

Twice as nice?

A Longitudinal Field Study of Separate vs. Combined Nudges for Household Laundry Behaviours



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BC Hydro
Power smart

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Pre-registration: https://aspredicted.org/WWZ_WQ3

Practical Impact

- Laundry represents about 19% - 28% of home energy use in houses using electric water heating
(energy calculations based on data from <https://www.energystar.gov/>)
- Little research on changing laundry behaviour

Target behaviours:

- Re-wear
- Combine loads
- Use cold water
- Hang dry clothes



Study Design: Participants

- $N=1,210$ BC Hydro customers recruited from BC Hydro's *Team Power Smart* program and completed the first survey
- Hourly energy meter data for 1 year study (plus 1 year prior history)
- Follow-up surveys every 3 months, for 1 year total
- Must have Washing Machine & Clothes Dryer and pay energy bill
- 64% women, mean age = 57

Research questions:

- Long term impact of decal nudge?
- Pro-environment message, pro-self, or both?
- Request many behavior changes, or just one hard one?

Study Design: Overview

Independent Variable: Participants randomly assigned to one of six conditions

(1)



(2)



(3)



(4)



(5)



(6)

Summary: Decal Effectiveness vs Control

Condition	Intentions	Self-report	Logged Washing	Logged Drying	Metered Washing	Metered Drying
Turtle + Bundle	✓	†	✓	✓	†	✓
Fleece + Bundle	✓					
Turtle + Fleece + Bundle	✓				†	
Turtle + Fleece + Hang Dry	✓	†		✓		✓

Energy Meter Results: kWh for logging participants

Condition	n	Total Energy	Wash Energy	Dry Energy	Ratio (Dry/Wash)
Control (Decal only)	94	15,168	139	121	0.81
Turtle + Bundle Msg	91	14,704	105 [†]	79 [*]	0.68 ^{**}
Fleece + Bundle Msg	98	15,778	141	121	0.8
Turtle + Fleece + Bundle Msg	72 [*]	14,240	102 [†]	82 [*]	0.79
Turtle + Fleece + Hang Dry Msg	92	14,410	122	86 [*]	0.69 ^{**}

Symbols indicate significant differences from control. † $p < .1$, * $p < .05$, ** $p < .01$

Conclusions

In the context of a motivated sample of BC laundry doers, over a period of one year:

- Decals can be an effective nudging tool for sustaining energy efficient behaviour over time
- Intentions often do not translate into real behaviour change
- Most effective: combining a single, novel motivator (microplastics turtle) with *multiple* behaviour change requests



The Implemented Version



**Fight
microplastics**
Protect our environment

Simple ways to make a difference when
doing laundry:

- re-wear clothes
- do full loads
- wash in cold water
- hang to dry

#TeamPowerSmart  **BC Hydro**
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