

Evaluating Differences in Behavioral Pattern toward Four Types of Plastic Waste Management Policies

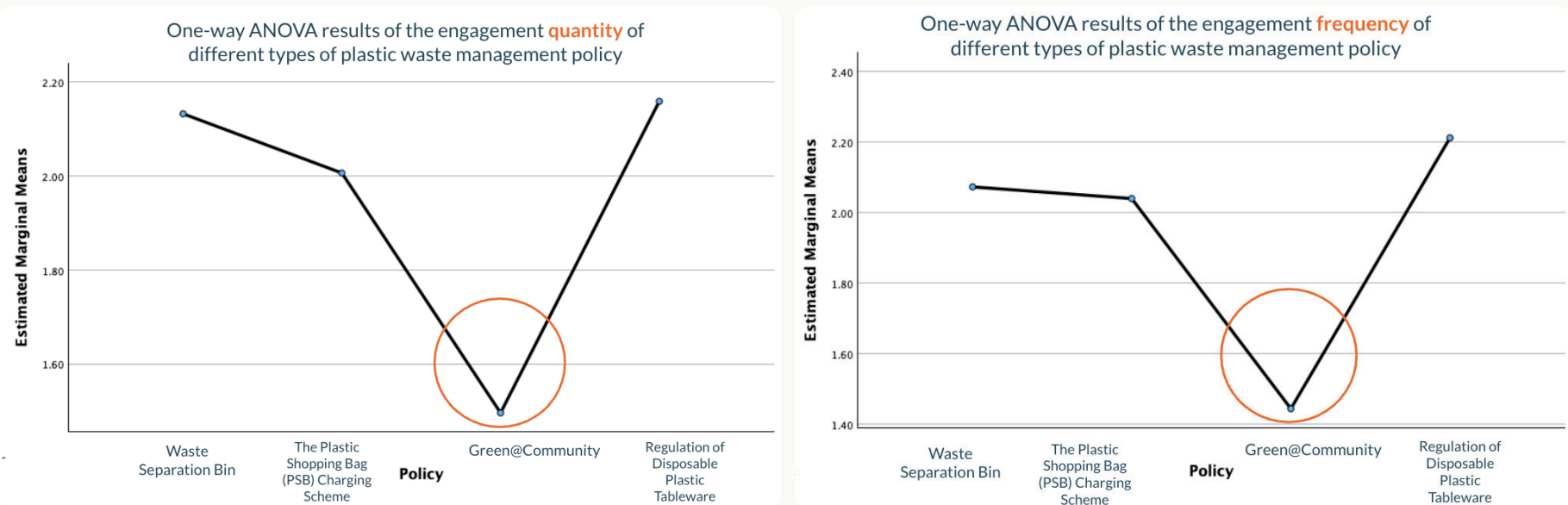
A case of Hong Kong

Prepared by CHEUNG Si Yung; Supervised by Prof. LEE Fung, Harry

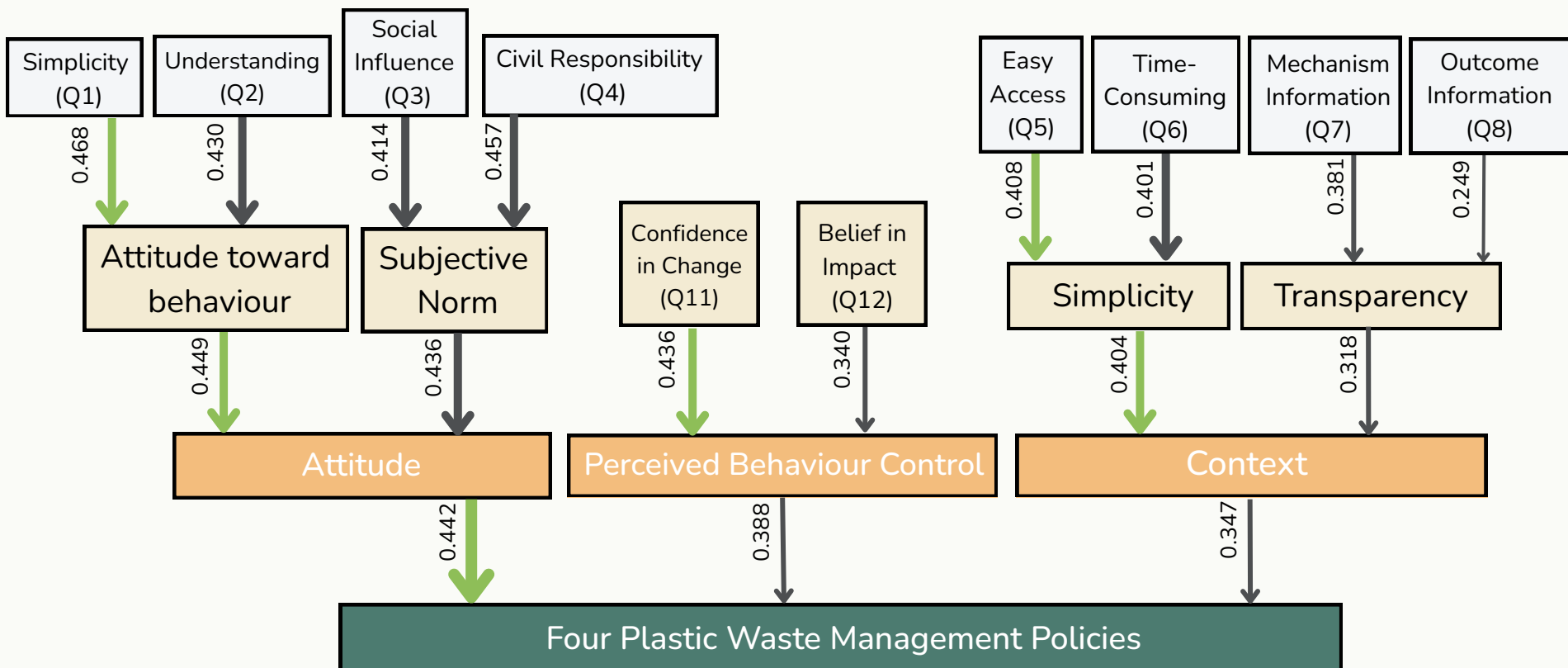
Research Objectives

- To examine the differences in behavioral patterns among the lay public in response to different plastic waste management policies.
- To identify the factors that shape the behavioral differences among the general public in response to various plastic waste management policies.
- To determine the most influential factor contributing to the behavioral differences of Hong Kong residents toward different plastic waste management policies.

One-way ANOVA: Differences in Behavioral Patterns



Bivariate Correlation Analysis: Factors shaping Behavioral Difference



One-way ANOVA: Simplicity & Transparency v.s. Incentives

Contextual Factors (Simplicity/Transparency)	Q9: Level of enforcement Option A: Discount for bringing reusable tableware Option B: Full ban on plastic cutlery with alternative materials				Contextual Factors (Simplicity/Transparency)	Q10: Level of enforcement Option A: HKD \$0.50 discount for customers who bring reusable bags; Option B: HKD \$1 charge per plastic bag			
	Policy 1	Policy 2	Policy 3	Policy 4		Policy 1	Policy 2	Policy 3	Policy 4
Easy access [Q5]			✓	✓	Easy access [Q5]		✓		
Time consuming [Q6]	✓		✓	✓	Time consuming [Q6]	✓	✓		✓
Mechanism information [Q7]	✓	✓	✓	✓	Mechanism information [Q7]				✓
Outcome information [Q8]	✓		✓	✓	Outcome information [Q8]				✓

*Tick refers to p>0.05

Main Findings

Behavioral Patterns Across Policies

- Distinct behavioral differences were observed across the four types of plastic waste management policies.
- Green@Community (Policy 3) shows significantly lower participation in both frequency and quantity compared to Waste Separation Bins (Policy 1), Plastic Shopping Bag (PSB) Charging Scheme (Policy 2), Regulation of Disposable Plastic Tableware (Policy 4)
- No significant differences were found among the other three policies, which all demonstrated higher and similar engagement levels

Key Factors Influencing Behavior

- Attitudinal factors > Perceived behavioral control > Contextual factors
- Attitudinal factors: most influential in policy 2, 3, 4
- Perceived behavioral control: most influential in policy 1
- Incentives have a limited and inconsistent impact on behavior across the four plastic waste policies
- Simplicity and Transparency are more closely associated with level of enforcement than with motivational approach

Implications

Reasons for low usage rate of Green@Community

- Limited Accessibility and Convenience
 - ➡ Add more stations + Extend operating hours
- Low Public Awareness
 - ➡ Promote through TV ads, campaign and community events
- Lack of Immediate Incentives
 - ➡ Expand the Green\$ reward scheme to include more retail and dining partners

Boost Participation Rate for All Plastic-related Policies

- Current challenge: Low-awareness of microplastic-related issues ➡ Insufficient environmental education
 - Solution: Public environmental education ⬆
- ➡ Value-based messaging, social norm reinforcement, and showcasing visible community impact
- ➡ Cultivate positive attitudes ➡ empower individuals to believe their actions matter ➡ support for green initiatives ⬆
- ➡ Tailor-made content for each policy's content