographic characteristics of individuals, an unit increase in Neighbourhood Environment Index was associated with
 - An increase of 0.37 in PCS score (p-value<0.001)
 - An increase of 0.32 in MCS score (p-value<0.001)
 - An increase of 1.22 in MOS-SSS score (p-value<0.001)
- ◆ Interaction effects between the index and socio-demographic characteristics were insignificant (p-value>0.01)

District

◆ By including district of residence as a random effect in the models, it was found that

- district was associated with MOS-SSS score, but not associated with PCS and MCS scores
- Neighbourhood Environment Index was still significantly associated with PCS, MCS and MOS-SSS scores

→ Neighbourhood Environment Index is a better predictor of health and social outcomes than district of residence

Limitations

- ◀ With this cross-sectional study, we can only show association instead of causation
- ◀ The low response rate may imply some selection bias
- ◀ Some factors related to health and social outcomes were not controlled

Conclusions and Recommendations

- ❖ Better neighbourhood environment was associated with better health and social outcomes
- ❖ To build a better neighbourhood:
 - ✓ Eliminate pollution
 - ✓ Enhance accessibility
 - ✓ Ensure safety
 - ✓ Expand facilities and services

Q & A

