

# Waterfront Analyses of Hong Kong: “Cool and Covered”

Hong Kong Project Center 2024

VERONIKA GORSKI, LOTTIE MCLEOD, ROHAN PRASAD, DREW TRUST



WPI



# Our Team



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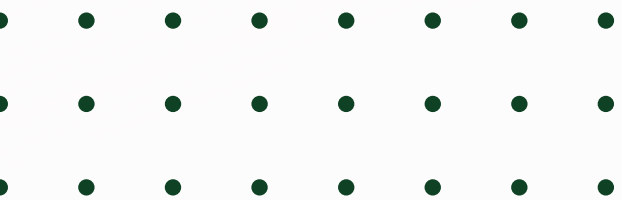
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Samuel Wong (right)  
Paul Zimmerman (left)

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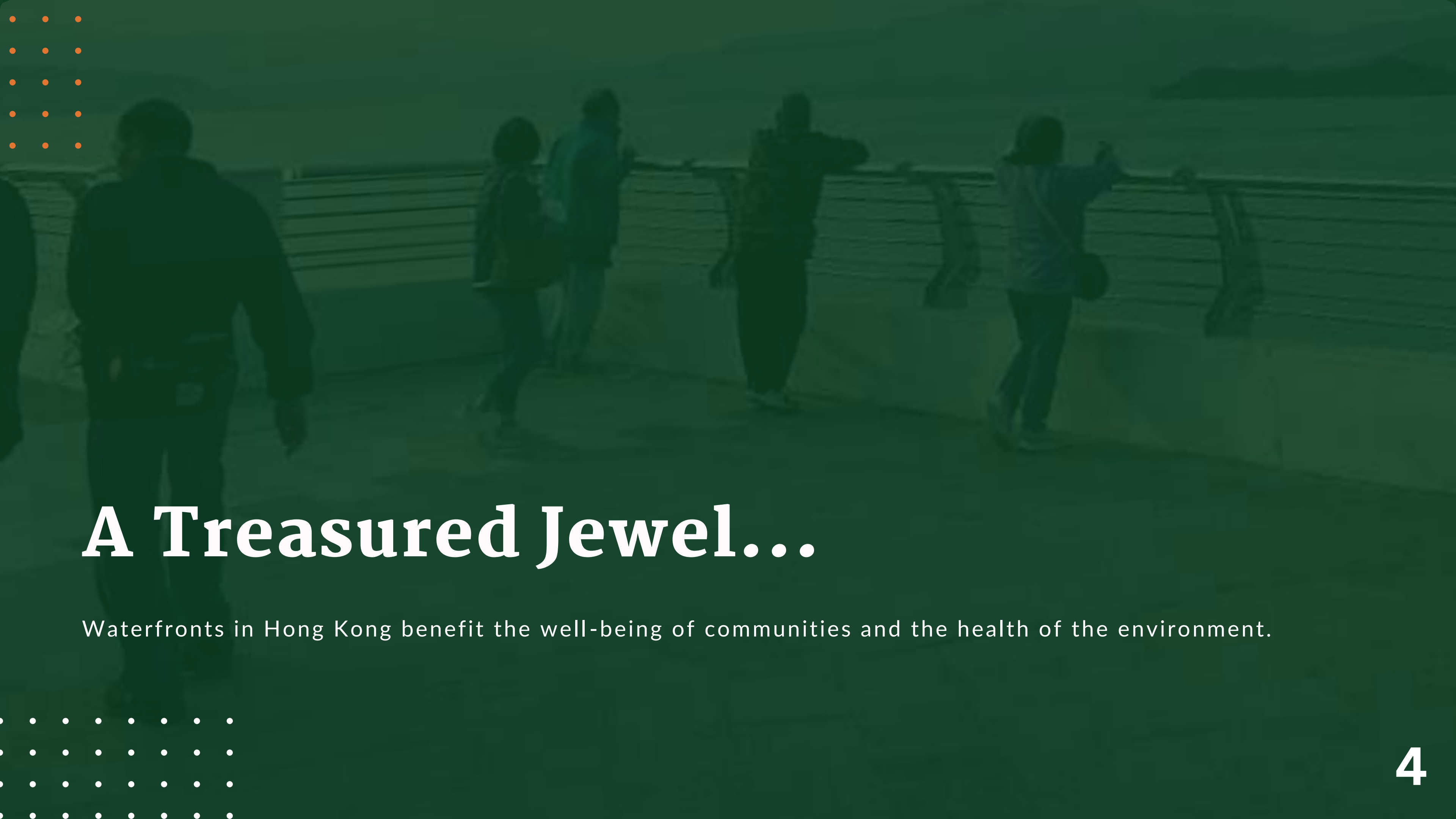


## Alain Chiaradia



THE UNIVERSITY OF HONG KONG 香港大學  
**faculty of architecture** 建築學院





# A Treasured Jewel...

Waterfronts in Hong Kong benefit the well-being of communities and the health of the environment.



Waterfront Sites are Spaces for Community Engagement and Personal Leisure





## Weather is a **Strong Factor in Waterfront Attendance**

At a temperature of 30°C, a 1°C increase in temperature is associated with a 4% drop in park attendance.

Tongping Hao  
The University of Hong Kong

# Building Cover Structures are a Method of Mediating hot Weather, and Making Spaces More Enjoyable.



But how Impactful are They Throughout the Year?



# Investigating the Scope of the Cooler Season.





# Project Goal

Understand if structures that provide cover on the Hong Kong waterfronts effect visitor waterfront usage during the winter season.

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## Question 1

Where and when on the waterfront do people choose to spend time when static?

## Question 2

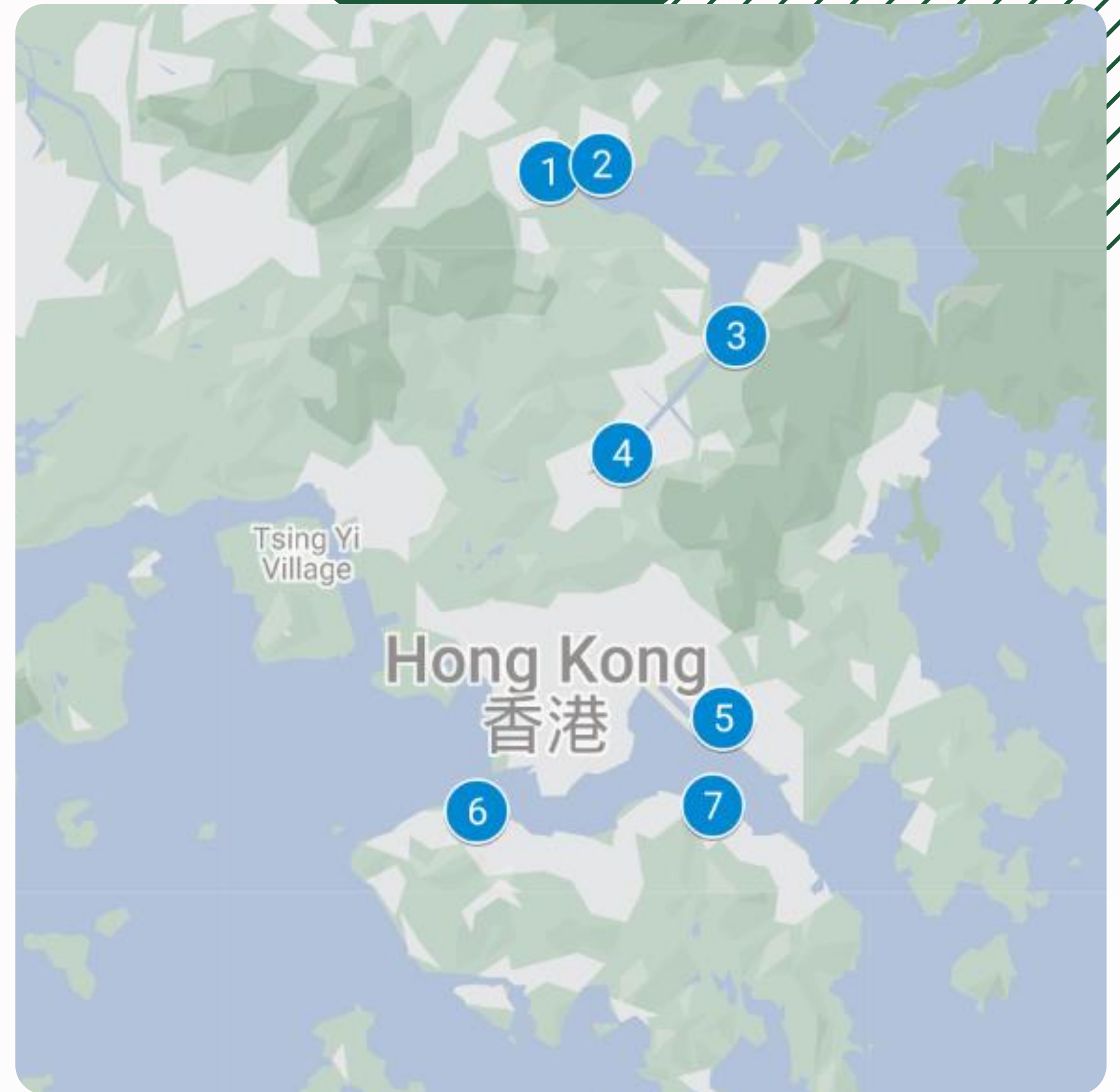
Do specific weather patterns impact the utilisation of cover?

## Question 3

Are observed activity patterns consistent throughout all the waterfronts?

# Areas of Study

1. Lam Tsuen River Promenade
2. Tai Po Waterfront Park
3. Ma On Shan Promenade
4. Sha Tin Park
5. Kwun Tong Promenade
6. Sheung Wan Promenade
7. Quarry Bay Promenade



# Methods



Static Mapping



Behaviour  
Tracking



Observational  
Studies



## Static Mapping



- 9-10AM Covered
- 9-10AM Uncovered
- 1-2PM Covered
- 1-2PM Uncovered
- 5-6PM Covered
- 5-6PM Uncovered

Date: 03/02/2024  
Day of Week: SAT

	9-10AM	1-2PM	5-6PM
Weather:	Cloudy 20C	P/Cloudy 23C	Cloudy 22C
Wind:	19 kph SE	17 kph SE	7 kph SE

\*\*Each dot represents 1 person\*\*

## KEY



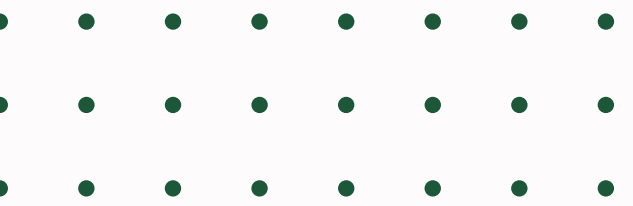
# Behaviour Tracking

- Time & day
- Location
- Weather
- Static activity
  - Structure
  - Number of people
  - Cover/Non-cover
  - Green structure/Grey structure?

## Static Activity Chart

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Day of Week: \_\_\_\_\_ Location: \_\_\_\_\_ Weather: \_\_\_\_\_ Wind (speed and direction): \_\_\_\_\_

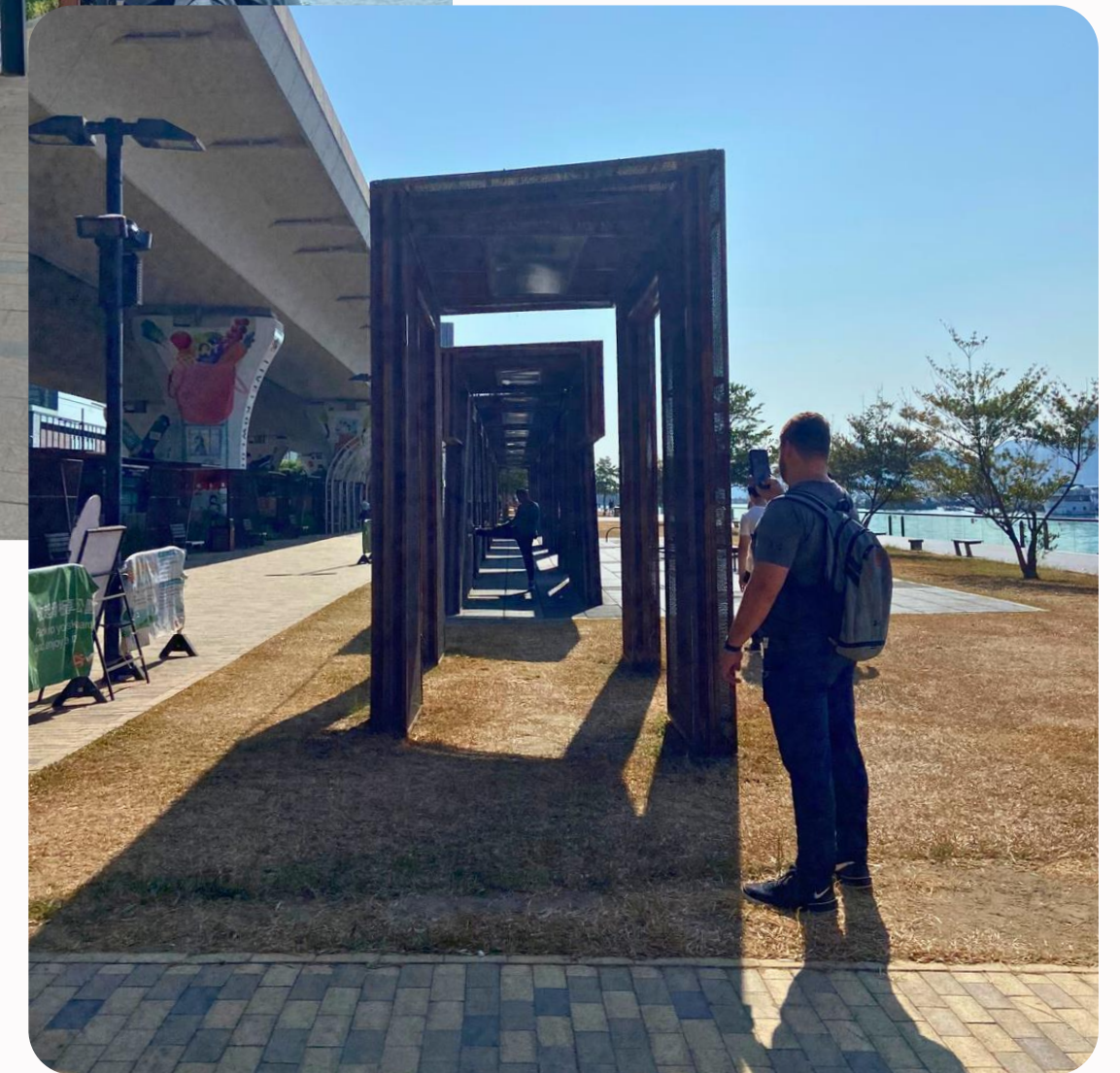
Structure Characteristics ↓	Type of Structure →	Bench/ Table		Ampitheater/ Pavillion		Kiosk/ Bathrooms		Bridge/ Overpass		Natural Structure (Tree, bush etc.)		Decoration (Display, Art)		Other:	
		A:	B:	A:	B:	A:	B:	A:	B:	A:	B:	A:	B:	A:	B:
Structure (A,B,C,D – include description of object) (ex. Bench {A}, Bench {B}, etc.)															
Number of People (#)		A: C:	B: D:	A: C:	B: D:	A: C:	B: D:	A: C:	B: D:	A: C:	B: D:	A: C:	B: D:	A: C:	B: D:
Not Covered (# of people)															
Covered (# of people in the area) Green Or Gray?		Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:	Green: Gray:



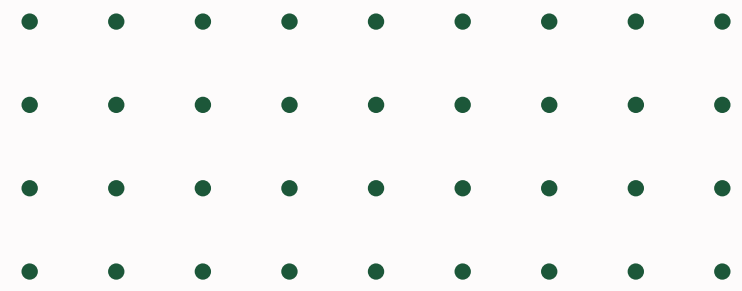


## Observational Studies

- Taking photos
- Noting observations of various patterns
  - Age groups present
  - Popular structures
  - Popular activities and actions



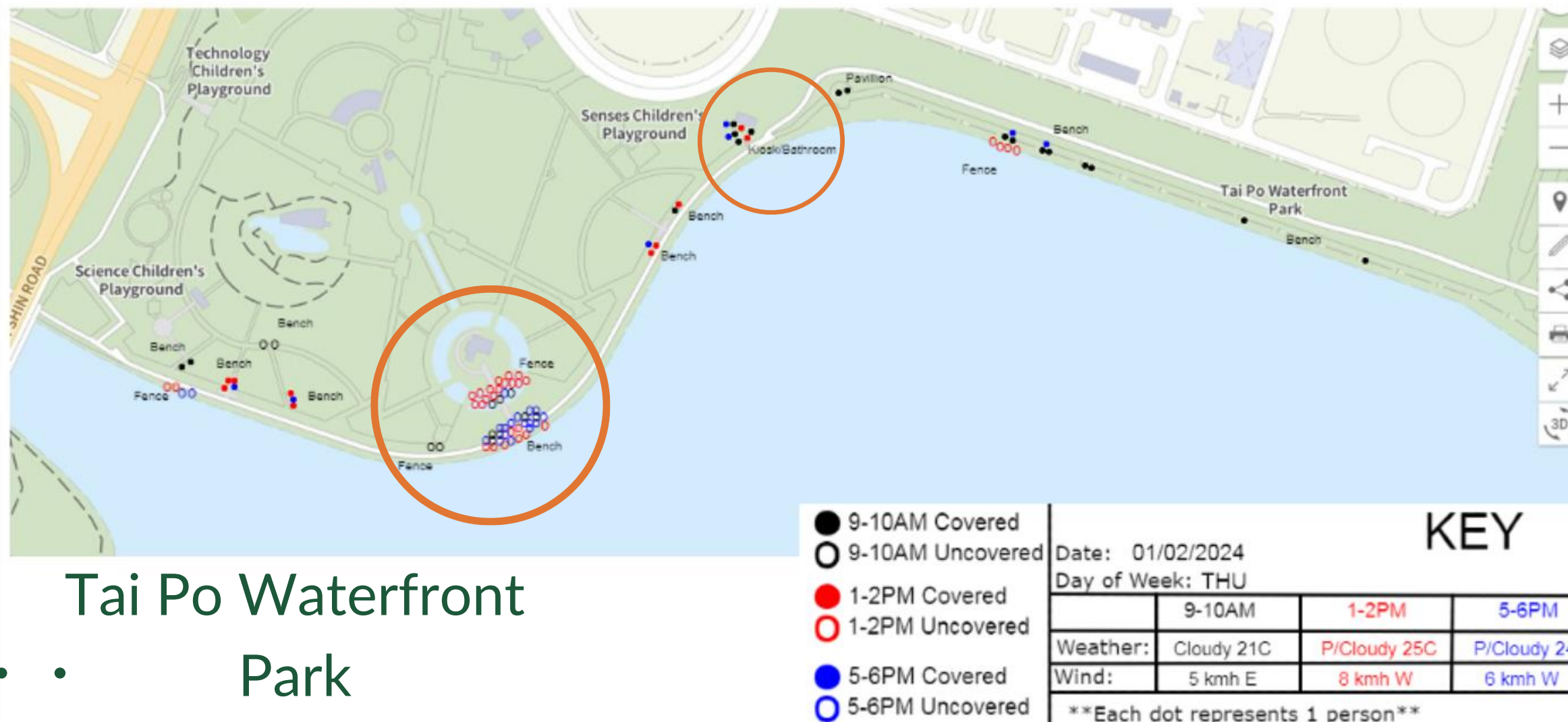
# Results



# Where on the Waterfront do People Choose to Spend Time When Static?

- Key areas:

- Waterfront fences
- Benches that face the water
- Grouped benches





# Where on the Waterfront do People Choose to Spend Time When Static?

- Key areas:
  - Waterfront fences
  - Benches that face the water
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- 9-10AM Covered
- 9-10AM Uncovered
- 1-2PM Covered
- 1-2PM Uncovered
- 5-6PM Covered
- 5-6PM Uncovered

Date: 03/02/2024  
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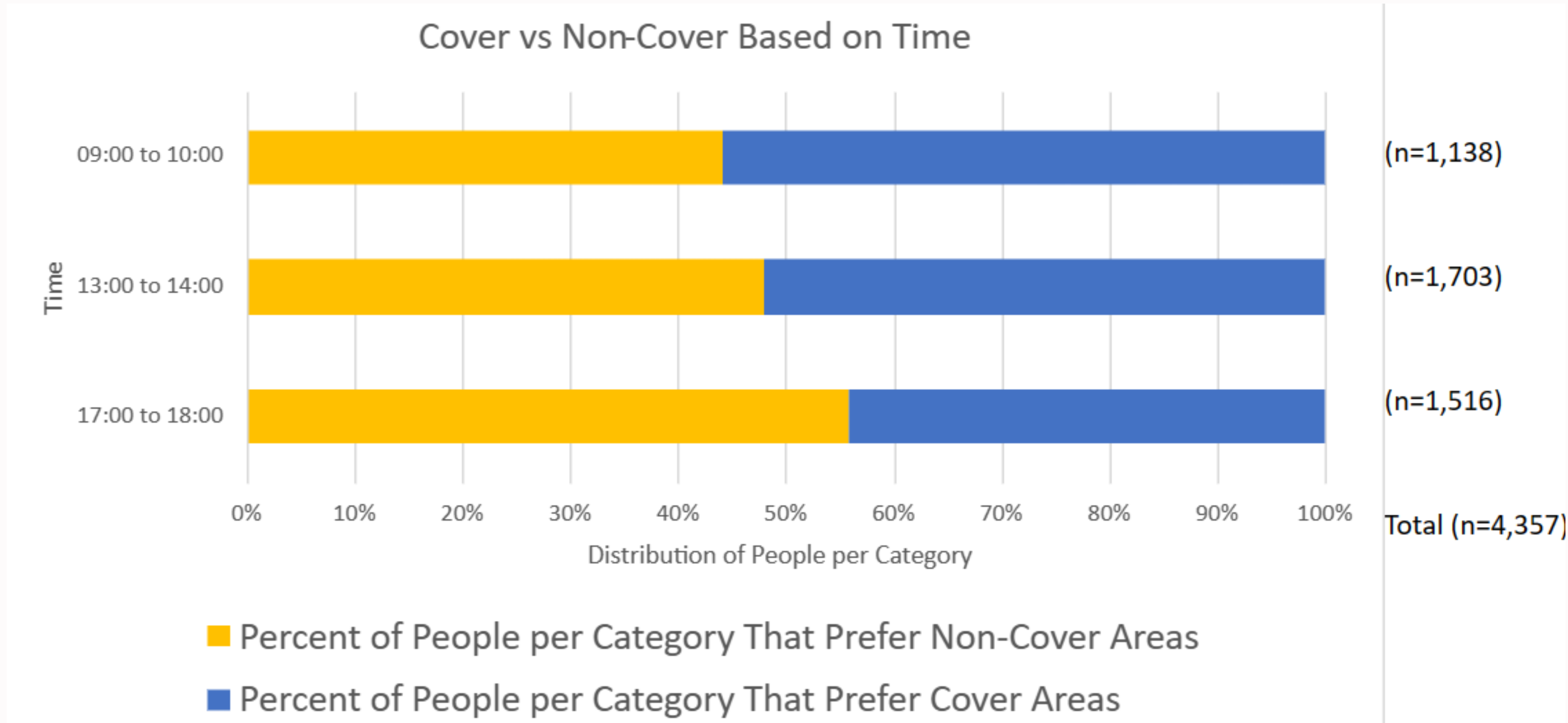
## KEY

## Sha Tin

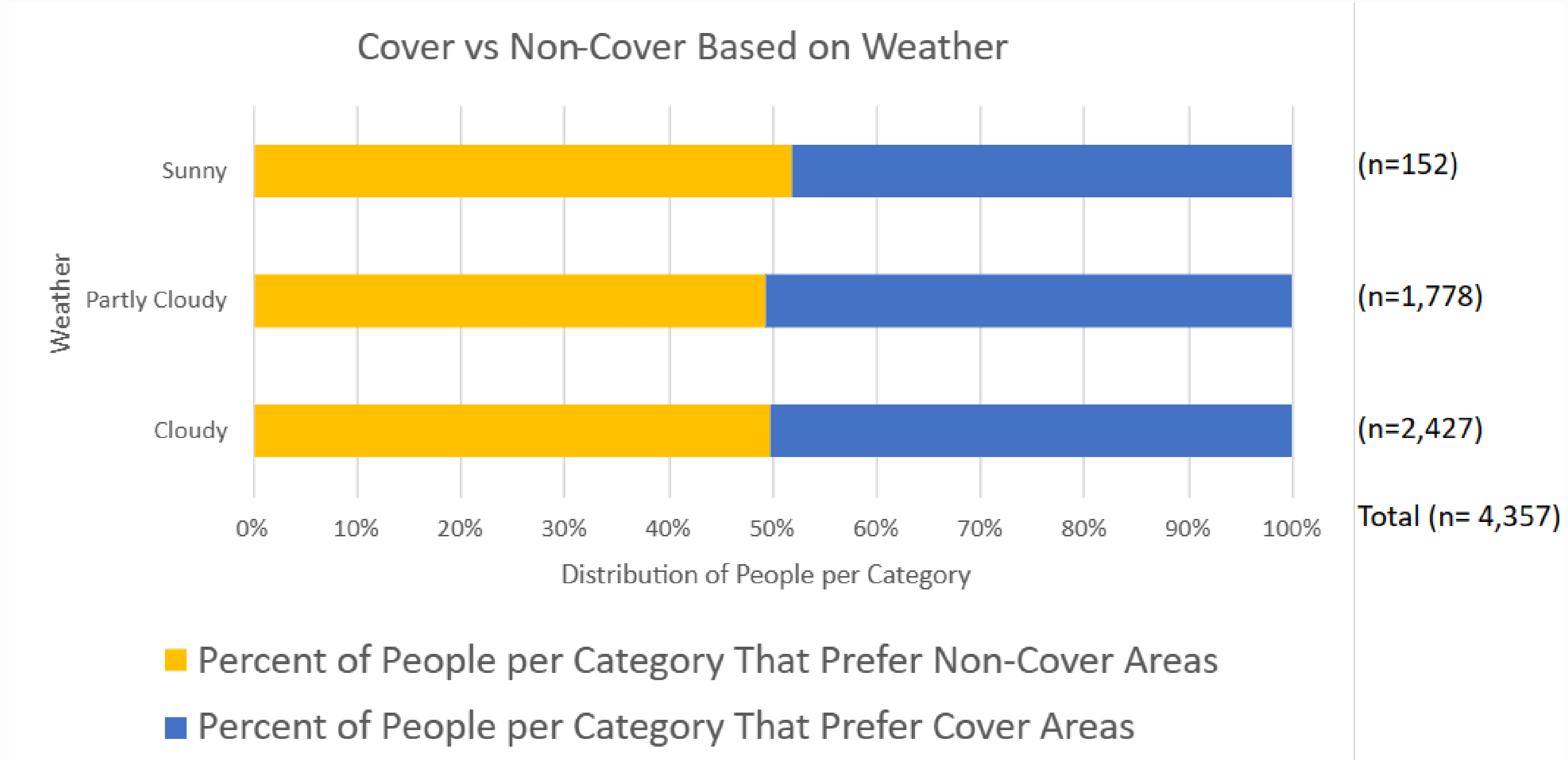
	9-10AM	1-2PM	5-6PM
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\*\*Each dot represents 1 person\*\*

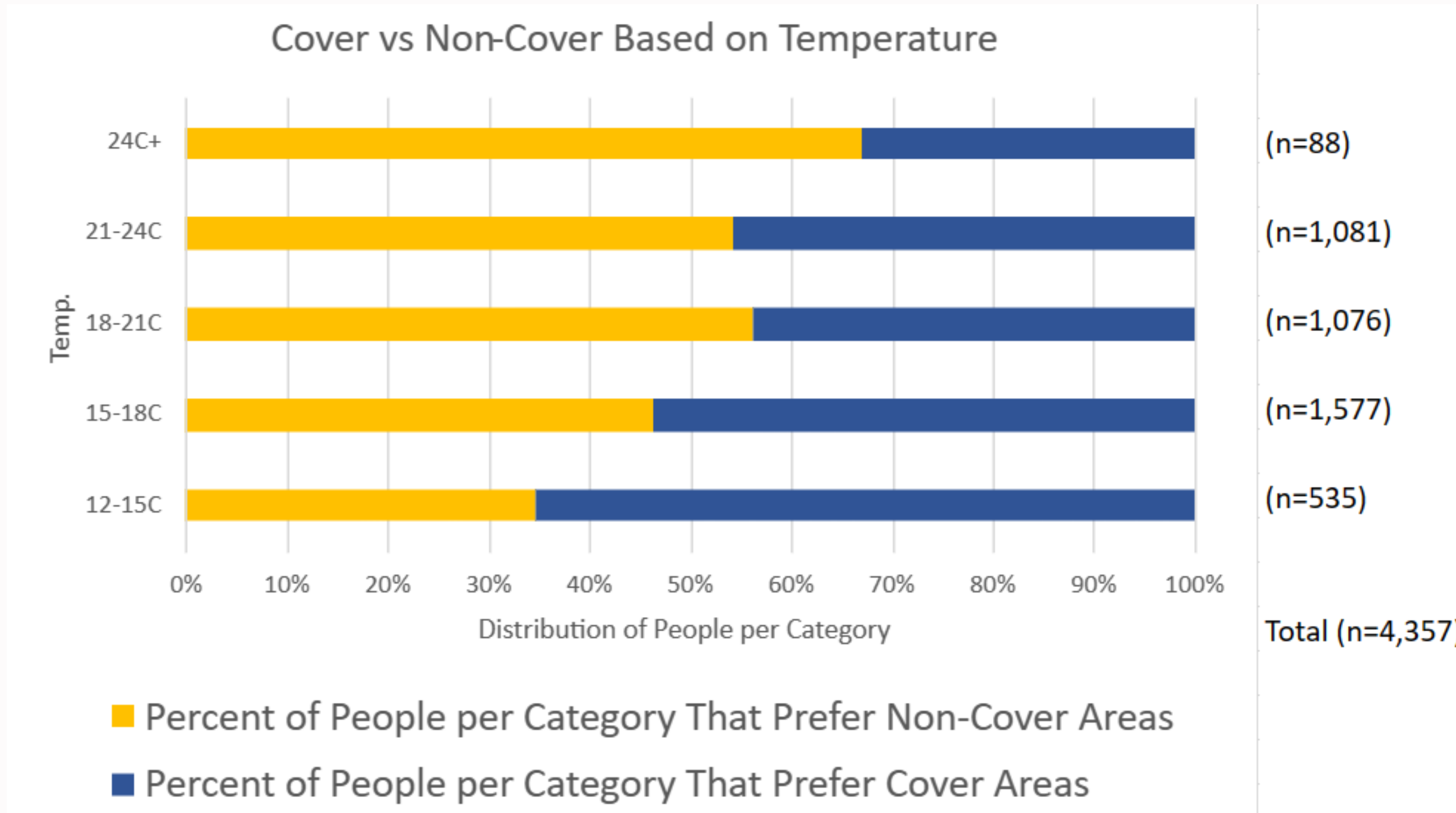
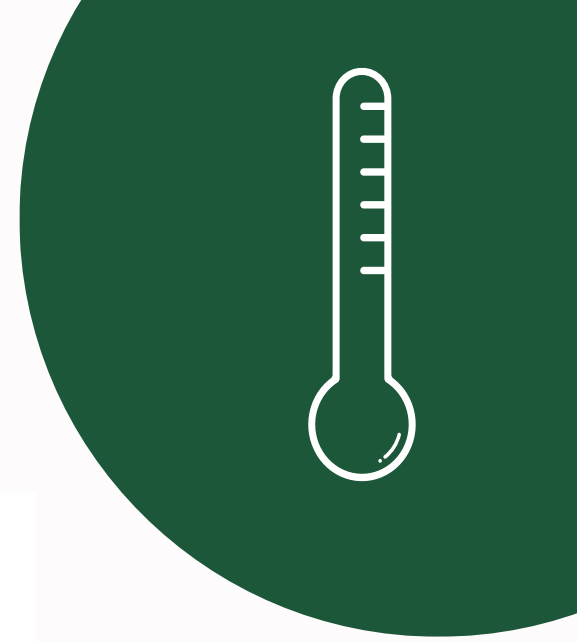
# When do People Choose to Spend Time on the Waterfront?



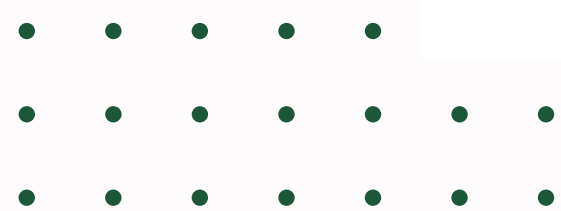
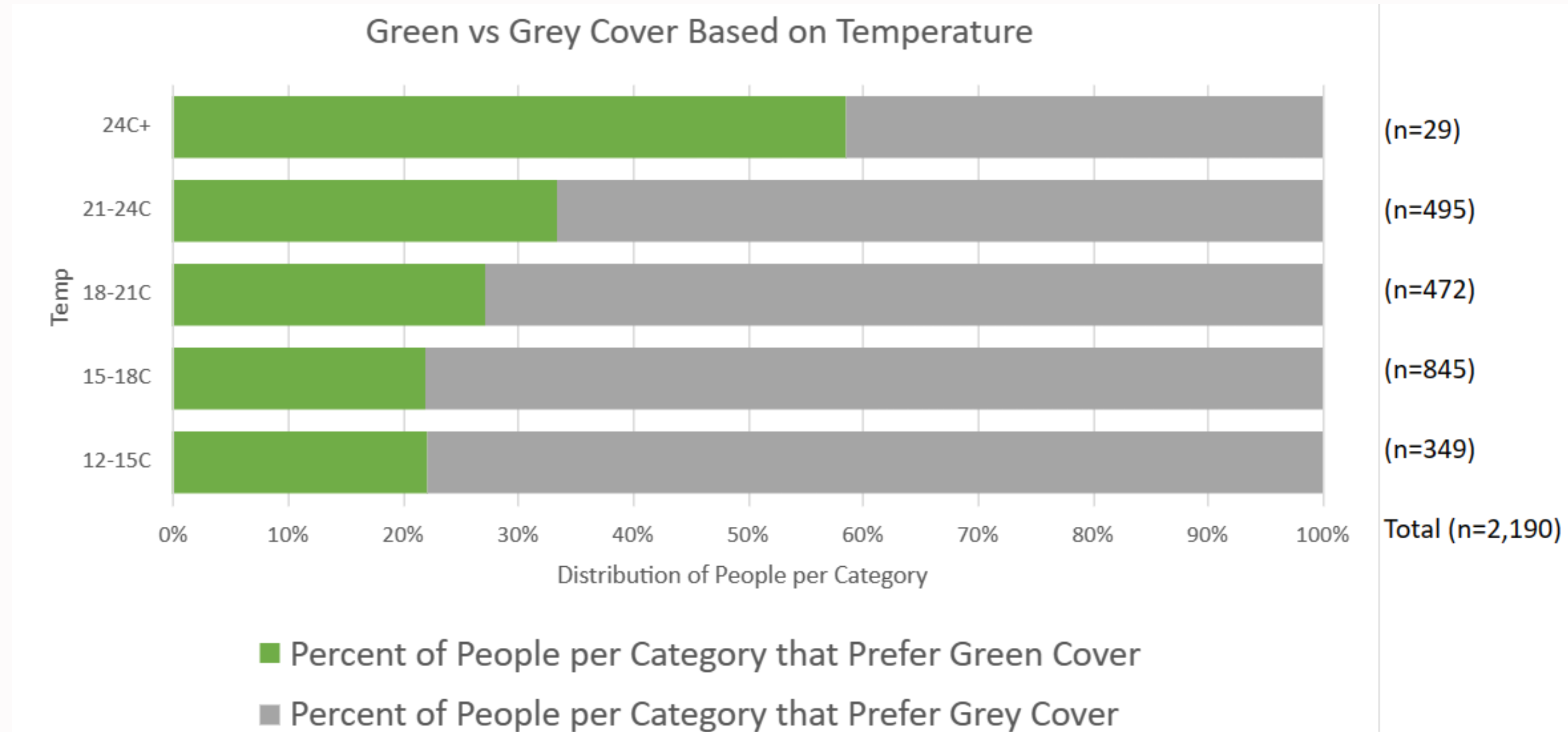
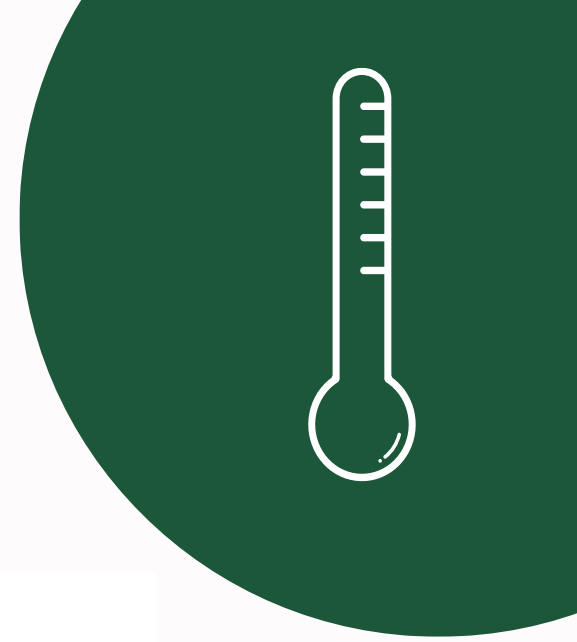
# Do Specific Weather Patterns Impact the Utilization of Cover?



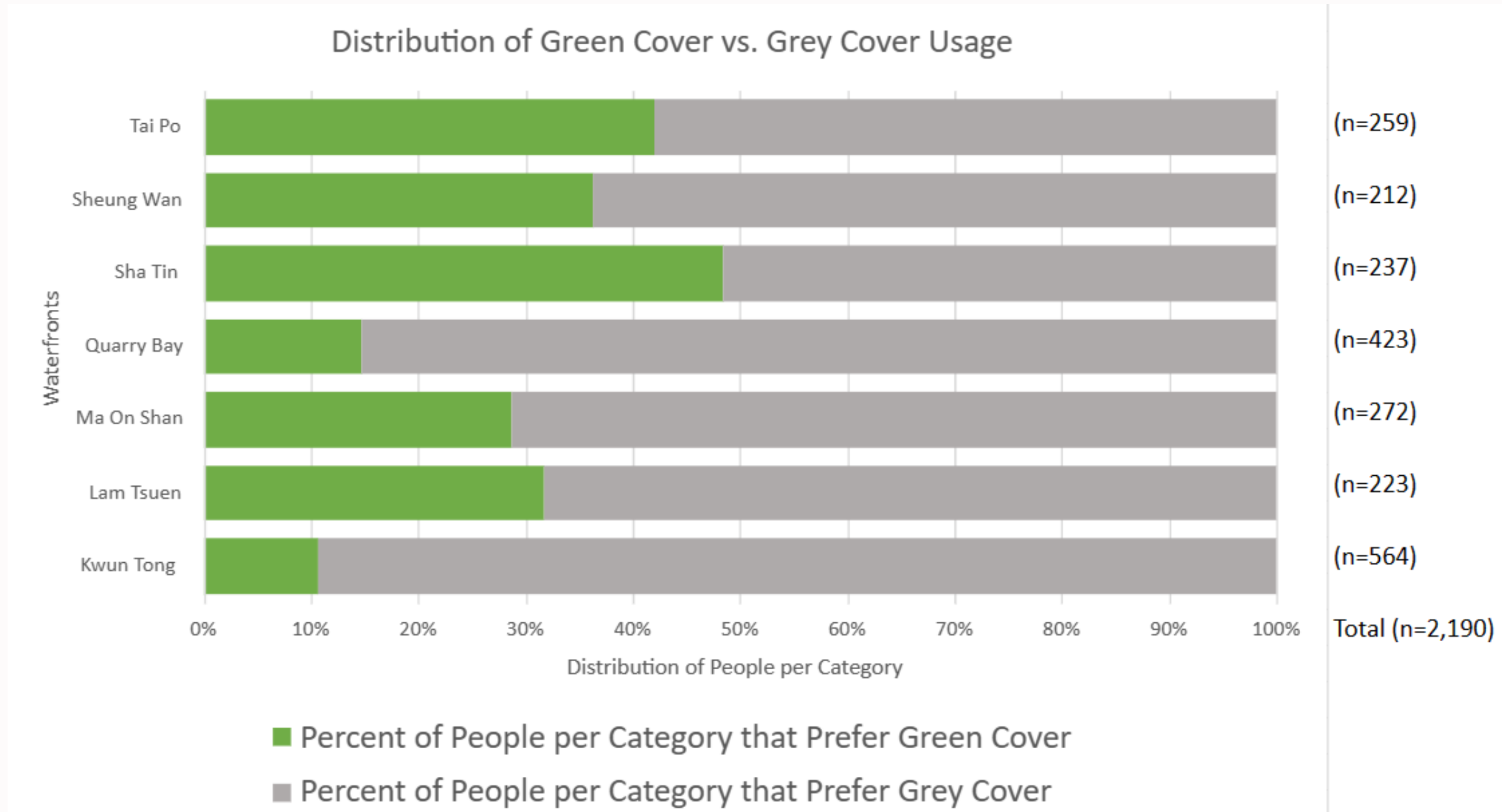
# Temperature has the Greatest Impact on Cover Utilization



# There is a Greater Preference for Green Cover as Temperature Increases



# Are Observed Activity Patterns Consistent Throughout all the Waterfronts?



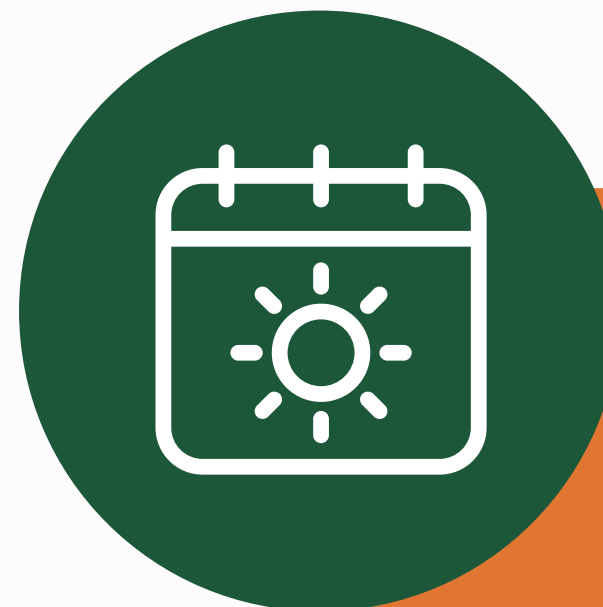
# Recommendations



More Centralised Seating



Balance of Cover vs Non-Cover



Continue to Investigate in the Summer



# More Centralised Seating



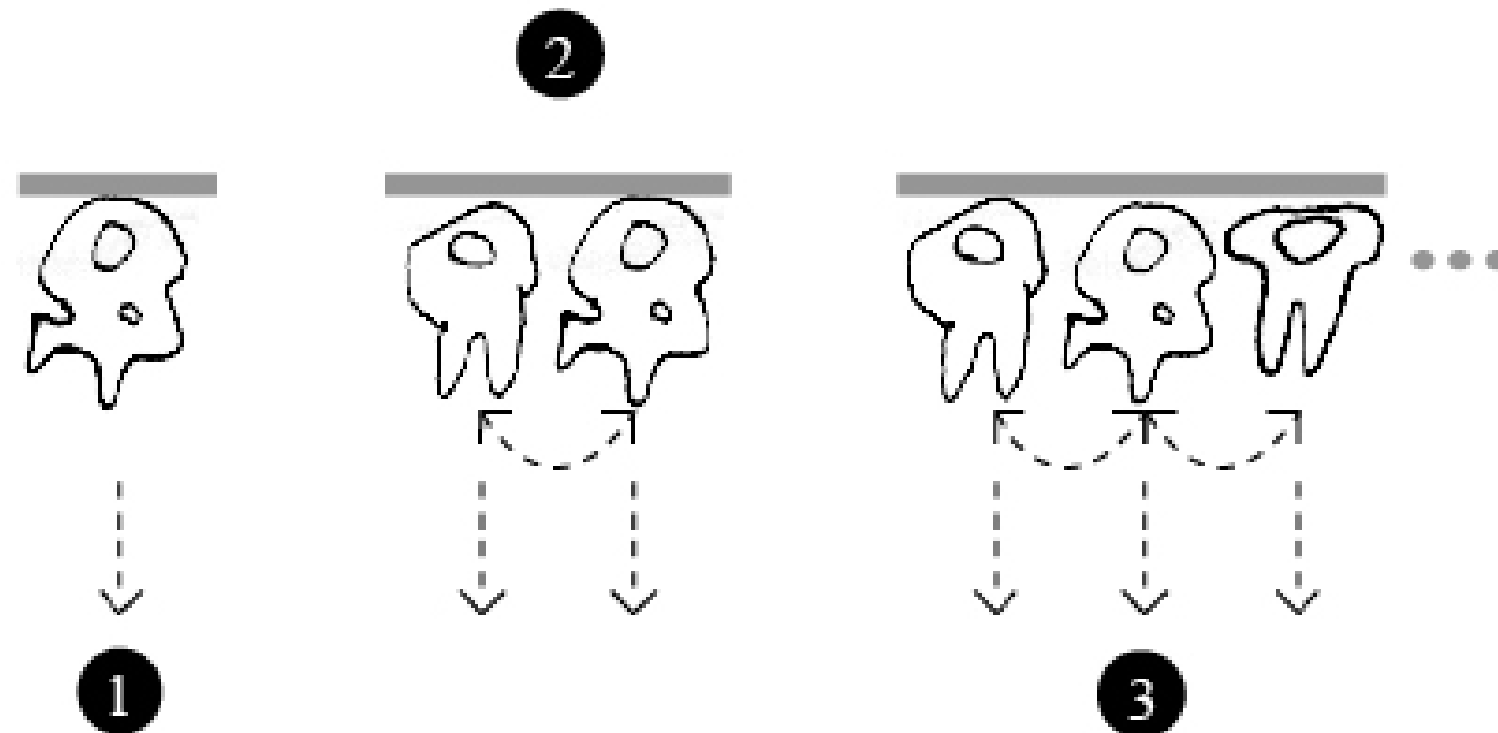
# Centralised Seating

Single or linear orientated formation

Multiple & circular orientated formation

Two users sit side by side & face at scene

Users (more than three) sit in circle at a pavilion



User sits alone & faces at scene

Users (more than two) sit side by side & face at scene

# Exemplary Centralised Seating

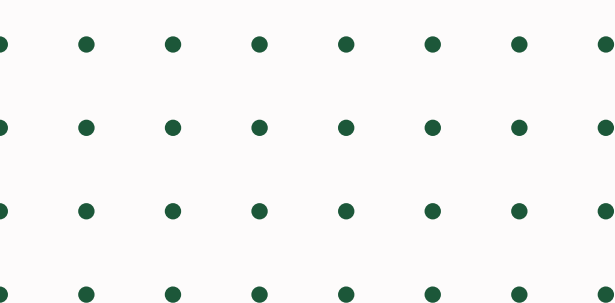
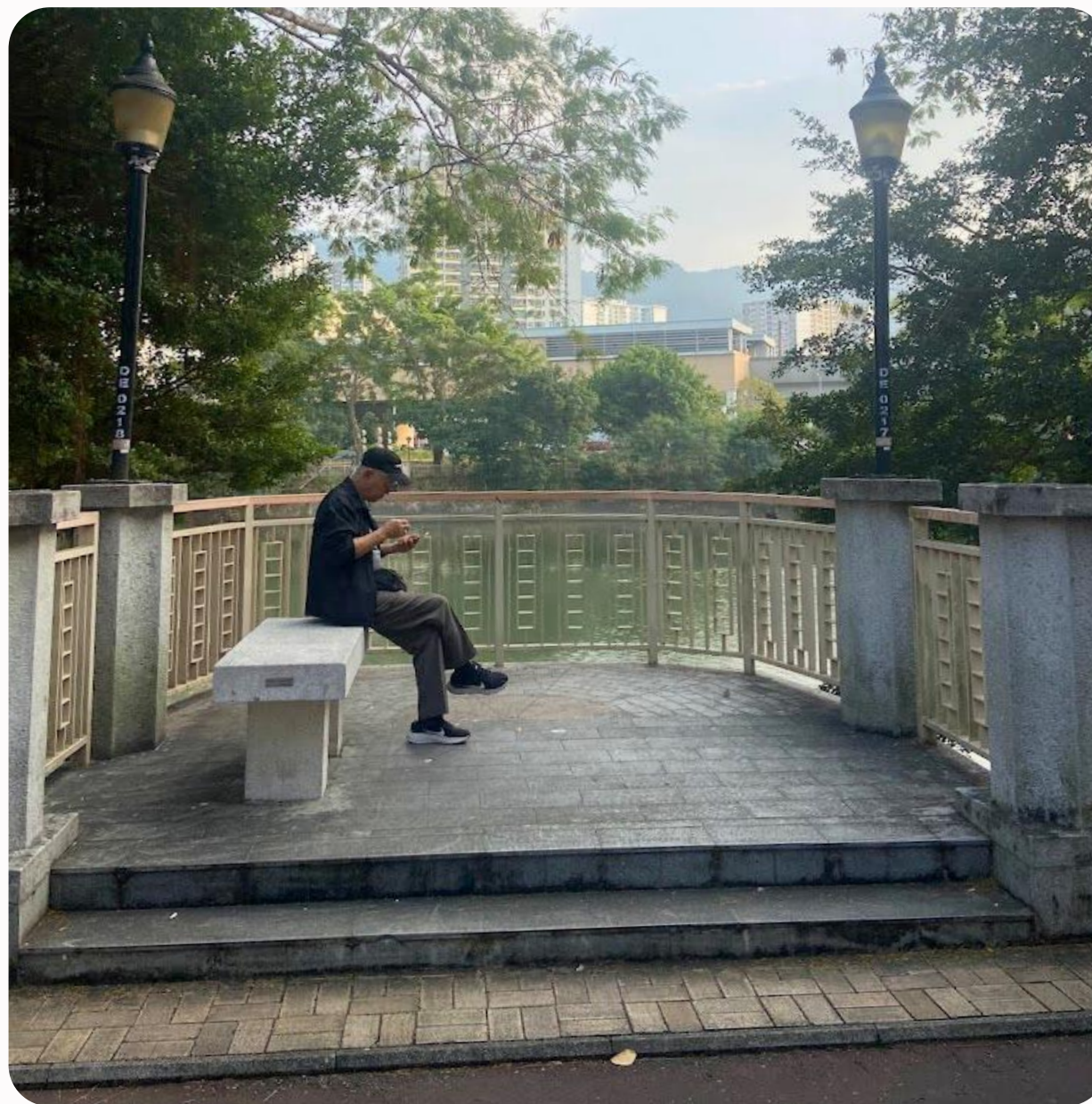
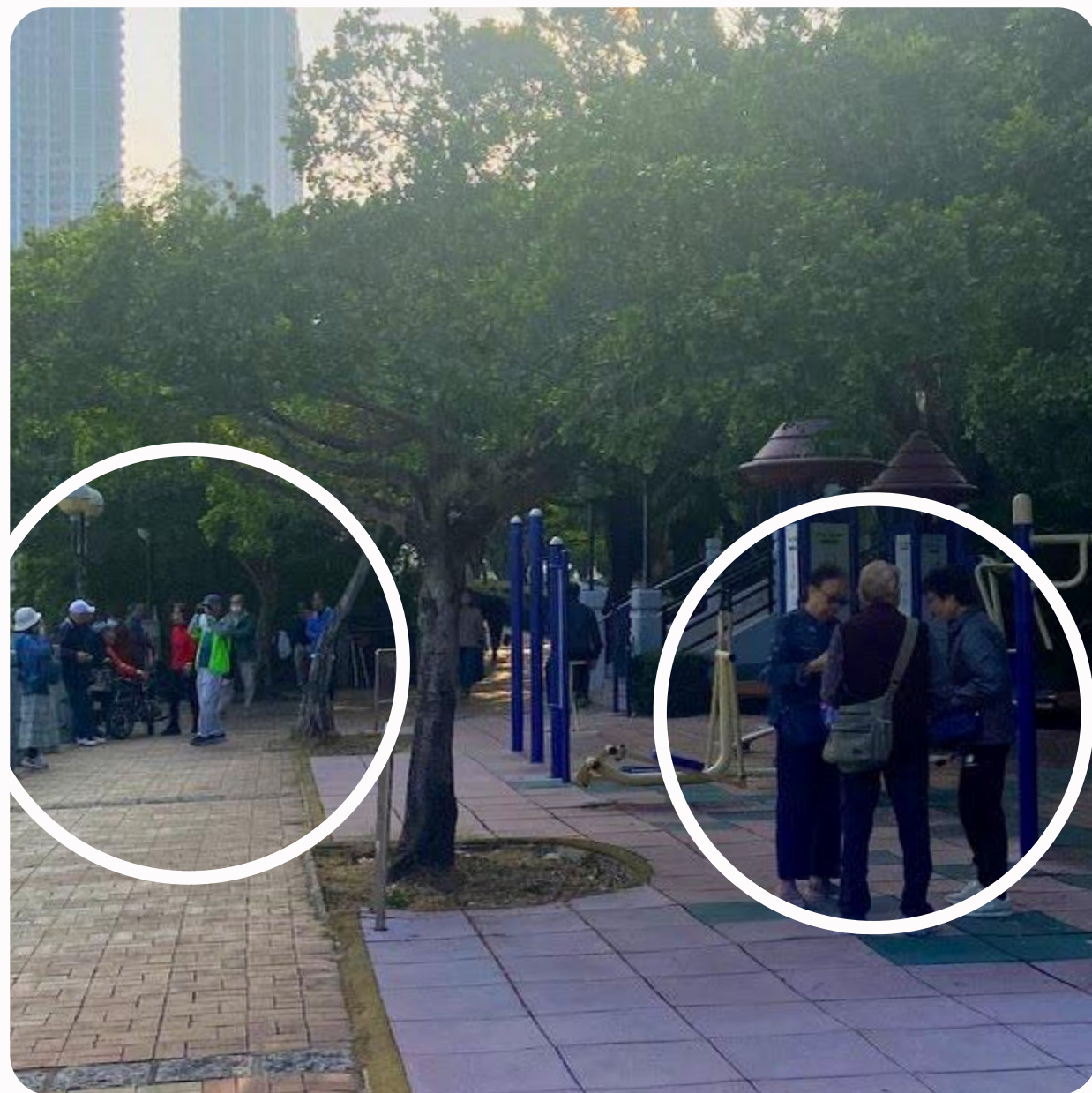
Kwun Tong



Tai Po Waterfront



# More Centralised Seating Needed: Sha Tin



# More Centralised Seating Needed: Sheung Wan





# Balance of Cover vs Non-Cover

# Exemplary Balance of Cover vs Non-Cover: Kwun Tong

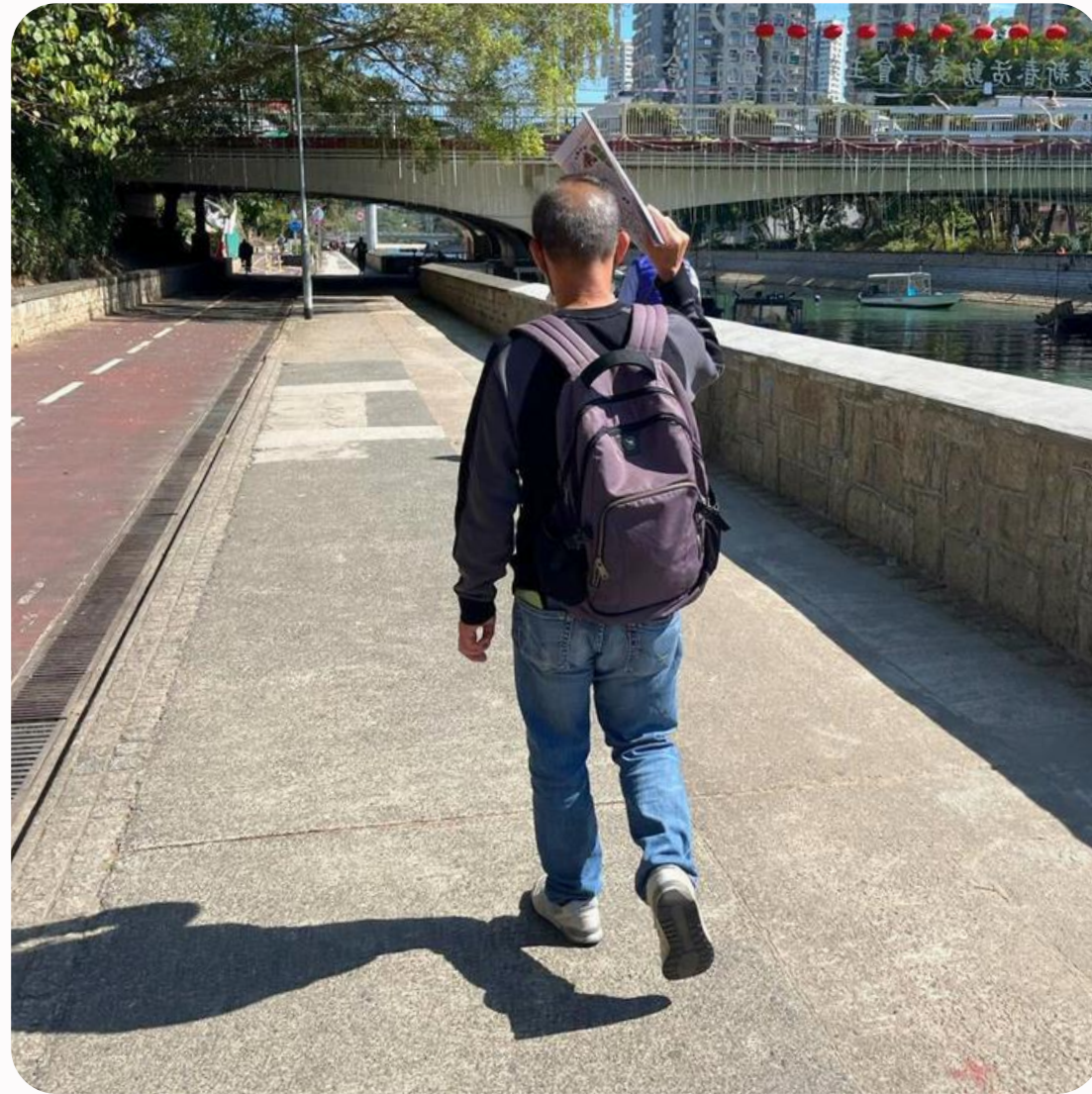


# Needs Improvement on the Balance of Cover vs Non-Cover: Lam Tsuen



# Additional Observations

- Protection from the sun is still highly valued, even during the winter.





# Additional Observations

- Use of trees should be reconsidered in terms of shading effectiveness.
- Data supports preference for green cover as temperature increases.





Continue to  
Investigate in  
the Summer

# Continue to Investigate in the Summer

- As temperature increases, the average number of people in non-cover areas increases.
- Recommend conducting the same study in July or August.



# References

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# Acknowledgments

WE WOULD LIKE TO EXTEND OUR THANKS TO

Our WPI advisors Professor Brajendra Mishra and Professor Stephan Sturm for their guidance throughout this project.

Alain Chiaradia from The Department of Urban Planning and Design at the University of Hong Kong and Samuel Wong and Paul Zimmerman, from Designing Hong Kong, for sponsoring this project.

The WPI Global School for giving us the opportunity to complete our IQP in Hong Kong in 2024.

This project would not be possible without their support.

# THANK YOU

Thank you to our advisors  
and sponsors for this amazing  
opportunity

Questions? Feel free to  
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