Portfolio

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September 13, 2021

About Me

Education

B.Sc. Behavioral Neuroscience, UBC
M.A. Cognitive Science, UBC
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(expected 2022)

Web: https://yuluo.psych.ubc.ca/

Collaborators:

KPMG

BC Hydro

ocean wise

save on foods

UBC THE UNIVERSITY OF BRITISH COLUMBIA

fraserhealth

Environment and Climate Change Canada

CONTENT

01 **Case 1**

Providing immediate feedback to improve sorting accuracy in student residences

02 **Case 2**

Implementing pictorial warnings to reduce plastic waste

03 **Case 3 (in progress)**

Using carbon labels to promote low-carbon food choices

04 **Theoretical work**

Conducting a meta-analysis to examine the efficacy of behavioral interventions

Case 1

Providing immediate feedback improves recycling and composting accuracy (Luo et al., 2019)

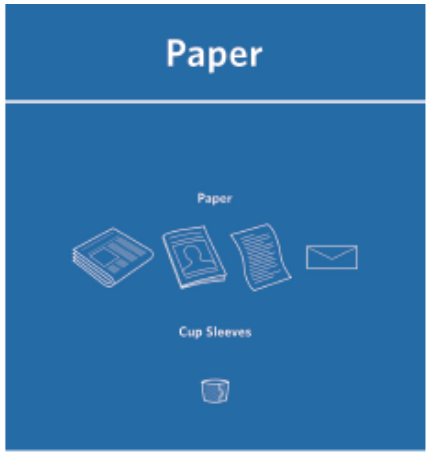
Collaborator:

UBC Sustainability Team

Problem

How can we prevent recycling contamination?

Solution - Feedback



Field Experiment Design

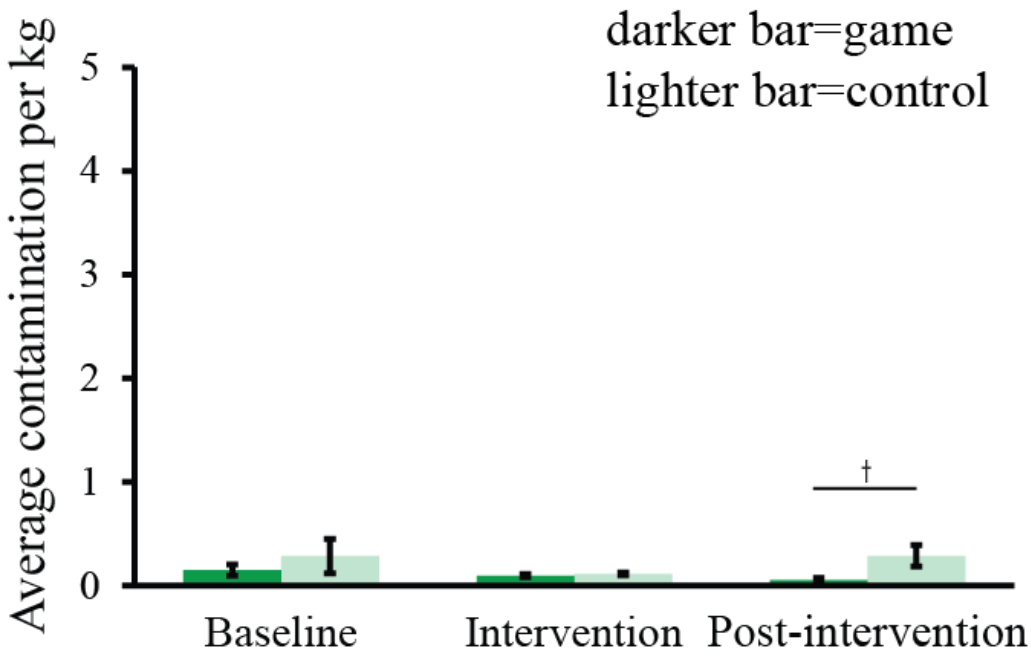
Game Building

Control Building

Timeline

Baseline → **Intervention** → **Post-intervention**

Results



Game building < Control building

Case 2

02

Reducing plastic waste by visualizing marine consequences (Luo et al., under review)

Collaborators:

KPMG Vancouver
Ocean Wise Conservation Association

Problem

How can we keep plastics out of our ocean?

Solution – Pictorial Warnings

Field Experiment Design

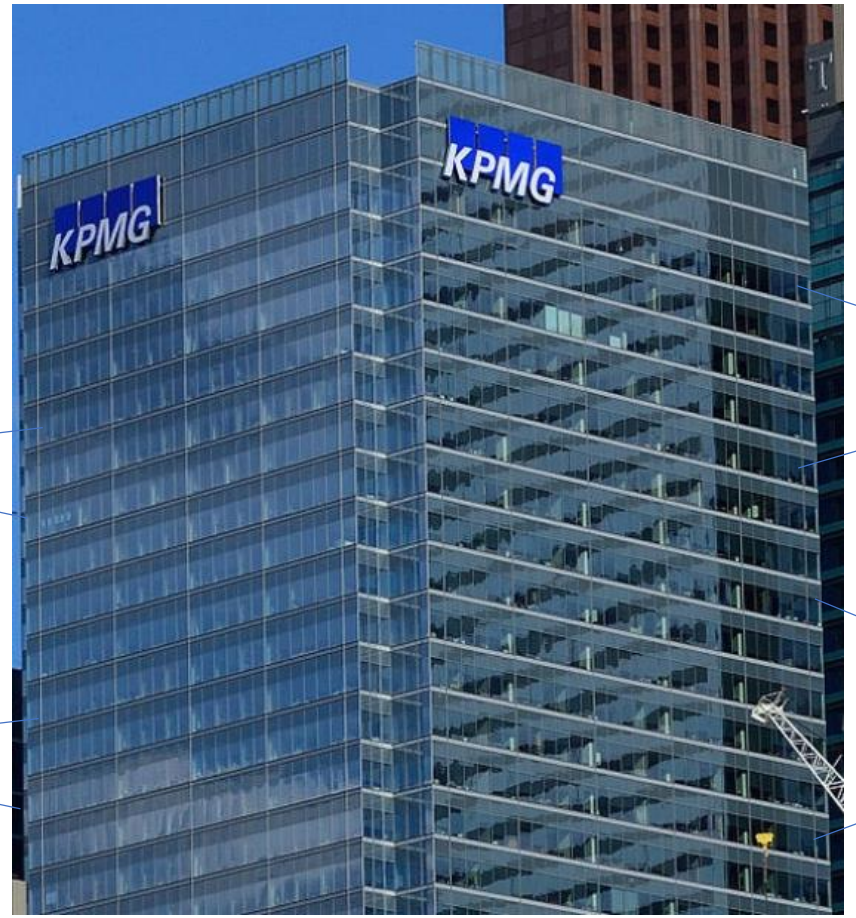
Control

Signage only

Animal

Pledge

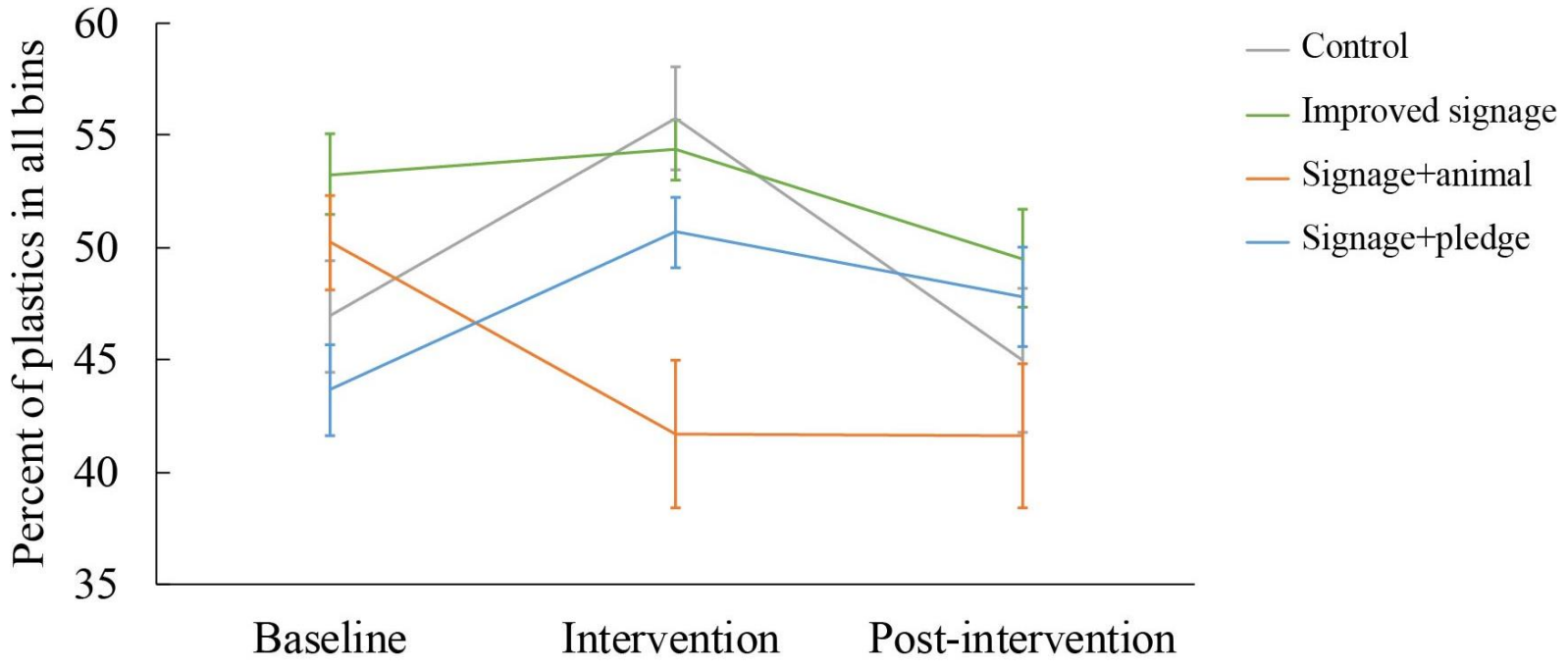
Field Experiment Design



Timeline

Baseline → **Intervention** → **Post-intervention**

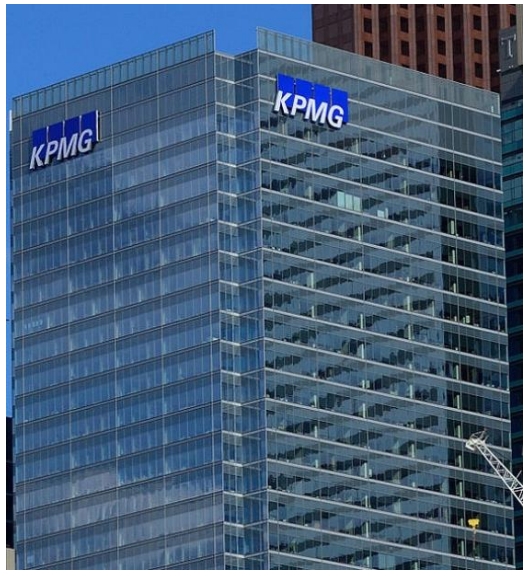
Results



Animal condition showed the largest decline from baseline to intervention

Follow-up

Break Your Plastic Pattern,
Protect Our Ocean.
KPMG
ocean wise
Recycling


KPMG
KPMG

Impact

Case 3

03

Using climate-friendly food label to promote low-carbon food purchasing (in progress)

Collaborators:

UBC SEEDS Program
UBC Food Services

Problem

How can we promote low-carbon food choices?

Solution – Carbon Labels

Most climate friendly. The best option!

Somewhat climate friendly. A good option.

Least climate friendly. Less good option.

Field Experiment Design

AL PESTO 13.5
Pesto, prosciutto cotto, mozzarella, gorgonzola, artichokes and pickled tomato

PESTO POLLO 13.5
Pesto, roasted chicken, mozzarella, artichokes and pickled mushroom

MARGHERITA 12.5
Classic tomato, basil and bocconcini

VEGAN FEATURE VEGAN 12.5

Planned Analysis

July-August 2020

VS

July-August 2021

Potential Impact

Theoretical Work

04

A meta-analytic cognitive framework of nudge and sludge (Luo, Soman, & Zhao, under review)

Problem

How are cognitive processes involved in behavioral interventions?

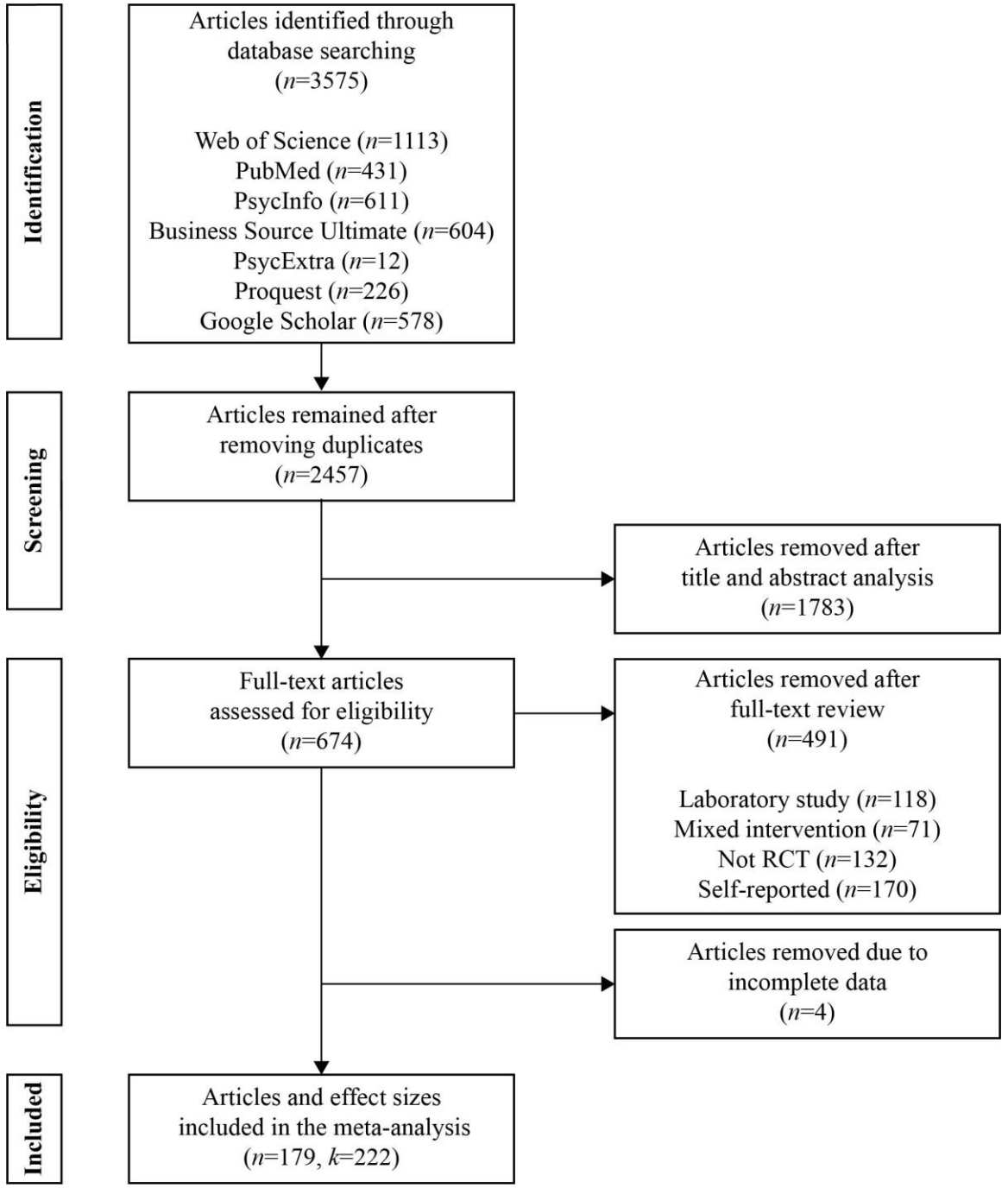
Definitions

Attention	Using bottom-up features (e.g., color, size) to increase or decrease the salience of an option
Perception	Framing the content of information to influence the conscious interpretation of the information
Memory	Using encoding cues or retrieval cues to alter behaviors
Effort	Changing cognitive or physical ease associated with an option
Intrinsic motivation	Influencing one's inherent interests toward an option in the absence of external factors
Extrinsic motivation	Imposing external rewards or punishments to alter behaviors

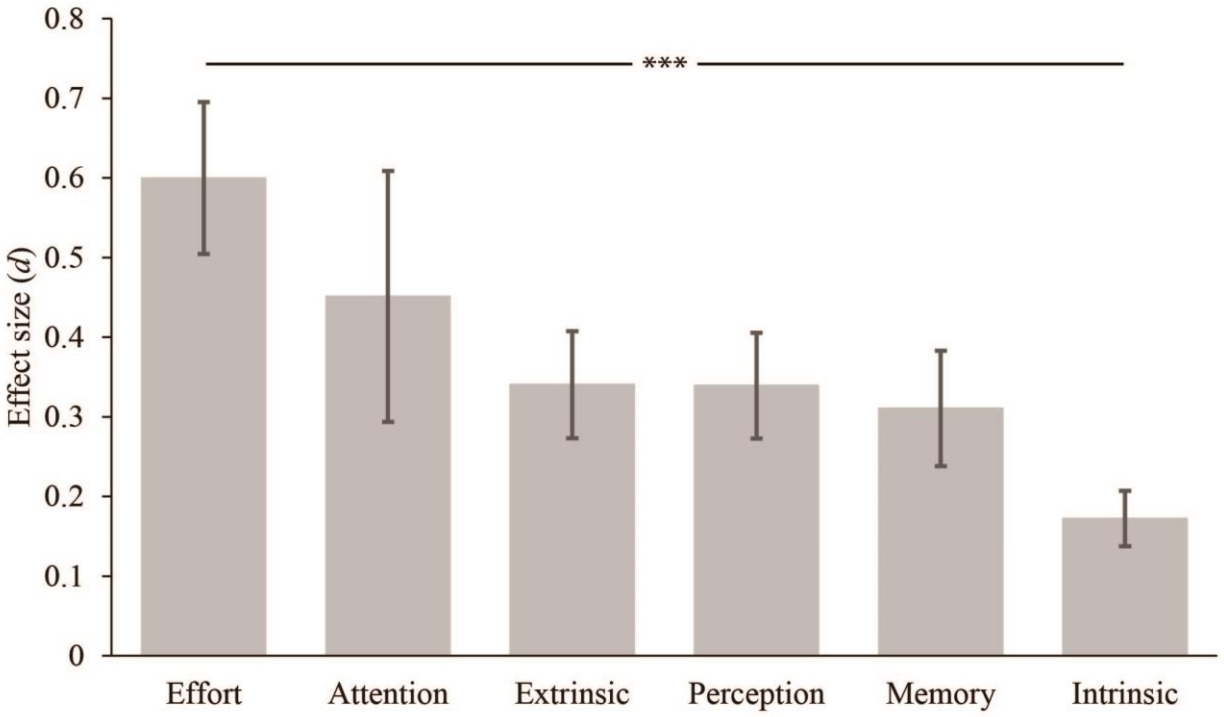
Examples

Cognitive Processes	Interventions
Attention	Highlighting with red color
Perception	Benefit framing
Memory	Reminder (e.g., promoting college enrollment)
Effort	Auto-enrollment plan, defaults
Intrinsic motivation	Social norm (e.g., promoting donation)
Extrinsic motivation	Financial incentives

Meta-analysis



Results



Effort-based interventions are the most effective

***p<.001

THANK YOU!

Questions?