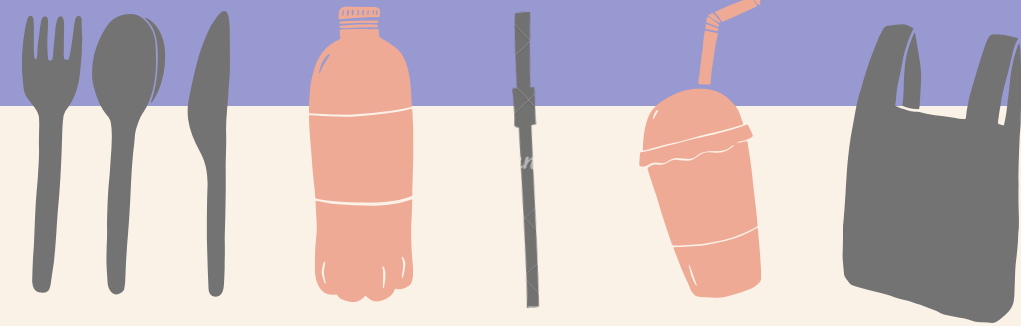# EVALUATING CONSUMPTION OF SINGLE-USE PLASTIC PRODUCTS AMID COVID-19: CASE STUDY OF RESIDENTS FROM KOWLOON CITY AND TAI PO WITH THE KNOWLEDGE, ATTITUDE AND PRACTICE MODEL

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## Research Background

- Plastic pollution is an irreversible global environmental crisis
- Consumption and reliance on plastics surged during COVID-19 as mitigation to reduce direct physical contact and safeguard public health
- Waste Plastics in HK: 2nd largest constitute in MSW in 2021
- 4 major single-use plastic (SUP): plastic bags, plastic beverage bottles, disposable plastic tableware, disposable masks
- Study area: Residents from Kowloon City and Tai Po
- To evaluate SUP consumption since the pandemic with KAP Model

## Research Significance

- To utilise the Knowledge, Attitude and Practice Model in understanding residents' behaviour of SUP consumption
- To understand factors influencing residents' attitude and pracice towards SUP consumption since the COVID-19 began
- To evaluate residents from Kowloon City and Tai Po on their practice of SUP consumption
- To provide basis for behavioural evaluation and plastic consumption patterns studies based on personal and external motivators
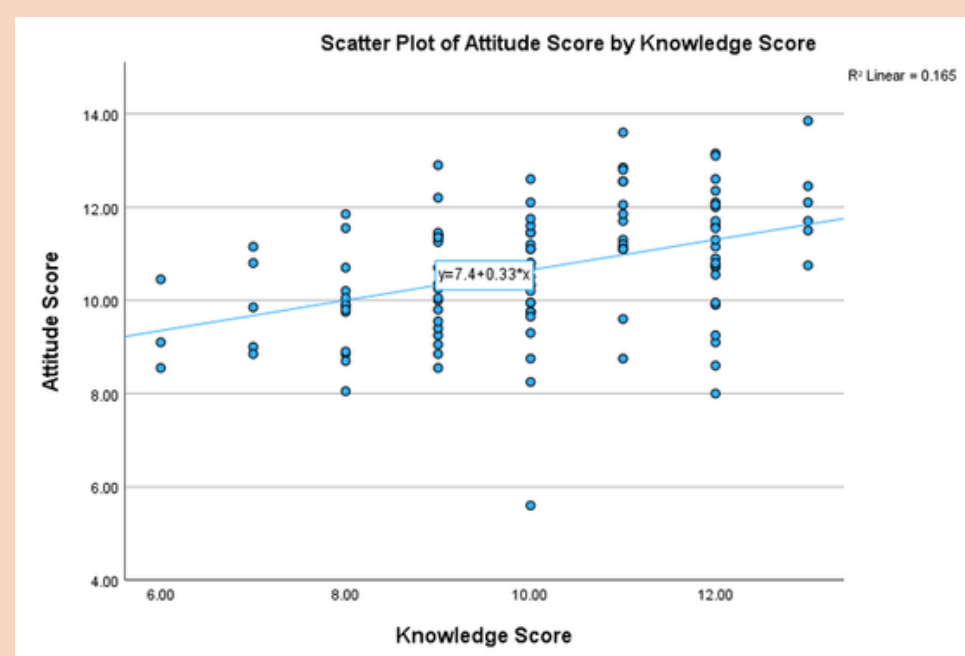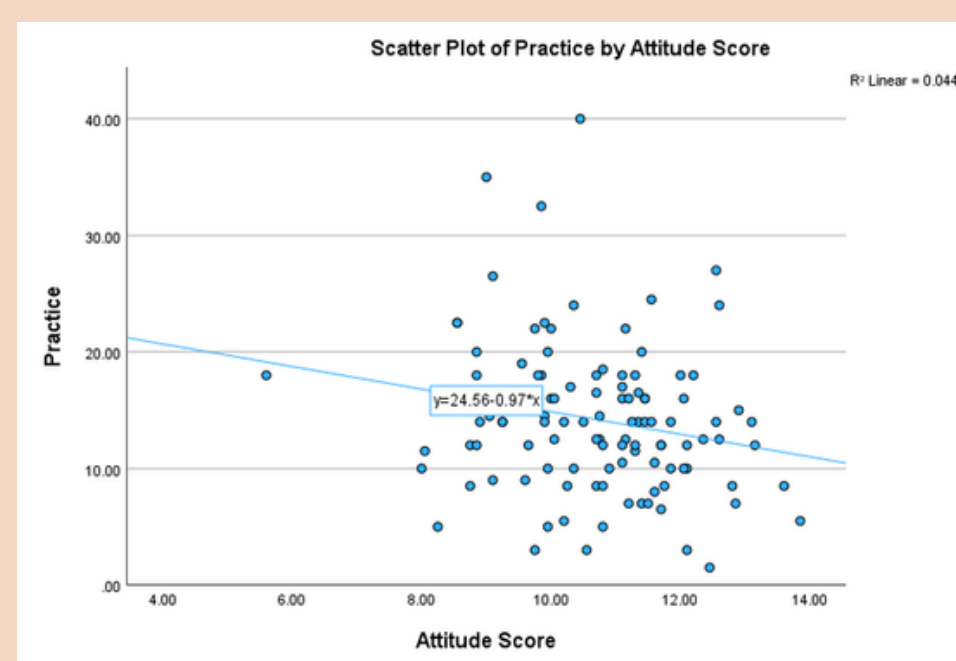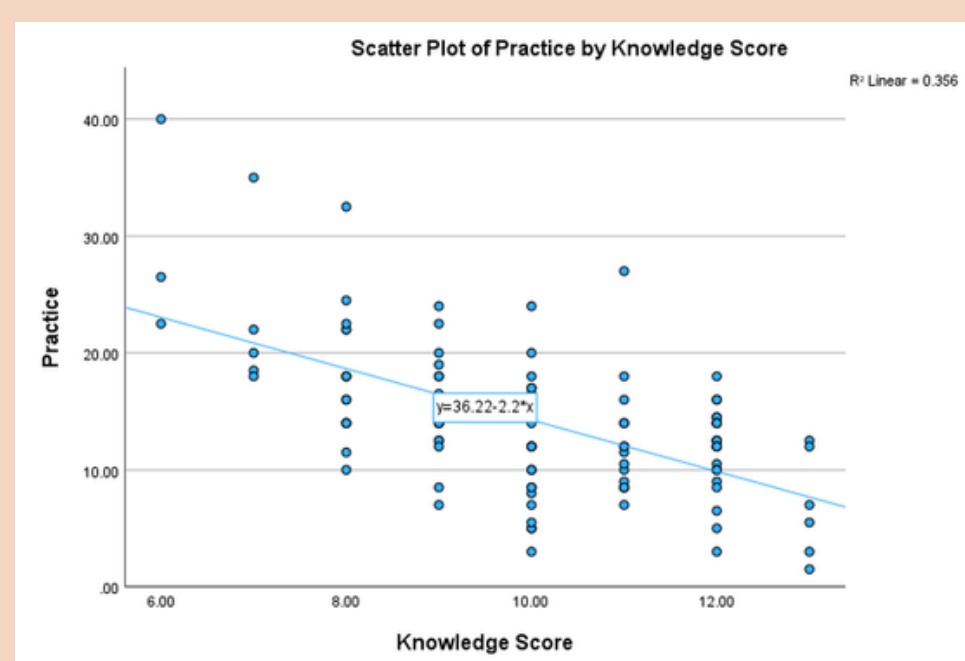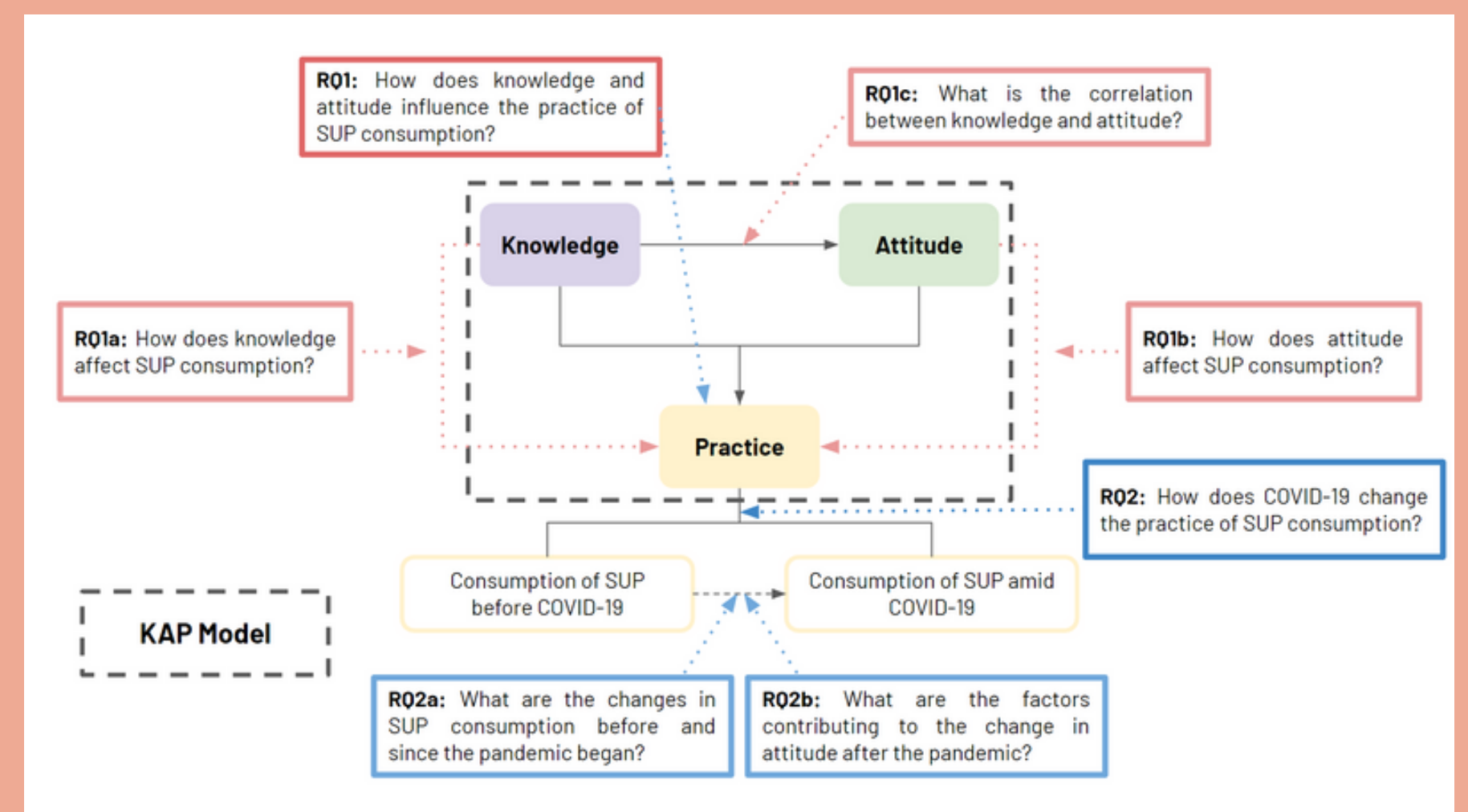
## Conceptual Framework (KAP Model)



## Major Findings

- Self-administere questionnaire (n=114)
- Interview (n=14)
- Mean knowledge score: 10.01/15 (moderate level)
- Mean attitude score (standardised): 10.65/15
- Total consumption frequency / week: 14.24 items



Linear regression:
- Knowledge and practice negatively related
- Attitude and practice negatively related
- Knowledge positively correlates with attitude
- Align with the interconnection identified in previous KAP Model studies
- Knowledge has greater influence on practice than attitude
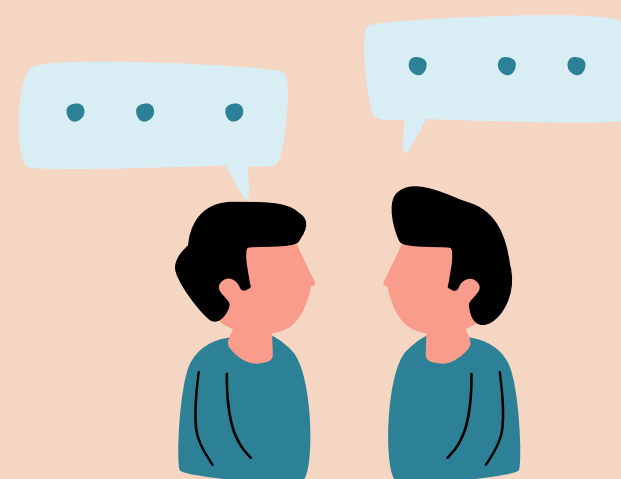- Limitation: outliers and weak correlation calculated

Paired t-test:
- Consumption practice before and after pandemic are statistically significant
- No mean difference between two variables
- 79% increase in total frequency

| Mean / week | Plastic bags | Plastic beverage bottles | Disposable plastic tableware | Disposable mask | TOTAL SUM (MEAN) |
|---|---|---|---|---|---|
| Before | 2.50 | 2.44 | 1.86 | 1.14 | 7.93 |
| After | 2.58 | 2.64 | 2.75 | 6.28 | 14.24 (+79%) |

Most important factors for changes in attitude since COVID-19:
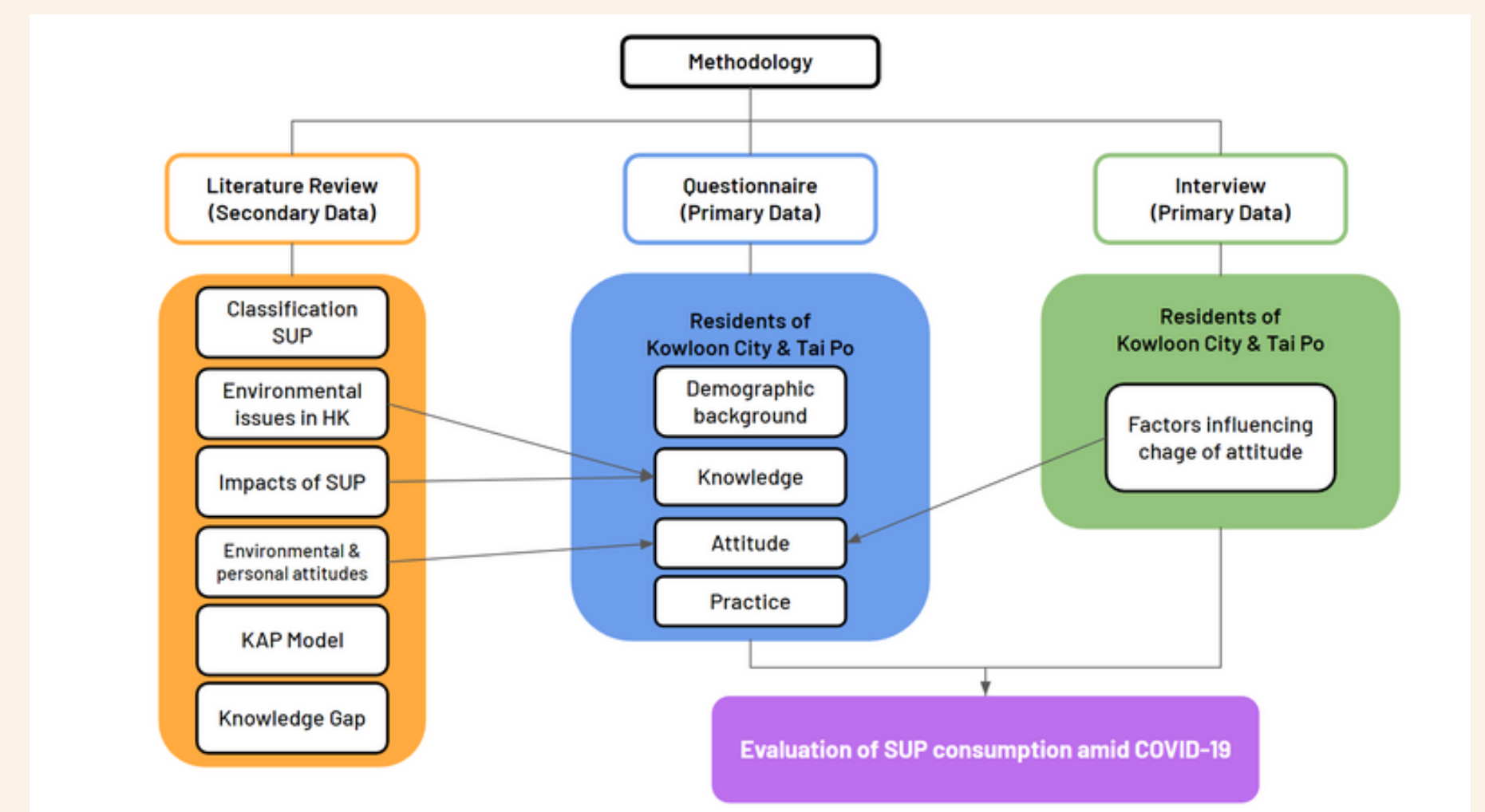- Convenience: higher SUP consumption due to efficiency, higher reliance on takeaway and online shopping
- Environmental value: lower SUP consumption from stronger ecocentric belief and responsibility to protect the environment
- Factors often integrated to contribute attitude change

## Methodology

Data analysis:
- Scores calculation and standardisation (Microsoft Excel)
- Linear regression, paired t-test, descriptive statistics (SPSS)



## Recommendation

- Enhance environmental knowledge
  - Weaker performance on local environmental policy
  - Insufficient awareness for conservation
  - Popular medium of promotino e.g. TV, news, social media
- Strengthen local recycling network
  - Recycling is an important treatment in SUP consumptiion
  - Adequate knowledge and attitude level but infrequent practice
  - Cultivate value and habit among citizens
  - Expansion of recycling facilities and education
- Limitation
  - Limited time and human resources for data collection
  - Small sample size
  - Imbalance demographic profile
  - Response accuracy
- Future research studies
  - Extend SUP consumption study to a larger population

## Implication

- Increasing trend of SUP consumption and insufficient knowledge align with hypotheses and literature review
- Enriched knowledge gap
  - Evaluated human behaviour from internal motivators (i.e. knowledge and attitude)
  - Understood underlying causes influencing SUP consumption
  - Explored citizens' level of environmental knowledge and attitude
- KAP Model to be applied in other context in HK
  - More questionnaire responses and in-depth interview to provide holistic overview
  - Can be applied to evaluate practice of other consumption
  - Suitable instrument to interpret and access human behaviour
- Knowledge and attitude are important predictors of SUP consumption